सत्यमेव जयते

राष्ट्रीय प्रौद्योगिकी संस्थान वारंगल National Institute of Technology Warangal

ACADEMIC REPORT

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL 2019-20

Index

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FOREWORD

National Institute of Technology, Warangal is one of the premier Institutes of National Importance imparting quality technical education in the country. The Institute has been progressing well on all fronts with time. I am happy to inform you that based on NIRF rankings for 2020, the Institute has been ranked among the top 20 technical institutes in the country, and it is all because of the concerted efforts of all the stake holders including faculty, staff, students and alumni.

Faculty are the backbone of any educational institute and it is true in the case of NIT Warangal too. The faculty strength is being continuously increased with periodical recruitments. I am happy to inform you that in the last academic year 2019-20, the Institute successfully conducted interviews for faculty positions and a large number of young faculty members with enviable credentials have been recruited. I have a lot of confidence in these young faculty members, and I am positive that they would take the institute to the pinnacle of academic glory through teaching, research and consultancy.

Academics blended with Research and Consultancy is the need of the hour. The institute has been progressing well in this direction. A total number of 137 ongoing research projects, worth Rs. 41 crores are being carried out with funding from various sponsoring agencies. It is heartening to note that in this academic year 2019-20, some of our faculty colleagues were sanctioned prestigious projects with national and international collaboration. Similarly, Patenting and Product-Development is another thrust area in the Institute's agenda for future. I am happy to inform you that this culture of patents is picking up in our Institute; a few patents were granted and a large number of patents have been filed in this academic year.

The research infrastructure of NITW has got new additions with establishment of "Metal Additive Manufacturing Facility" and 'Solid State Probe for 400 MHz NMR Instrument' with funding under TEQIP–III scheme. Three new laboratories, viz., High Temperature Materials Lab, Fatigue and Fracture Lab, and Welding Lab with state of art equipment have been established.

It is heartening to note that a large number of our outgoing students have been selected in the campus placements. The percentage of campus placements have been steadily improving. Some of the best companies are very eager to employ our students with attractive pay packages.

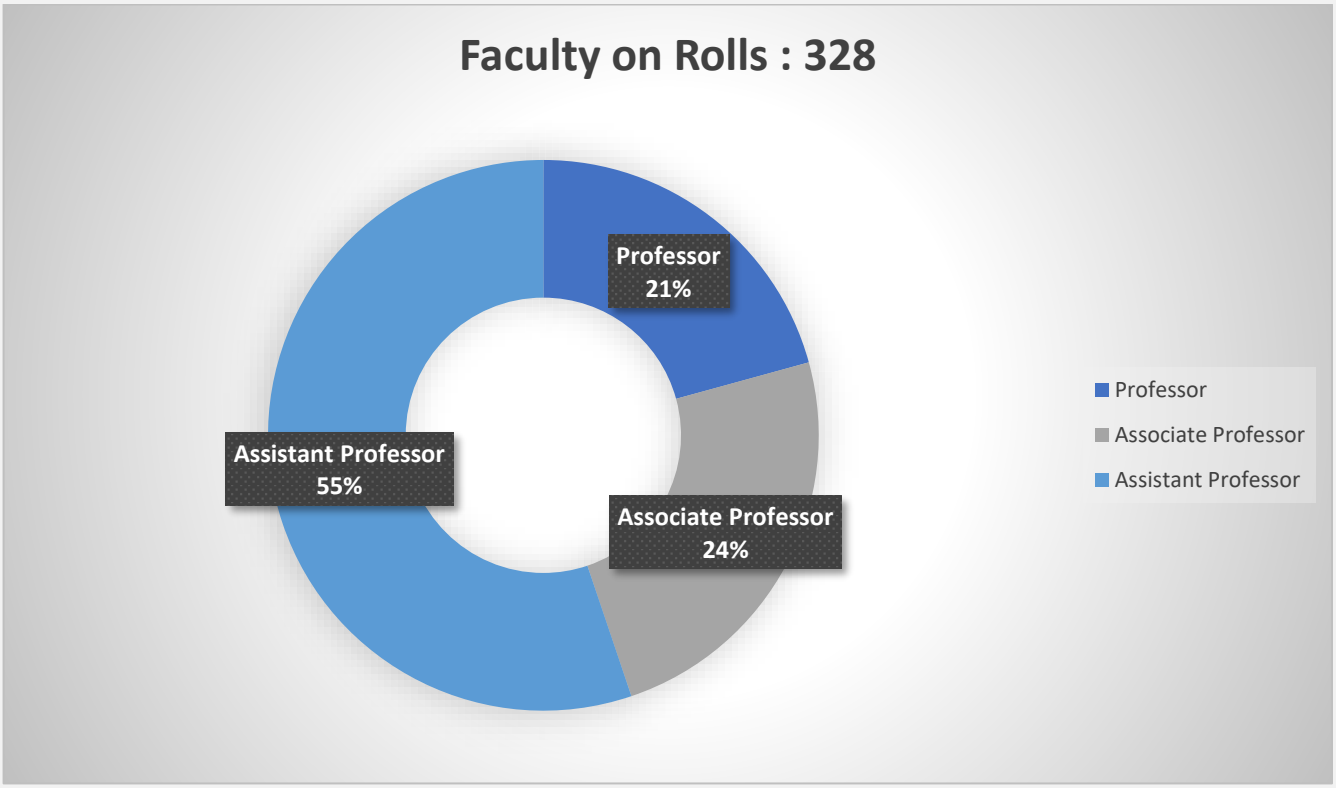
Even though CORONA has brought changes in our lifestyle, it couldn't deter our spirits and innovations. The last academic year 2019-20 was successfully completed in all aspects and the new academic year 2020-21 has started smoothly. The institute has adapted to this new norm with "Online" classwork, webinars and evaluation. Even the Eighteenth Convocation of the Institute was also conducted in "Online mode" on 22.10.2020. I congratulate all the faculty, staff and students for this smooth transition from the physical presence mode to the online mode.

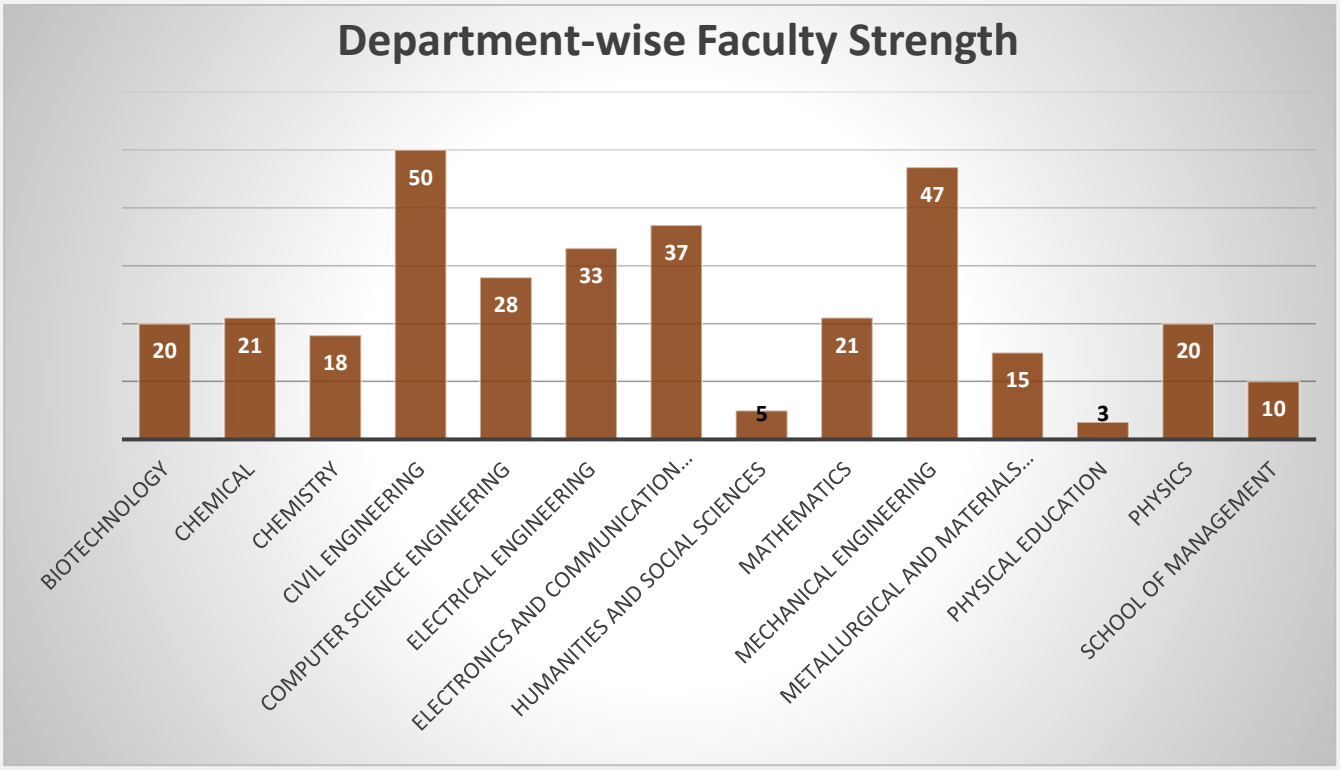
The Academic Report 2019-20 presents the achievements of the institute, details of the academic and research activities, training and placement activities and various other developments taking place in the institute.

I place on record my deep sense of appreciation to all those involved in the preparation of this Academic Report. I also take this opportunity to thank the members of the faculty, non-teaching staff, students and alumni of the institute, who are relentlessly working for the betterment of the institute.

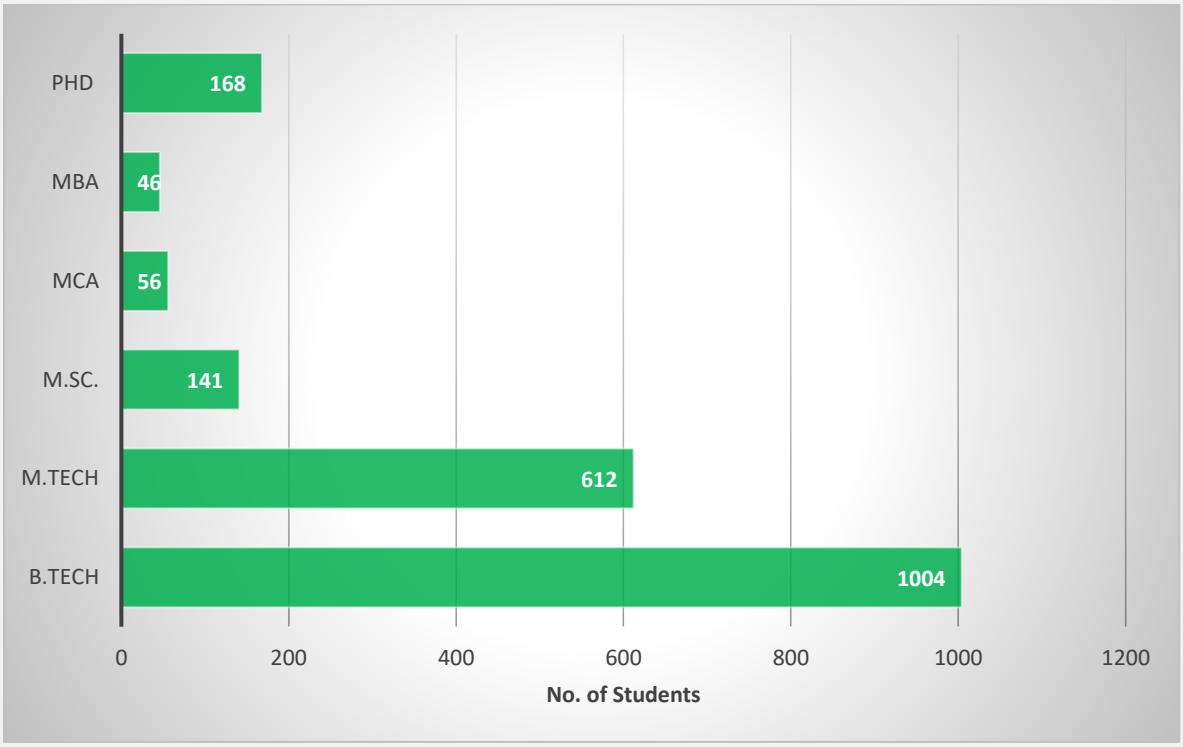
-Prof N V Ramana Rao

Faculty Details





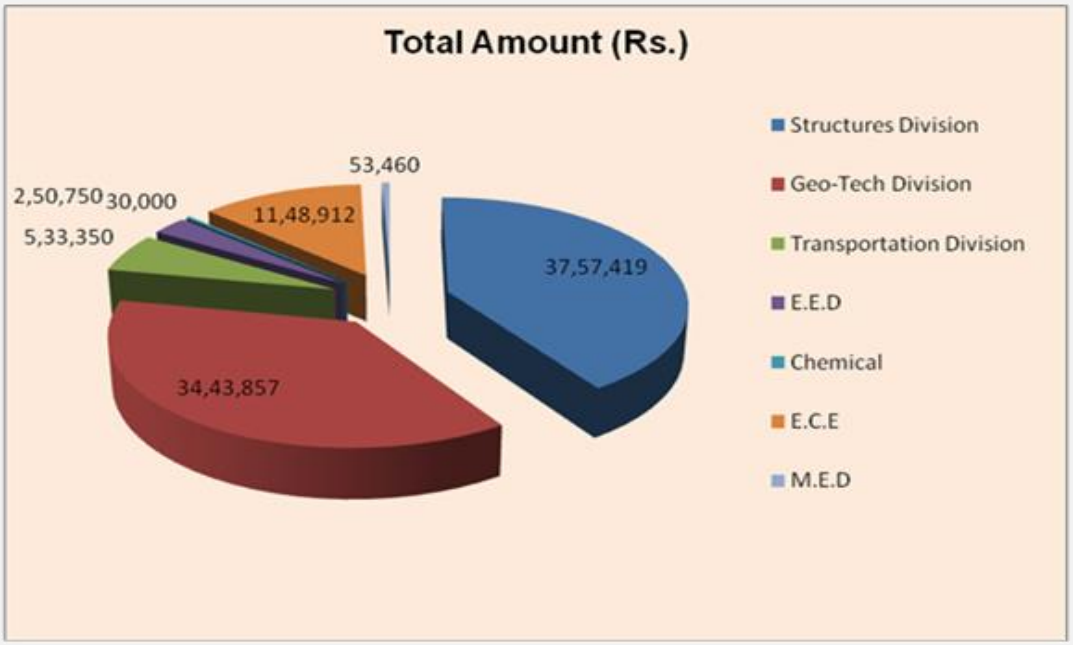
Students admitted during 2019-20

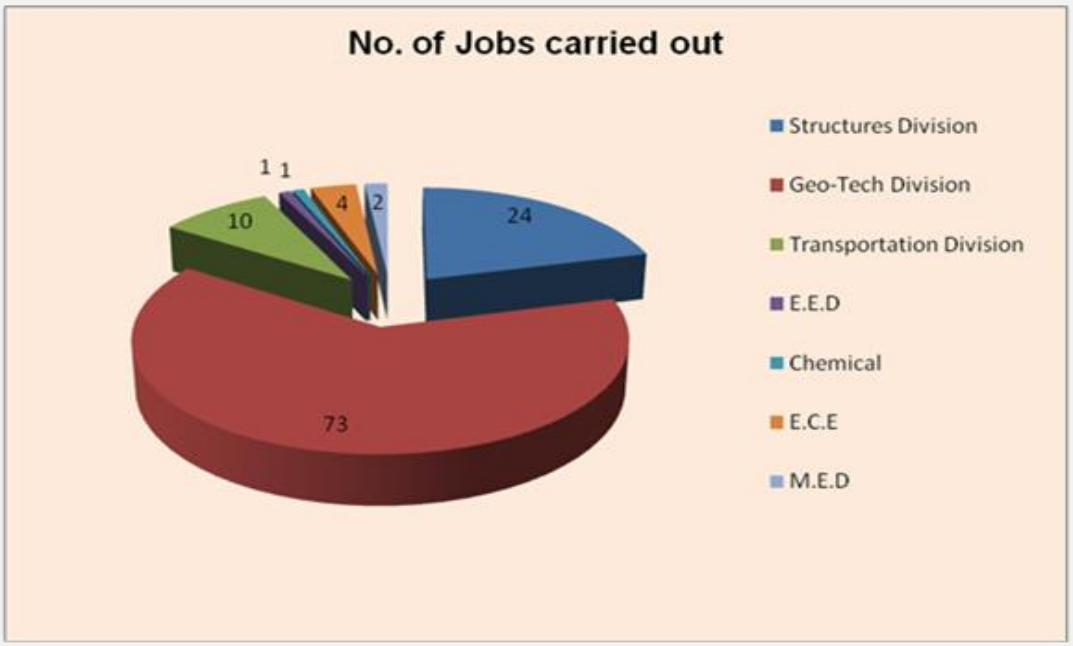


NATIONAL INSTITUTE OF TECHNOLOGY: WARANGAL

SPONSORED RESEARCH & INDUSTRIAL CONSULTANCY (SRIC)

Annual revenue through Consultancy (During the Period: April2019–March2020)

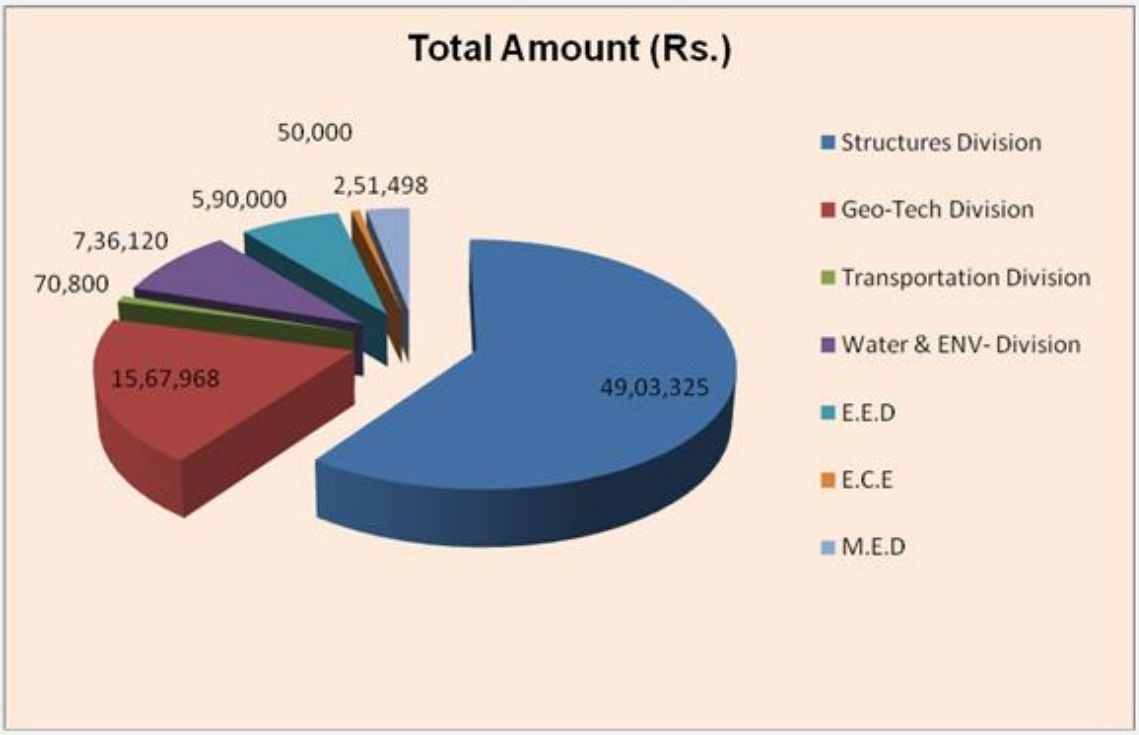


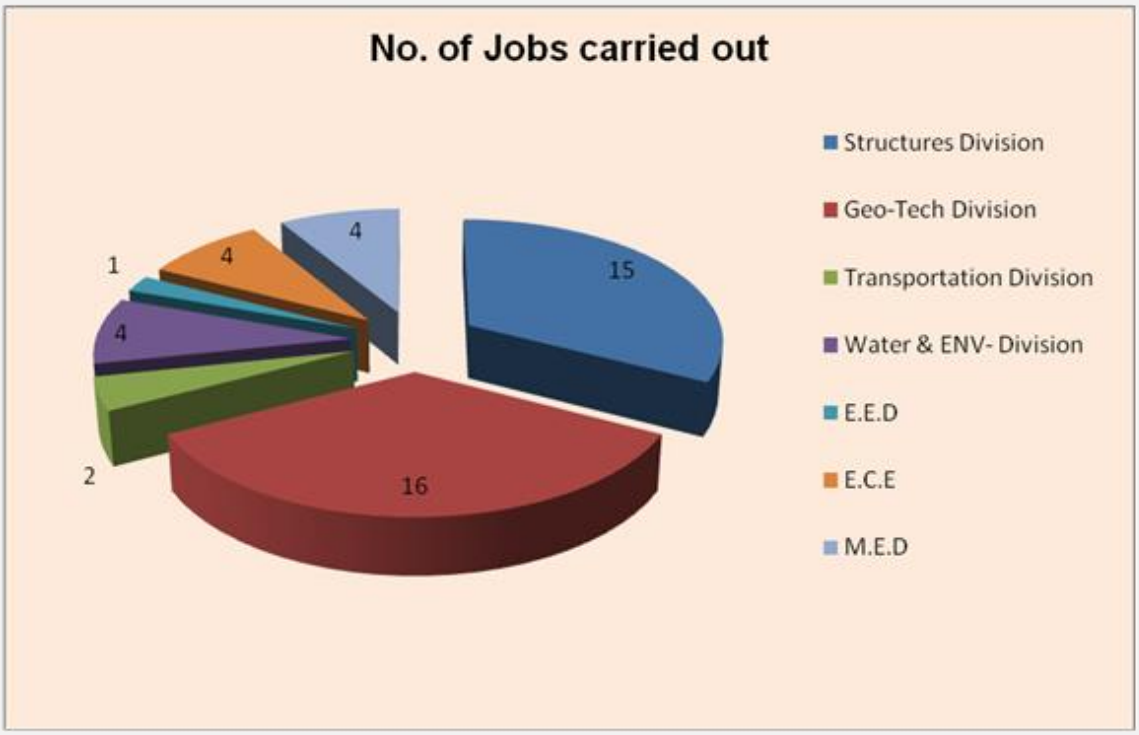


NATIONAL INSTITUTE OF TECHNOLOGY: WARANGAL

SPONSORED RESEARCH & INDUSTRIAL CONSULTANCY (SRIC)

Annual revenue through Consultancy (During the Period: April2020–November2020)





Placement Report 2019-2020
Centre for Career Planning and Development (CCPD)

Placement Statistics

Under Graduate

S.No.	Course	Branch	Total Eligible Students	Placed	Max. Sal. LPA	Avg. Sal. LPA
1	B.Tech.	Civil Engineering	86	52	14.80	6.70
2		Electrical and Electronic Engineering	110	100	43.31	10.49
3		Mechanical Engineering	103	92	22.99	8.76
4		Electronics and Communication Engineering	115	104	26.00	14.08
5		Metallurgical and Materials Engineering	38	27	12.93	7.01
6		Chemical Engineering	76	62	22.00	8.14
7		Computer Science & Engineering	118	110	43.30	21.96
8		Biotechnology	38	25	16.93	7.8

Total UG Eligible Students: 684 : Total Placements: 572*: Percentage of placements: **83.62%**

Post Graduate

S.No.	Course	Branch	Total students	placed	Max. Sal. LPA	Avg. Sal. LPA
1	M.Tech (Civil)	Water Resource Engineering	24	3	6.5	4.83
2		Environmental Engineering	23	2	3.6	3.6
3		Engineering Structures	24	7	9	5.67
4		Geo-Tech. Engineering	23	2	6	6
5		Transportation Engineering	25	4	9	6.12
6		Construction Technology & Management	23	2	6.3	6.3
7		Remote Sensing & GIS	18	-	-	-

Placement Statistics

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.Tech. (EEE)	Power Systems Engineering	31	13	13	6.54
2		Power Electronics and Drives	31	12	17.5	7.92

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.Tech. (Mech.)	Thermal Engineering	16	4	11	7
2		Manufacturing Engineering	16	4	12.5	8.64
3		Computer Integrated Manufacturing	16	6	8.09	6.46
4		Machine Design	15	7	8.09	6.18
5		Automobile Engineering	16	6	9	6.26
6		Materials & Systems Engineering Design	12	6	6.5	4.35
7		Additive Manufacturing	9	2	9	6.3

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.Tech. (ECE)	Electronic Instrumentation	17	11	20.6	12.5
2		VLSI System Design	17	11	29.16	15.09
3		Advanced Communication System	19	14	29.16	14.66

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.Tech. (MME)	Industrial Metallurgy Technology	5	-	-	-
2		Material Technology	13	2	12.52	9.26

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.Tech. (CS&E)	Computer Science & Engineering	18	13	43.3	22.05
2		CS & Information Security	16	10	35.9	21.98

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.Tech. (Chem.)	Chemical Engineering	14	2	16.94	11.47
2		Process Control	11	-	-	-

S.No.	Course	Branch	Total students	placed	Max. Sal LPA	Avg. Sal LPA
1	M.C.A.	Master of Computer Applications	40	24	37	15.39
2	M.B.A	. Master of Business Administration	51	17	6.77	5.34
3	M.Sc. (Maths)	Applied Mathematics	19	6	9	6.25
		Mathematics & Scientific Computing	21	9	11.5	7.88
4	M.Sc. (Tech.) Physics	Engineering Physics	21	7	8	7.8
5	M.Sc. (Chem.)	Analytical Chemistry (MMCA)	19	10	9	6.1
		Organic Chemistry (DDPP)	20	10	10	6.6

Activities by CCPD

1. Maintains an updated data base of over 800 companies to help each student weigh their options when Choosing a company
2. Takes feedback from the employers and by sharing with departments and to frame the course relevant to the industry
3. Nurtures and sustains industry- institute interaction through industrial visits, in-plant training, internships to bridge the gap between industry and academia
4. Organizes and coordinates campus placements activities to provide employment opportunity to every student
5. Organizes career counselling sessions and making the student aware of his potential thereby drives him towards his goal.

Central Library

The Central Library supports the teaching and research programs of the Institute and provides facilities for general reading and disseminates information according to the requirement of the users. It is housed in a separate building with a plinth area of 4000 Sq. Mts. It has around 1,79,797 books, back volumes, technical pamphlets, standards, CD-ROMs, Video Cassettes, e-books etc. The total cost of the books is Rs. 8.81 Crores and it receives 110 Journals, 90 Indian and 20 Foreign at a cost of Rs. 5.91 lakhs. It also receives 2000 on-line Journals through INDEST-AICTE, NITs Consortium and NITW.

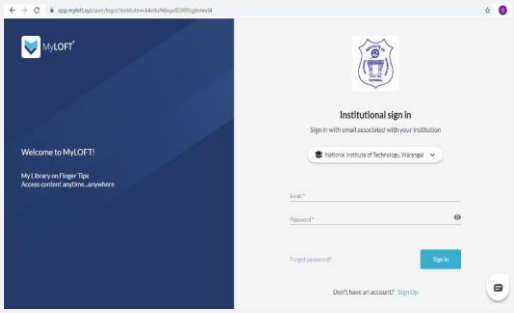
The services and operations in the Central Library are fully computerized. The database of entire Library acquisitions was created using Koha software.

Dr. K. Veeranjaneyalu
Librarian

Sri. G. Balakrishna
Assistant Librarian

New Initiatives:

- Remote Access Service – MyLOFT (My Library on Fingertips):
  Central Library, NITW has introduced a new service called "Remote Access Services - MyLOFT (My Library on Fingertips)" for the benefit of Research Scholars and Faculty. MYLOFT is a mobile App. Through MyLOFT, research scholars and faculty members can access e-resources subscribed by NITW from anywhere anytime
- Web Online Public Access Catalogue (OPAC): The Central Library has implemented KOHA - Integrated Library Management Software for automation of library functions. The Online Public Access Catalogue (OPAC) was available only over the Intranet, through which users can browse the catalogue of print resources available in the Central Library at NIT Campus, Warangal. An open source link of e-books was also provided in this OPAC. During the prevailing Covid-19 situation, students and faculty were not able to access open e-resource links provided through the OPAC. Hence, Web-OPAC is implemented using cloud computing to overcome the access problem. Henceforth, the faculty and students can access the open source link of e-books from anywhere and anytime by using the following link. http://nitwopac.in:7071/
- NITW - FACULTY INFORMATION SYSTEM: A Central Library Initiative: The Central Library has implemented a new "Faculty Information System" under the Indian Research Information Network System (IRINS) to showcase the academic and research activities of the institute faculty members and provide an opportunity to create a scholarly research network. The NITW- Indian Research Information Network System (IRINS) will support the integration of the existing research management system such as HR system, course management, grant management system, institutional repository, Open and commercial citation databases, scholarly publishers, etc. This will be integrated with the academic identities such as ORCID ID, Scopus ID, Research ID, Microsoft Academic ID, and Google Scholar ID for ingesting the scholarly publication from various sources. This Faculty Information System can become the source for the NIRF, NAC and other international raking systems. The Faculty Information System can be accessed by everyone through the following link: https://nitw.irins.org/
- State-of-the-Art Digital Library: The Central Library has acquired and installed 48 new computers with higher configuration (32 RAM and 1 TB HDD) for the Digital Library for the benefit of faculty and students.



NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME PHASE III

About NPIU

National Project Implementation Unit (NPIU) is a unit of Government of India, established in August 1990 for coordination, facilitation, monitoring and to provide guidance to the States/Institutions in all aspects of the World Bank assisted projects. During 1991 to 2007, NPIU implemented three Technician Education Projects of Government of India assisted by the World Bank, which helped to strengthen and upgrade the Technical Education System and benefited 552 Polytechnics in 27 States including UTs of Andaman & Nicobar Island and Pondicherry. These three Projects have been rated as "Highly Satisfactory" on Project Management and implementation, which is the highest rating, provided by the World Bank. Success of three Technical Education Projects encouraged the Govt. of India to seek similar financial assistance from the World Bank for a systemic transformation of the Technical Education system as a whole with special focus on overall Quality Improvement in Engineering Education.

About TEQIP III

On the basis of excellent performance by NIT Warangal in TEQIP-I and TEQIP-II phases, the MHRD through NPIU has sanctioned the TEQIP-III project to NIT Warangal in the year 2017-18 with a budget outlay of Rs.7.0 Crores. This Project will further improve the quality of Post-Graduate teaching, catalyze the R& D activities, promote the Faculty and Staff development and provide academic support for the students. The Project Implementation and Monitoring Committee of TEQIP-III at NITW has prepared a procurement plan and obtained its approval by the NPIU. The plan is now put into operation. A series of Continuing Education Programs, Workshops, Seminars and Conferences spreading across the wide spectrum of Engineering Disciplines are initiated to disseminate the knowledge in the state of art technologies and build professional competency in the students and faculty. NIT Warangal has established twinning arrangements with Chaibasa Engineering College, Chaibasa, and Jharkhand State in order to build their capacity and improve the performance. Our Institute has got very good grade based on the Monitoring and Project output Performances.

Faculty In-charge:

Prof. A. Venu Vinod
Coordinator , TEQIP-III,
Professor, Chemical Engineering Department.

1. Facilities created by TEQIP:

i.) E-class room:

Organized a one – day training program on Digital Pedagogy (Digital Boards) to all the faculty of NITW under TEQIP-III, dated 17th February, 2020.

ii.) Swayam Prabha:

Under the Swayam Prabha scheme of the Govt. of India, TEQIP-III is providing facilities for the students to take online courses like NPTEL, MOOCS and SWAYAM. The audio and video system procured under TEQIP-III will enable students to utilize the online learning resources and is available in Library premises.

2. Innovation and startups:

i.) Entrepreneurship Events under Innovation and Start-up Cell are conducted as part of Micro Action plan during Sep-Nov 2019

ii.) Seven final Year students from MED, EED, CSE and ECED represented the institute at the Hyderabad Design Week conference held in Hyderabad Convention Centre on 9-13 October 2019.

iii.) **Team Spardhak,** an off-road Racing Team has represented our college in the BAJA SAEINDIA 2020 event, organized by Mahindra and Mahindra Ltd., held at Pithampur, in the month of January 2020.

3. Support for Students (UG, PG, Ph.D) under Research and Development:

i.) About 12 students (UG/PG/Ph.D students) Attended/Conferences/Seminars/ Workshops in other institutes within India.

ii) About 18 students benefited in purchase of Chemicals, Spares and consumables in their student research project.

4. Equity Action Plan (EAP):

DEVATHON 1.0 (Hackathon) a biannual event was organized by the web and Software Development Cell (WSDC) of NIT Warangal during 14th – 15th September 2019 (24 hours non-stop event)

5. NPIU Sponsored ERP Implementation:

NPIU/MHRD in technical collaboration with IIT Kharagpur is developing ERP software – SMILE (Software for Managing Institute of Learning and Education) for NIT Warangal. This project is being sponsored by TEQIP/ NPIU.

Training program on Digital Pedagogy (Digital Boards)

6. <u>Twining Activities:</u>

i.) **Dr. T.D. Gunneswara Rao**, of CED visited Chaibasa to deliver lectures on Structural Analysis and Materials for Sustainable Constructions during (11-15 Feb, 2020).

ii.) **Shri. V.N. Kameswara Rao** of CED visited Chaibasa to deliver lectures on Pumps and Turbines during (11-15 Feb, 2020)

iii.) **Dr. D. Ravi Prasad** of CED visited Chaibasa to deliver lectures on various topics related to Design of RC structures during (11-15 Feb, 2020)

iv.) **Dr. M. Shashi** of CED visited Chaibasa to deliver Expert lectures on Surveying and Remote Sensing and photogrammetry during (11-15 Feb 2020)

v.) **Dr. B. Nagu** of EED visited Chaibasa to deliver lectures on various electrical engineering subjects during (24-28 Feb 2020)

vi.) **Dr. P. Srinivasan** of EED visited Chaibasa to deliver lectures on various electrical engineering subjects during (24 Feb -01 March 2020)

vii.) **Dr. P. Muthu** of Mathematics Department visited Chaibasa to conduct special class for II Semester students on Applied Statistics during (3-7 March 2020)

viii.) **Dr. V. Suresh Babu, Dr. M. Vijay Kumar and Dr. V. P. Chandra Mohan** of MED visited Chaibasa to conduct special classes for students and conducted an FDP on "Industry 4.0 and Research Methodology during (03-07 March, 2020).

ix.) TEQIP-III provided one-week winter internship for 13 students of Chaibasa Engineering college as a part of Twining activities.

Visit to Chaibasa Engineering College, Chaibasa by NITW Faculty

7.Activities:

(i.) CEP's/Workshops/Conferences conducted from 01.07.2019 to 30.06.2020 under TEQIP -III

Department Name	Continuing Education Program	International Conference	National Conference	Symposium	Workshop	Grand Total
Civil		1				
Electrical						
Mechanical	1					
Electronics and Communication		1				
Chemical						
Computer Science						
Metallurgical and Materials Engineering		1				
Bio-Tech						
Dean SW					1	
Physics						
Chemistry		1				
School of Management			1			
T&P						
Computer Center						
Humanities						
CAM						
Grand Total	1	4	1		1	

Sl.No	No of Days	Type of Program	From Date	To Date	Month	Tittle of the Program	Coordinator
1	13	Induction Program	24.07.2019	04.08.2019	Jul - Aug 19	Induction Program for New Entrants of I B.Tech 2019 Batch	Prof. L. Ram Gopal Reddy (Dean Students Welfare)

A Four Day FDP on "Institution Development through Universal Human Values" for faculty members of NIT Warangal at Hyderabad (18-21 December 2019).

1. Expert Lecture by **Prof. Vittal Anantatmula**, Project Management & Director of MPM Program at Western Carolina University, USA delivered expert lecture on "Contemporary Project Management: Challenges and Opportunities" on 13th September, 2019.

2. Expert Guest lecture by **Prof. M. J. Hossain** from Macquarie University, Australia on "Impact of Electricity Demand and Distribution: Challenges and Opportunities" on 30th September, 2019.

3. Expert Guest lecture by **Mr. Macharla Bodhananda Giri**, a leading consultant and ASME certified trainer in (GD&T) delivered lecture for M. Tech Mechanical students on 17th – 18th January 2020.

(iii.) Workshops for Non-Teaching Staff and National Conference for women under TEQIP-III from 01.07.2018 to 30.06.2019

Sl.No	No of Days	Type of Program	From Date	To Date	Month	Title of the Program	Coordinator
1.	1	Workshop	06.03.2020	06.03.2020	Mar-20	Empowerment of Women – Rights & Responsibilities	Dr. B. Lakshmi

Major Equipment Procured under TEQIP III			
Item	**Department**	**Month/Year**	**Amount in Rs.**
Metal Laser Additive Manufacturing System	Mechanical Engineering	Mar-20	1,48,68,262.00
Solid-state NMR probe	Chemistry	Aug-20	43,45,497.00
Servo Shake Table (For Random Vibrations and Earthquake Simulation)	Civil Engineering	Oct-19	8,13,750.00
Dynamic Shaker-instrumentation for measurement of Shake Table Vibrations	Civil Engineering	Oct-19	5,14,500.00
Structural Models	Civil Engineering	Oct-19	1,94,250.00
Universal Testing Machine (UTM)	Civil Engineering	Feb-20	12,60,000.00
Biogas Plant	Civil Engineering	Aug-19	6,23,700.00
Fire Extingusher	TEQIP under EMP	Jan-20	1,71,218.00
Swayam Prabha Audio-Video System	Library	Sep-19	9,28,400.00
Interactive White Board, Ceiling Mount Bracket	Computer Centre	May-19	62,068.00
Portable Amplifier with Mikes, Lectern DIGITAL Podium	Computer Centre	May-19	79,650.00

3D Printers

CENTRE OF INNOVATION AND INCUBATION

Dr.P.Srihari Rao

Faculty Advisor
Center of Innovation and Incubation

The Center of Innovation and Incubation (CII) is a G+2 building, with a floor space of approx 30,000 sq ft. The mission of the center is to "promote innovations leading to new processes, products, design and technologies in collaboration with industry and thereby facilitate application of knowledge to society". The following are the objectives of the centre

- ➔ To promote greater industry - academic interaction, by inviting industries to set up their research labs at this center and carry out their research projects using the talend on the campus.
- ➔ To encourage the first-generation entrepreneurs desirous of R&D partnership with NITW or otherwise to establish their research labs at this centre.
- ➔ To promote innovation projects of B.Tech and M.Tech students by providing appropriate facilities, infrastructure and financial assistance as per the norms of the institute.
- ➔ To facilitate the "on campus interaction" between the scientists of industries and faculty and students of NITW in order to enable orientation of R&D activities of NITW to potential needs of industry.

NIT, Warangal being a premier technical institution plays a vital role in the process of technology entrepreneurship by offering a variety of services through CII in the area of startup creation, business incubation, easy access to capital and knowledge access with new and innovative ideas. Moreover, emphasis has also been given by the institute towards entrepreneurial focused education by providing entrepreneurship development and venture creation as elective courses for developing entrepreneurial competencies. Further, various support mechanisms were also provided in the form of structured mentorship programs, short training to build the confidence of students to convert ideas to innovation and startup establishment. Incubation facilities are also open for local startups in and around as social responsibility at minimal expenses, thereby contributing significantly in promoting the entrepreneurship culture in institutes and within the country. The CII facilitates the following at preset

Startup Cell	Innovation Garage	Industry R&D Labs
EPICS Projects & TEP	IPR Cell	MoUs (National)

Startups

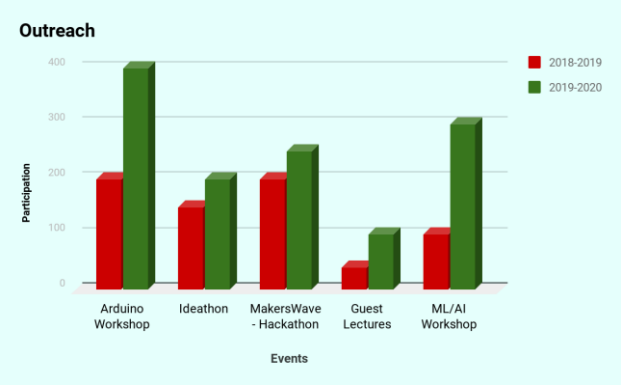
Student startups are current requirements and provide a great opportunity in market expansion and job creation. Startup policy of NITW targets to nurture and encourage entrepreneurship among students and young faculty to benefit from GOIs 'Startup India' and 'Make in India' programs. Students are encouraged to participate in idea generation in prototype events and the funding is provided to procure the hardware required through TEQIP-III.

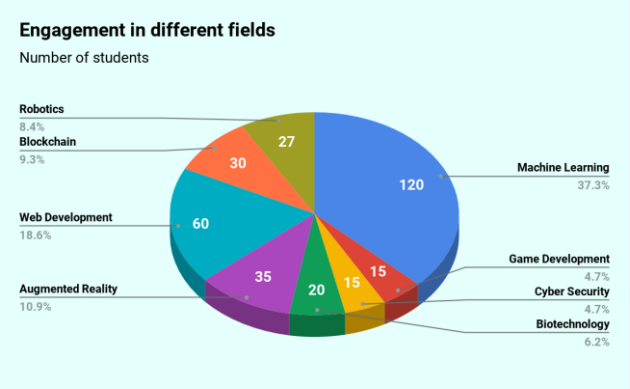
Startup Name	Founder/CEO
Flowhrex Technologies	● Mr. Abhijeet Kulkarni, Alumni ● Mr. Amol Raykar, Alumni
Aufenbach	● Mr. Mohamed Azman, Alumni ● Mr. Jithu G Panicker, Alumni
Dhoor Davakhana	● Dr. M. Satish, ECE Dept.
VaSuDa GeoAnalytics	● Dr. K. Venkat Reddy, Civil Dept. ● Ms. Sunitha
GBIT Studios LLP	• Mr. Aniruddha Joshi, IV B.Tech
Skylark Labs	● Dr. Amarjot Singh, Alumni
Kalam Books	● Mr. Kalp Shobhana, IV B.Tech ● Mr. Anushrestha Chourey, IV B.Tech
Ayurdeep Healthcare Solutions	● Ms. B. Deepthi

Innovation Garage

The CII provides the platform for the students to carry out innovative projects through Innovation Garage (IG). Innovation Garage is a multidisciplinary 24x7 makerspace for students to work on innovative projects and develop prototypes. IG organizes activities all year long for promotion of innovation and maker culture on campus **Makerswave, Ideathon, Design Thinking Workshop etc.** to name a few among them. We have several student teams working on projects with societal impact in the field of **AI, Blockchain, Robotics and Cybersecurity.**

Our Progress





Mechanical Vehicle Teams at CII

CII provides space and equipment to the mechanicals and sport cars teams to design and manufacture their vehicles.

- **Team Ronin Racing (**Electric F1**)**
- **Team Spardhak** (BAJA)
- **Team Thunderbolt** (Efficycle)
- **Team MecXaushters** (Formula One)
- **Team Mechaholics** (Quad Bike)
- **Team Tejas** (Electric Go-Kart)
- **Team Blitzkrieg** (Go-Kart)

Events at CII

CII conducts events all year around with engagement of over 2000+ students. Here are a glimpse of some of the events, Workshops, Guest Lectures and Makethons.

Sno.	Event	Date(s)	No. of Students
1.	Introduction Session for first years	10/8/19	100+
2.	GameDev workshop	25/8/19	100+
3..	ML/AI workshop	1/9/19	300+
4.	Representation at Hyderabad Design Week	9/9/19	10+
5.	Women in Innovation	13/9/19	80+
6.	Arduino Workshop	15/9/19	400+
7.	Meeting with Alumni	11/10/19	50+
8.	Ideathon	19/10/19	200+
9.	Representation at Makerfaire Hyderabad	9/11/19	30+
10.	Phantom CTF	4/01/20	200+
11.	Introductory session for Calls for Makers	8/01/20	150+
12.	Guest Talk by TAB	9/01/20	50+
13.	Smart India Hackathon - Prelims	7/02/20	80+
14.	Makerswave - Hackathon	28/02/20	250+
15.	Makerswave - Phantom CTF	29/02/20	200+
16.	Makerswave - ACM Codefest	29/02/20	100+
17.	Makerswave - Biz Tech Quiz	1/02/20	30+
18.	Makerswave - Guest Talk by Hariprakash Agarwal and T Vamsi Mohun	1/02/20	150+

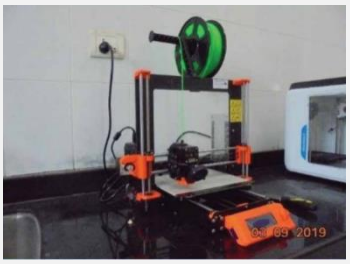
Phantom CTF

Arduino Workshop

Makerwave-Hackathon

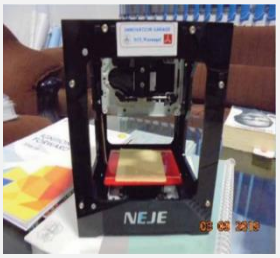
Guest Lectures

Equipment available at CII



Printers

Graphic Card 1070Ti



3D Laser Engraver


DEPARTMENT OF CIVIL ENGINEERING
The Department of Civil Engineering was established in 1959, along with the setting up of the Regional Engineering College Warangal (RECW), the first among the chain of RECs. The department offers an undergraduate and seven graduate programs in addition to Ph.D. All programs are NBA accredited in compliance with the Washington Accord.
The department has highly qualified and committed faculty members who are well recognized and are members of many national and state level policy making and advisory bodies. The department of civil engineering has the honour of being recognized as QIP center since 1978, to offer graduate and Ph.D. programs to faculty of other technical institutions.
The department aspires to be a knowledge nerve centre in Civil Engineering Education, Research, Entrepreneurship and Industry outreach for creating sustainable infrastructure and enhancing the quality of life. This will be achieved by generating a specialized cadre of Civil Engineers by imparting quality education and training to attain International standards in teaching, research and consultancy with global linkages.

FACULTY

Dr. N.V. Ramana Rao

Professor of Civil Engineering and Director NITW

Areas of Interest

Vibrations, FEA, Structural Shape Optimisation of axisymmetric & prismatic shells & folded plates,GeopolymerConcrete,Composites,Ferrocement

Dr. P. Ratish Kumar

Professor and Head

Areas of Interest

High Performance Mortars/Concrete, Low Cost/Alternate/Recycled building Materials, SCC, Cement Composites, SHM, Repair and Rehab of Buildings & Bridges

Dr. K.V.Jayakumar

Professor (HAG)

Areas of Interest

Hydrology & Water Resources , Urban Water Mgmt, Irrigation Engg, Wetland Hydrology Environmental Mgmt, Environmental Flow

Dr. N.V.Umamahesh

Professor (HAG)

Areas of Interest

Water Resources Systems, Hydrologic Modeling, Modeling Impact of Climate Change, Urban Floods

Dr. C.S.R.K.Prasad

Professor (HAG)

Areas of Interest

Transportation Engg., Travel Demand, Urban & Regional Planning, Land Use Planning, Public Transport, Highway Network Design

Dr. C.B.Kameswara Rao

Professor

Areas of Interest

Ferrocement, Fiber reinforced concrete, Sustainable Concrete, Torsion of RC members, Rehabilitation and retrofitting of structures, UHSC, Progressive Collapse

Dr. P. Anandraj

Professor

Areas of Interest

Systems Analysis, Fuzzy Systems, Multi Criteria Decision Making, Hydrology and Fluid Mechanics

Dr. D. Ramaseshu

Professor

Areas of Interest

New Concretes, Repair & Health Monitoring of Structures

Dr. G. Rajesh Kumar

Professor

Areas of Interest

High Strength Concrete, Prestressed Concrete, Bridges, Use of Sustainable Materials

Dr. Deva Pratap

Professor

Areas of Interest

Engineering Geology, Remote Sensing

Dr. M. Chandrasekhar

Professor (HAG)

Areas of Interest

Water Quality Mgmt, Waste Treatment, Solid Waste Mgmt, Air Pollution, EIA

Dr. T.D.Gunneswara Rao

Professor

Areas of Interest

Fracture mechanics of Concrete structures, Fiber Reinforced Concrete, Reinforced Concrete, Sustainable construction materials

Dr. E. Venkatrathnam

Professor

Areas of Interest

Hydraulic Transients, Groundwater Hydrology, Reservoir Sedimentation, Irrigation Engineering

Dr. V. Ramanamurthy

Professor

Areas of Interest

Engineering Structures, Ferrocement, Fiber reinforced concrete, Sustainable Concrete, Torsion of RC members, Rehabilitation and retrofitting of structures

Sri. V.N.Kameswara Rao

Associate Professor

Areas of Interest

Fluid Mechanics & Hydraulic Machines, Hydrologic Systems Modelling, Transport Phenomena, Energy for Climate Modelling, Ground Water Modelling.

CIVIL ENGINEERING

Sri. M. Sudhakar

Associate Professor

Areas of Interest

Steel fiber reinforced concrete

Dr. P. Hari Krishna

Associate Professor

Areas of Interest

Granular Anchor Piles, Expansive Soils, Value based higher education

Dr. M. Heera Lal

Associate Professor

Areas of Interest

Recycled aggregates in pavements and Geo Environmental Engineering

Dr. Venkata Reddy

Associate Professor

Areas of Interest

Water shed modeling, climate change impact studies, application of geospatial technologies in water resources, rural and urban systems.

Dr. P. Hari Prasad

Associate Professor

Areas of Interest

Geoenvironmental Engineering, Soil stabilization, Contaminant Transport, Bio-remediation

Dr. Venkaiah Chowdary

Associate Professor

Areas of Interest

Characterization of bituminous binders and bituminous mixtures, pavement evaluation, quantification of transportation noise

Dr.P.Venkateswara Rao

Associate Professor

Areas of Interest

Solid waste management, water and wastewater treatment

Dr.S.Venkateswara Rao

Associate Professor

Areas of Interest

Self-compacting concrete, special concretes and nano materials in concrete and mortar

Dr. Arif Ali Baig

Associate Professor

Areas of Interest

Geoenvironmental engineering, Recycled Waste Materials, Ground Improvement, CBNCs

Dr. T.P. Tezeswi

Assistant Professor

Areas of Interest

Multi-scale behavior of composite materials & strl response to shock & impact, FEA, Strl Dynamics, SHM, Multi hazard vulnerability assessment

Dr. S. Shankar

Assistant Professor

Areas of Interest

Low Volume Roads, Pavement Management System, Deterioration,Transportation Economics

Dr. M. Shashi

Assistant Professor

Areas of Interest

Advanced Surveying, Digital Photogrammetry, UAV, GPS

Dr. Ajey Kumar Patel

Assistant Professor

Areas of Interest

CFD, Environmental Hydraulics & Fluid Mechanics, Wastewater Engineering; Surface Aeration Systems

Dr. D. Ravi Prasad

Assistant Professor

Areas of Interest

Structural Health Monitoring, hybrid fiber reinforced engineered cementitious composites, sustainable construction materials

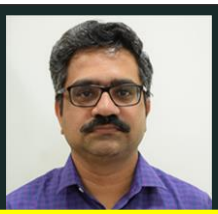
Dr. M.V.N. Siva Kumar

Assistant Professor

Areas of Interest

Computational Mechanics, Fracture mechanics of metal and concrete structures, Finite element and reliability applications to nuclear reactor components

CIVIL ENGINEERING



Dr. K.V.R. Ravi Shankar

Assistant Professor

Areas of Interest

Crowd & pedestrian behavioral analysis & modeling, Mixed and non-lane traffic flow modeling, road safety analysis, ITS, Capacity analysis of highways

Dr. G. Kalyan Kumar

Assistant Professor

Areas of Interest

Geotechnical Engineering, Seismic hazard Analysis, Reliability Analysis, Soil Dynamics

Dr. K.Gopikrishna

Assistant Professor

Areas of Interest

Multi-hazard Performance assessment of structures, Earthquake Engineering, Wavelet Finite element methods, Multi-scale Modeling of Structures

Dr. Arpan Mehar

Assistant Professor

Areas of Interest

Traffic Engineering, Pavement Engg, Planning and designing of highway network, Driver behavior analysis, Applied Statistics and probability

Dr. Y. Navatha

Assistant Professor

Areas of Interest

Remote Sensing, Photogrammetry, Rural and urban planning facilities

Dr. P. Sridhar

Assistant Professor

Areas of Interest

Water/wastewater treatment, life cycle analysis, Modelling of water/wastewater treatment, Solid waste management, Biodiesel, Bioplastic

Dr. G. VenkataRamana

Assistant Professor

Areas of Interest

Geotechnical Engineering, Rock Mechanics and Rock Engineering, Landslides mitigating measures, In-situ Geotechnical Investigations

Dr. Ambika S.

Assistant Professor

Areas of Interest

Sustainable water and wastewater treatment, Clean technologies, Industrial waste management, Pollutant transport, Waste to wealth

Dr. S. AnithaPriyadharshani

Assistant Professor

Areas of Interest

FRP Composites, Stiffened plates and Finite Element Analysis

Dr. B. Kavitha

Assistant Professor

Areas of Interest

Engineering Seismology, Simulation of ground motions, PSHA, Earthquake Forecasting

Dr. Aneetha V.

Assistant Professor

Areas of Interest

BIM/RIM, Lean Construction, VR in Construction, Construction Project Management, Sustainable construction, Infrastructure Management

Dr. Chinthala Sumanth

Assistant Professor

Areas of Interest

Air Pollution, Indoor Air Quality, Sustainable Development, Solid Waste Mgmt., EIA

Dr. Umesh B.

Assistant Professor

Areas of Interest

Computational Mechanics, Classical and non-Classical Continuum theories, FDM, FEA, Iso-Geometric Analysis, Damage and Fracture Mechanics

Dr. Shashi Ram

Assistant Professor

Areas of Interest

Energy efficient buildings sustainable materials green building

Dr. Sudheer Kumar Yamsani

Assistant Professor

Areas of Interest

Characterization of GeoMaterials, Reinforced soil structures, Design of waste disposal facilities

CIVIL ENGINEERING

Dr.Litan Kumar Ray

Assistant Professor

Areas of Interest

Stochastic hydrology, Flood & drought estimation, Real-time flood forecasting modelling, Hydrologic Modelling, climate change and climate variability study

Dr.Vema Vamsi Krishna

Assistant Professor

Areas of Interest

Hydrologic Modelling, Watershed Mgmt, Agricultural Water Mgmt, Optimal Allocation of Resources, Decision Making Under Uncertainty

Dr. Vishnu R

Assistant Professor

Areas of Interest

Traffic flow & Pedestrian Modelling, Non-Motorized & Traffic Safety, Driver & Travel Behavior, Transportation Sustainability & Environment, Freight Transport

Dr.Sanjit Biswas

Assistant Professor

Areas of Interest

Soil Dynamics, Industrial Machine Foundations, Shallow & Deep Foundations, Testing, FEA, Continuum Approach Modelling & Analysis, Geoenvironmental Engineering

Dr. R. Ramesh Nayaka

Assistant Professor

Areas of Interest

Low-Cost Housing; BIM & HBIM for Construction Management; Sustainable Construction Materials; Building Physics; GIS in Safety and LCA of Construction Projects.

Dr. Manish Pandey

Assistant Professor

Areas of Interest

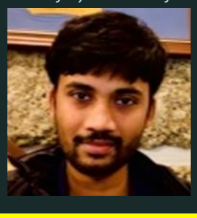
Experimental Hydraulics, Sediment Transport, River Training Works, Bridge Scour

Dr. B Raghuram Kadali

Assistant Professor

Areas of Interest

Traffic flow & Pedestrian Modelling, Non-Motorized & Traffic Safety, Driver & Travel Behavior, Transportation Sustainability & Environment, Freight Transport



Dr. P. Ravi Prakash

Assistant Professor

Areas of Interest

Structural Fire Engineering, Computational Mechanics, Artificial intelligence in structural engineering applications

Dr. Manali Pal

Assistant Professor

Areas of Interest

Hydro-climatology, Remote Sensing

Dr.AkshayVenkateshwaran

Assistant Professor

Areas of Interest

Structural Concrete, Fiber Reinforced Concrete, Steel-Concrete Composite Structures

Publications (Peer Reviewed Journals)

International Journals (138)

T. Srinivas and **N.V. Ramana Rao** (2019), "Studies on the Behaviour of Sulphate Attack Resistance of Low Calcium Fly Ash and Slag Based Geopolymer Concrete" International journal of Civil Engineering and Technology (IJCIET-Scopus Indexed), ISSN Print: 0976-6308, Volume 10, Issue 02, February 2019. PP, 510-518, Article ID: IJCIET_10_02_051.

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Suchith Reddy Arukala, **Rathish Kumar Pancharathi, Anand Raj P**, Evaluation of Sustainable Performance Indicators for the Built Environment using AHP approach, Journal of The Institution of Engineers (India)- Series A 100(2), (2019), pp. 619-631, Springer Publications

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Suchith Reddy Arukala, **Rathish Kumar Pancharathi, Anand Raj P, "**Developing a Material Sustainable Performance Score (MSPS) to select an alternative Cementitious Material", Cement WapnoBeton, ISSN: 1425-8129, Vol.1, Issue 1, pp. 68-76. (SCI)

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K J N Sai Nitesh and **S Venkateswara Rao, P.Rathish Kumar**, An experimental investigation on torsional behavior of recycled aggregate steel fiber reinforced Self Compacting Concrete, Journal of Building Engineering, Vol.22, 2019, pp 242 – 251.

D.Nikhil Kumar, **Rathish Kumar Pancharathi**, "Characterization of ancient mortar for sustainability of an 800 year old heritage site in India" Materials Today: Proceedings,DOI: 10.1016/j.matpr.2020.03.472Elsevier Publication, (Scopus Indexed)

Yeswanth Paluri, **Heeralal Mudavath, and Rathish Kumar P,** "Performance Evaluation of Reclaimed Asphalt Pavement (RAP) as Fine Aggregate in Concrete" Materials Today: Proceedings. DOI: 10.1016/j.matpr.2020.03.147, Elsevier (Scopus Indexed)

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Rani H.P., Narayana V., and **Jayakumar K.V.** (2020)" Geometrical Effects on Natural Convection in 2D Cavity" in: Dutta D., Mahanty B. (eds) Numerical Optimization in Engineering and Sciences. Advances in Intelligent Systems and Computing, vol 979. Springer, Singapore,

Uday Kumar A and **K. V. Jayakumar,** "Hydrological alterations due to anthropogenic activities in Krishna River Basin, India", Ecological Indicators. 108, January 2020, pages 1-8.

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Agilan, V., and **N. V. Umamahesh.**Rainfall Generator for Nonstationary Extreme Rainfall Condition. Journal of Hydrologic Engineering 24, no. 9 (2019): 04019027 (SCI, Impact factor: 1.56).

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Krishna, K. Leela, **N. V. Umamahesh**, and A. Srinivasa Prasad. Optimal crop water allocation coupled with reservoir operation by Genetic Algorithm and Non-Linear Programming (GA-NLP) hybrid approach. In Journal of Physics: Conference Series, vol. 1344, no. 1, p. 012006. IOP Publishing, 2019 (Scopus, Impact factor: 0.54).

K.S. Amith and **V. Ramana Murty,** Soil Dynamics and Earthquake Geotechnical Engineering, Springer Nature Singapore Pte.Ltd., PP 169-176.Soil Dynamics and Earthquake Geotechnical Engineering, Springer Nature Singapore Pte.Ltd., PP 169-176.

Bhavita Chowdary, **V. Ramana Murty** and Rakesh J. Pillai, Fibre Reinforced Geopolymer Treated Soft Clay- An Innovative and Sustainable Alternative for Soil Stabilization, Materials Today: Proceedings, Elsevier, Science Direct.

Rama SeshuD., Shankaraiah.R and Seshasrinivas.B, Binder Index – a parameter that influences the Strength of Geopolymer Concrete, Slovak Journal of Civil Engineering, V.27, No.1, 2019, pp.32- 38.

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D. Rama Seshu, Ch Manjula, **T. D. G. Rao**, **C. B. K. Rao**, Abhinav Anand and Kiran Kumar. A Novel means of improving the performance of reinforced concrete beams using the welded wire mesh as core zone reinforcement. Int. Asian Journal of Civil Engineering, Springer Nature Switzerland AG 2020, V.21, No.6, Asian J Civ Eng (2020) 21:959-965.

D. Rama Seshu and N R D Murthy, A Study on fly ash cement mortar as brick masonry, Int Jl of Cement WapnoBeton, Poland, Jan-Feb, 2020, V.25, pp.45-51

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RamireddySushmitha and **K.V.R Ravishankar**, Effect of Encroaching Vehicles on Capacity of Signalized intersections in Heterogeneous Traffic Conditions. International Journal of Transportation Engineering and Traffic System, Vol 6, No.1, 1-8.

SushmithaRamireddy and **Ravishankar K.V.R**, Modelling Saturation flow at signalized intersections in mixed traffic conditions: Artificial Neural Network approach, Suranaree Journal of Science and Technology.

SusmitaRamireddy and Ravishankar KVR, Effect of encroaching vehicles on saturation flow at signalized intersections in mixed traffic conditions, Journal of the Institution of Engineers (India)-Series A.

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Eswar. S. and **Ravishankar. K.V.R.**, Effect of Passageway Width on Pedestrians Flow Characteristics in Intercity Railway Stations, Transport and Telecommunication, Volume 20, No. 4, 357–364.

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Arif Ali BaigMoghal, Mohammed Abdul Lateef, Syed Abu Sayeed Mohammed, K. K. Lemboye, Bhaskar C. S. Chittoori, Abdullah Almajed, Efficacy of Enzymatically Induced Calcium Carbonate Precipitation in the Retention of Heavy Metal Ions. Sustainability. Vol. 12, No. 17, Article No. 7019.

Arif Ali BaigMoghal, Ateekh Ur Rahman, Vydehi KV and Usama Umer, Sustainable Perspective of Low-Lime Stabilized Fly Ashes for Geotechnical Applications: PROMETHEE-Based Optimization Approach. Sustainability. Vol. 12, No. 16, Article No. 6649.

Ramana G V and **Arif Ali BaigMoghal**, Case study on Planning and Execution of Residential Building on Complex Hilly Terrain: Sustainable Perspective. Indian Geotechnical Journal.

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Mohammed Ashfaq, **M Heera Lal** and **Arif Ali BaigMoghal**, Characterization Studies on Coal Gangue for Sustainable Geotechnics, Innovative Infrastructure Solutions. Vol. 5, Article No. 15.

AmmavajjalaSesha Sai Raghuram, Munwar B Basha and **Arif Ali BaigMoghal,** Effect of Fines Content on the Hysteretic Behavior of Water Retention Characteristic Curves of Reconstituted Soils, Journal of Materials in Civil Engineering. Vol. 32, No. 4, pp. 04020057.

Arif Ali BaigMoghal, Vydehi K V, MoulaliBaigMoghal, Rayan Almatrudi, Abdullah Almajed and Mosleh Ali Al-Shamrani, Effect of Calcium Based Derivatives on the Consolidation, Strength and Lime Leachability Behavior of Expansive Soil, Journal of Materials in Civil Engineering. Vol. 32, No. 4, pp. 04020048.

Arif Ali BaigMoghal, Syed Abu Sayeed Mohammed, Abdullah Almajed and Mosleh Ali Al-Shamrani, Desorption of Heavy Metals from Lime-Stabilized Arid-Soils Using Different Extractants, International Journal of Civil Engineering. Vol. 18, No. 4, pp. 449-461.

Mohammed Ashfaq, **M Heera Lal, Arif Ali BaigMoghal and V Ramana Murthy**, Carbon Footprint Analysis of Coal Gangue in Geotechnical Engineering Applications, Indian Geotechnical Journal. Vol. 50, No. 4, pp. 646-654.

Arif Ali BaigMoghal, Syed Abu Sayeed Mohammed and Mosleh Ali Al-Shamrani, State-of-the-Art Review on Strontium Toxicokinetics, Mechanistic Response, Alterations and Regulations, International Journal of Geomate. Vol. 16, No. 53, pp. 204-214.

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Koteswara, Venkata RP, **HarikrishnaPadavala**, and HariprasadChennarapu. Experimental investigation of axially loaded group of piles with and without building frame: a parametric study. Innovative Infrastructure Solutions 4, no. 1, 2019: 36 (Scopus).

Sudhakar, M., **Heeralal, M**., &**Kumar, G. K**.Mechanical Strength and Stiffness behaviour of Class-F Pond ash.Journal of Mechanics of Continua and Mathematical Sciences, 2019.

Mogili, Sudhakar, **HeeralalMudavath**, **Kalyan Kumar Gonavaram**, and YeswanthPaluri. Strength and resilient behavior of lime modified pond ash as pavement layer. Materials Today: Proceedings, 2020, (Scopus).

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P.Rathish Kumar etal (2019), Performance Studies on Self-healing Self-compacting Concrete, Proceedings of National Conference: Advances in Sustainable Construction Materials (ASCM-2019) 15th-16th March, 2019, NIT Warangal.

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P.Rathish Kumar etal (2019), A Qualitative and Quantitative approach to prioritize Sustainable Concrete using TOPSIS, Proceedings of National Conference: Advances in Sustainable Construction Materials (ASCM-2019) 15th-16th March, 2019, NIT Warangal.

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P.Rathish Kumar etal (2019), Behaviour of Recycled Aggregate based Steel Fiber Reinforced Self-Compacting Concrete Under Shear, Proceedings of National Conference: Advances in Sustainable Construction Materials (ASCM-2019) 15th-16th March, 2019, NIT Warangal.

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Babu, B. G., Srikanth, K., **Chowdary, V.**, Influence of aggregate shape factors on the performance of bituminous mixtures, International Conference on Innovative Trends in Civil Engineering for Sustainable Development, Warangal, India, September 13 to 15, 2019.

Sudhakar, R., Srikanth, K., **Chowdary, V.**, Laboratory evaluation of construction and demolition waste as an alternate material in various flexible pavement layers, International Conference on Innovative Trends in Civil Engineering for Sustainable Development, Warangal, India, September 13 to 15, 2019.

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FayazAiman., **Venkata Reddy, K.**, Locating Fire Stations Using Geospatial Methods for Kabul City, Afghanistan, New & effective Innovation, technologies & Key Challenges 2020, 30-31 January 2020, NITK Surathkal.

Komali Bharath Narayana Reddy, **Venkata Reddy, K.,** Analysis of Changes in Groundwater of Telangana Region Using GRACE Satellite Data, New & effective Innovation, Technologies & Key Challenges 2020, 30-31 January 2020, NITK Surathkal.

Praveen, B., **Venkata Reddy, K.**, Estimation of Capacity of Lower Manair Reservoir in Telangana, Using Geospatial Methods, New & effective Innovation, technologies & Key Challenges 2020, 30-31 January 2020, NITK Surathkal.

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K Venkata Vydehi, **Arif Ali BaigMoghal,** Syed Abu Sayeed Mohammed, Mohammed Abdul Latheef, Mubarak Ali, Aqsa Basheer, Adil Ahmad Handoo, Syed Zahid Nabi, Burhan Ul Wafa, Efficacy of Almond Shell Ash Inclusion on the Geotechnical Behavior of Lime Blended Kaolinitic Soil, Indian Geotechnical Conference 2019, 19th-21st December, 2019, SVNIT Surat, Gujarat, India.

Mohammed Ashfaq, **M Heera Lal**, **Arif Ali BaigMoghal,** Influence of lime on the unconfined compressive strength of coal gangue, Indian Geotechnical Conference 2019, 19th-21st December, 2019. SVNIT Surat, Gujarat, India.

G.V. Ramana, Shashank Pathak, **Arif Ali BaigMoghal**, Reappraisal on the Field Tests for Determination of Rock Mass Characteristics for Open Terrain(s), Indian Geotechnical Conference 2019. 19th-21st December 2019. SVNIT Surat, Gujarat, India.

Vineeth Reddy, K., Rajeswari, B., Venkatesh, N., **Kalyan Kumar, G.,**&Bandhu, A., Estimation of Shear Strength Properties of Bio-treated Sand, Indian Geotechnical Conference 2019, 19th-21st December, 2019, SVNIT Surat, Gujarat, India.

Kiran Prakash K., Nishanth Kiran D., Madhu Sudhan Reddy M., Mohammad Muzzaffar Khan, **Kalyan Kumar G.**, Local Site Effects and Liquefaction Analysis of Multilayered Soil, Indian Geotechnical Conference 2019, 19th-21st December, 2019, SVNIT Surat, Gujarat, India.

Huchegowda BK, Teja Munaga, **Kalyan Kumar G.,** Kinjal H. Gajjar, Numerical Modelling of Laterally Loaded Piles, Indian Geotechnical Conference 2019, 19th-21st December, 2019, SVNIT Surat, Gujarat, India.

Funded Research Projects/SPARC projects (2019-20)

Completed Projects (2)

Shirish H. Sonawane (PI), **Ajey Kumar Patel (Co-PI)**, Murali Mohan Seepana (Co-PI), K S Rajmohan (Co-PI), Mousumi Debnath, Development and Demonstration of Pilot-scale Hybrid Wastewater Treatment System with Hydrodynamic Cavitation and Biosurfactant for Recycling of Textile Effluent, Science and Engineering Research Board (SERB), FILENO.IMP/2019/000004, 16-12-2019 to 16-12-2022, Rs. 41.42 Lakhs.

P. Venkateswara Rao, Investigating the effect of co-digestion and advanced sludge pre-treatment methods on the anaerobic conversion potential of the organic wastes, Department of Biotechnology (DBT), BT/PR6328/GBD/27/387/2012, 27.428 Lakhs.

Ongoing Projects (16)

T.P Tezeswi, P. Rathish Kumar, K. Gopikrishna , M.V.N. SivaKumar, M. Shashi, A simple and robust non-contact method for rapid structural health monitoring of critical infrastructure using Digital Image Correlation, MHRD-IMPRINT-1, F.No. 3-18/2015-TS-TS.1, Dt. 26/11/2016, Rs. 38.5 Lakhs.

C.B. Kameswara Rao, G.Kalyan Kumar, D.Ravi Prasad, T.P.Tezeswi, HariPrasad Reddy, Venkaiah Chowdary, S. Shankar, DST- FIST Project titled- To strengthen the research facilities in the department, DST-FIST, DST-FIST Lr. SR/FST/ET-II/2017/98, 16-01-2018, Rs. 216 Lakhs.

T.P.Tezeswi, C.B. Kameswara Rao, Rajesh Babu, P. Mahavadi , Non-destructive damage detection and damage quantification in composite (HAP) panels , SERB-IMPRINT-2, project No. IMP/2018/001756, March 2019, Rs. 133 Lakhs.

K. Venkata Reddy, Foreign PI: Raghavan Srinivasan, Texas A&M University, USA, **N.V. Umamahesh, Deva Pratapand Y. Navatha** International Co-PI: Dr. Venkata Ramana Sridhar, Virginia Polytechnic Institute (Virginia Tech), Real Time Forecasting Floods Using SWAT Model, SPARC-MHRD, project No. P270, SPARC/2018-2019/78/SL(IN), 18-03-2019, Rs. 81.76 Lakhs.

N. V. Umamahesh and K. Venkata Reddy, Short and Medium Range Flood Forecasting System for Godavari River Basin using Ensemble Weather Forecast, IITM, Pune – MoE, project No. IITM/MM-II/NIT/2018/IND-6/Sanction_Order, 27-07-2018, Rs. 54.95 Lakhs.

K. Venkata Reddy, Brazil Project Coordinator: Suzana Maria Gico Lima Montenegro, Civil Engineering Department, Universidade Federal De Pernambuco-UFPE, South Africa Coordinator: Bloodless Dzwairo, Department of Civil Engineering, Pietermaritzburg Campus, Institute for Water and Waste Water Technology, Durban University of Technology.

N.V. Umamahesh, Deva Pratap and M. Shashi, IWMM- BIS "Integrated Water Management Model for BIS Countries Under Climate Change Scenarios, Coordinated BRICS project with Brazil and South Africa, DST-International Multilateral Regional Cooperation Division,ProjectNo.DST/IMRCD/BRICS/PilotCall2/IWMM-BIS/2018(G), 20-03-2019, Rs. 39.00 Lakhs.

K. Venkata Reddy, N.V. Umamahesh, M. Shashi, and Deva Pratap, A Decision Support System for Climate Change Adaptation of Chain Tank Systems of Semi-Arid Region, DST (Under Extramural Support), project No. EMR/2017/004691, 15-05-2018, Rs. 35.6 Lakhs.

T.P.Tezeswi, Modeling and Experimental Characterization of Functionally Graded Materials Subjected to Extreme Loading Conditions, DRDO-ARDB (M&M), projectNo. Lr.No. ARDB/01/2031866.M/I, 21/07/2017, Rs. 33.77 Lakhs.

S. Shankar, Performance Evaluation of Emulsified asphalt and cement treated bases, project No. SR/FTP/ETA-161/2013, 06-01-2017 Rs. 30.49 Lakhs.

P. Hari Krishna, T.D. Gunneswara Rao and Venkaiah Chowdary, Exploring Eco-friendly civil engineering techniques for disposal of plastic waste, NHAI, project No. NHAI/SRD&Q/132/2019/145066 dated 03.12.2019, Rs. 19.272 Lakhs.

Aneetha V., Development of Road Information Modelling based coordination method for utility relocations, SERB-DST, project No. File Number: ECR/2017/000002, 27-07-2017, Rs. 16.81940 Lakhs.

S. Shankar and Venkaiah Chowdary, Development of Deterioration Models for Pavements and Bridges, project No. F. No. RW/NH-35083/15/2016/S&R(R), 21-03-2017, Rs. 8.85 Lakhs.

P. Venkateswara Rao, Co-Digestion of STP Secondary Sludge with orgaic wastes in urban/peri-urban areas; process optimisation scaleup and field demonstration, DST, project No. DST/TDT/WMT/2019/15 (G), Rs. 5 Lakhs.

K.V.Jayakumar, Ajey Patel, Investigation of hydrodynamics of surface aeration tanks and validation of CFD models using radioactive particle tracking (RPT) technique, BRNS Mumbai (24.63 lakhs)

K.V.Jayakumar, Ajey Patel, Analysis of turbulent flow in surface aeration tanks by computational fluid dynamics (CFD), SERB New Delhi (33.63 lakhs)

SPARC Project Workshops (6)

Dr. K. Venkata Reddy&**Prof. N.V. Umamahesh** conducted a two-day SPARC workshop on Hydrological and Water Resources Modelling of River Basins under Climate Change Scenarios from 28/06/2019 to 30/06/2019. Forty-four PG students and Research Scholars participated.

Dr. K. Venkata Reddy, and **Prof. N.V. Umamahesh**, Two day SPARC workshop on "Hydrological and Water Resources Modelling of River Basins under Climate Change Scenarios from 03rd July to 04th July 2019. PG students and Scholars (44 participated).

Dr. K. Venkata Reddy, Prof. N.V. Umamahesh and **Prof. Deva Pratap**conducted a 3 Week In-house SPARC workshop on SWAT for Managing and Modelling of Water Resources from 29/10/2019 to 14/11/2019. Fifty Researchers and PG/UG students participated.

Dr. K.Venkata Reddy, Prof. N.V. Umamahesh and **Prof. Deva Pratap** conducted a One week In-house SPARC workshop on Modelling and Analysis of Hydrological Extremes from under12/12/2019 to 17/12/2019. Twenty-five Researchers and PG/UG students participated.

Dr. K. Venkata Reddy & **Prof Deva Pratap**conducted a three-day workshop on From Knowledge to action: A Vision for Relilient Rural India (Jointly organised with IIT,

Bhubaneshwar, at Bhubaneshwar) from 07/01/2020 to 09/01/2020. Faculty, Research Scholars and industry people participated.

Dr. K. Venkata Reddy, Three-day workshop on "From Knowledge to Action: A vision for resilient rural India" - CombindlyOrganised SPARC workshop between NITW and IIT Bhubaneswar, Organized at IITBBS, from 07th to 09th January 2020. Field engineers, faculty and research scholars (33 participated).

Consultancy Works *(Rs. 3.5Crores)*

Prof. Umamahesh N.V., Hydrologic & Hydraulic Studies for Amanishah Nallah, Jaipur Consultancy TPL, Hyderabad Rs. 5.86 lakhs 3 months Design of Inverted Siphons for Kuppam Branch Canal Consultancy RK, TPL Hyderabad, Rs. 5.86 Lakhs.

Prof. Umamahesh N.V., Hydrologic & Hydraulic Studies for Amanishah Nallah, Jaipur Consultancy TPL, Hyderabad Rs. 5.86 lakhs 3 months Design of Inverted Siphons for Kuppam Branch Canal RK, RK HES KOYA, Hyd., Rs. 4.1 Lakhs.

Dr.Venkata Reddy and Prof. Deva Pratap, Surveying, Assest mapping, WebGIS development, Certification of geospatial mapping works NITW, NRSC, Sky-Solutions, RSI-Soft Tech Rs. 32.22 Lakhs.

Prof. Venkata Rathnam E., Design wetting of surge analysis of pumping systems in Lift Irrigation Projects. MEIL Hyderabad, Rs. 65 Lakhs.

Prof. Rajesh Kumar G. & Prof. V. Ramana Murty, Design Vetting of bridges M/s MCL-KSIPL(JV) Gurujanpalli, Rs. 38.11 Lakhs.

Prof. P. Ratish Kumar & Prof. Rajesh Kumar G., Proof Checking of structural designs of Pre-Cast Pillar type DTR, TSNPDCL, Rs. 0.472 Lakhs.

Prof. T. D. Gunneswara Rao & Prof. Sudhakar M., Concrete mix design, I&CDD, Rs. 2.415 Lakhs.

Prof. C.B.K. Rao &Dr.T.P. Tezeswi, Peer review of structural calculations of EWSDus/Flats, Chittoor District, Simplex Infrastructures Limited, Rs. 12.98 Lakhs.

Prof. C.B.K. Rao, Proof checking of structural designs, SATYA ILLINDRA Engineers, Rs. 0.53 Lakhs.

Prof. P. Ratish Kumar & Dr.T.P. Tezeswi, Proof checking for weigh bridge and high mast pole, Akash Electrical Works, Rs. 0.59 Lakhs.

Dr.M.V.N. Sivakumar & Dr.D. Ravi Prasad, Design of Concrete Mix - M 25, NIDM WORKS NBCC (India) Limited, Rs. 0.50 Lakhs.

Dr.Venkateswara Rao S. & Dr.D. Ravi Prasad, Design of Concrete Mix - M 30, I&CADD, Kaleswaram Project, Rs. 1.99 Lakhs.

Prof. Rajesh Kumar G. & Prof. P. Ratish Kumar, Proof checkingof designs and drawings and retrofitting methodology, Meltech Infrastructure Engineers Ltd., Rs. 0.59 Lakhs.

Prof. Rajesh Kumar G., Vetting of structural designs of high level bridge, Greater Warangal Muncipal Corporation-Engg Branch, Rs. 0.29 Lakhs.

Prof. Rajesh Kumar G.& Prof. P. Ratish Kumar, Structural Audit of Vidyalaya Building of K.V.No.1 Uppal, P.S.RAJU , PRINCIPAL, KV No.1-Uppal, Rs. 0.295 Lakhs.

Prof. Ramaseshu D.& Prof. Rajesh Kumar G., Design of 4*300 MT Capacity Bunkers, Singareni Collieries Company Ltd., Rs. 28.32 Lakhs.

Dr.D. Ravi Prasad & Dr.K. Gopi Krishna, NDT Test for M25 grade column structure at Clarifier storage tank at 4x370 MW BTPS Manuguru Reg., M/S RVPR Constructions Pvt. Ltd., Rs. 0.25Lakhs.

Prof. Rajesh Kumar G.& Prof. V. Ramana Murty, Third party design Audit of Structures of Avanigadda-Machilipatnam Road project, M/s. SUDHARMA INFRATECH (P) LTD, Rs. 5.3 Lakhs.

Prof. Rajesh Kumar G., Vetting of Design & Drawings of Automatic Outflow Regulating Gate & Vertical Slide Gate for Canal for Lower Jonk Barrage, M/s JAIN ENGINEERING WORKS, Rs. 29.5 Lakhs.

Dr.M.V.N. Sivakumar & Dr.T.P. Tezeswi, Condition assessment of main building, S .R.R.Govt. Arts &Science College, Rs. 0.40 Lakhs.

Prof. Rajesh Kumar G., Design vetting of two major bridges and two minor bridges, M/S HES Infra PwLtd., Rs. 4.72 Lakhs.

Prof. C.B.K. Rao & Dr.T.P. Tezeswi, Testing of Hollow core slab at site, PSV Precast Pvt. Ltd., Rs. 0.47 Lakhs.

Prof. C.B.K. Rao &Dr.T.P. Tezeswi, Testing of Hollow core slab at site, INVENTAA Industries Pvt. Ltd., Manjeera Majestic Commercial, Rs. 0.47 Lakhs.

Dr.D. Ravi Prasad &Dr.M.V.N. Sivakumar, Remedial measures for strengthening Side Earth retaining Wall, The Singareni Collieries Company Ltd., Rs. 1.26 Lakhs.

Prof. Ramaseshu D., Design vetting of TLD Shed, M/s Consolidated Engineering Construction Company, Rs. 0.94 Lakhs.

Prof. C.B.K Rao & Prof. Ramaseshu D., Peer review of 6 storey frame structures utilizing Pre-cast constructlontechnology, INVENTAA Industries Pvt. Ltd., Manjeera Majestic Commercial, Rs. 5.90 Lakhs.

Prof. C.B.K. Rao, Design vetting, SATYA ILLINDRA Engineers, Rs. 0.71 Lakhs.

Dr.K. Gopi Krishna & Dr.T.P. Tezeswi, Proof checking for structural stability of the SS Shapurji Complex, Sri Sai Kakatiya Developers, Rs. 9.44 Lakhs.

Dr.M.V.N. Sivakumar & Dr.D. Ravi Prasad, Third party quality control testing services for the works of four laning of Yadgiri-Warangal section of NH-163, National Highways Authority of India, Rs. 1.56 Lakhs.

Prof. C.B.K. Rao, Proof checking of design, SATYA ILLINDRA Engineers, Rs. 0.65 Lakhs.

Prof. P. Ratish Kumar & Dr.Venkateswara Rao S., Proof checking of design, M/S. MN Engineering Consultancy and Constructions, Rs. 0.30 Lakhs.

Prof. Ramaseshu D., Prof. C.B.K. Rao & Dr.T.P. Tezeswi, Dextra-Groutec coupler testing at VR Siddhartha College-Vijayawada, Dextra India Pvt. Ltd. Rs. 0.71 Lakhs.

Dr.Venkateswara Rao S, Mix design for M30 concrete, Food Corporation of India, Rs. 0.47 Lakhs.

Dr.M.V.N. Sivakumar & Dr.B. Kavitha, Mix design for Pavement Quality Concrete (PQC), M/s P S Reddy, Rs. 0.47 Lakhs.

Prof. C.B.K. Rao & Prof. Ramaseshu D., Design Vetting for Hospital Building (G+10), M/s AKA Consultants (India) Pvt Ltd, Rs. 5.9 Lakhs.

Prof. C.B.K. Rao & Prof. Ramaseshu D., Design Vetting for Hospital Building (G+10), M/s AKA Consultants (India) Pvt Ltd, Rs. 5.9 Lakhs.

Prof. P. Ratish Kumar & Dr.B. Umesh, Vetting of designs and drawings for construction of Pump house and 150KL sump, APTIDCO Circle, Rs. 1.12 Lakhs.

Prof. P. Ratish Kumar & Prof. N.V.Ramana Rao, Design vetting, SS Infrastructure Development Consultants, Rs. 1.94 Lakhs.

Prof. C.B.K. Rao, Proof checking of design, SATYA ILLINDRA Engineers, Rs. 0.295Lakhs.

Prof. P. Ratish Kumar & Dr.Venkateswara Rao S., Proof checking of design, Premier Solar Systems (P) Ltd, Rs. 1.18 Lakhs.

Dr.K. Gopi Krishna & Dr.S. AnithaPriyadharshani, Mix design for M-25 Concrete, M/S Challa Infra Projects Pvt. Ltd, Rs. 0.47 Lakhs.

Prof. C.B.K. Rao, Proof checking of design, SATYA ILLINDRA Engineers, Rs. 0.41 Lakhs.

Prof. C.B.K. Rao & Prof. Ramaseshu D., Design Vetting of Hirise office building, M/s SahitiInfratec Ventures India Pvt Ltd, Rs. 18.88 Lakhs.

Dr.D. Ravi Prasad & Dr.S. AnithaPriyadharshani, Tensile strength Testing- 8mm & 12 mm TMT bars, CMK Projects Pvt Ltd., Rs. 0.24 Lakhs.

Dr.D. Ravi Prasad & Dr.S. AnithaPriyadharshani, Widening and Improvement of Existing Roads with Rigid Pavements including Storm Water Drains, Footpaths, Duct Banks etc., for the proposed Four Smart Roads in ABD area in Warangal, Telangana State, Raghava Constructions Hyderabad, Rs. 0.24 Lakhs.

Dr.Arif Ali BaigMoghal, Balance Work of Formation of New Tank A/c Nallavagu near Dubbagudem (V), Telangana State, Mancherial Minor Irrigation Scheme, Telangana State, Rs. 0.18 Lakhs.

Dr.Arif Ali BaigMoghal and **Dr. G. V. Ramana,** Testing of Soil for Seismic Zone, KALPATARU Power Transmission Limited, Bhupalpally - 505168, Rs. 0.18 Lakhs.

Dr.Arif Ali BaigMoghal and **Dr. G. V. Ramana,** Geotechnical Investigation Report for Different CM & CD WORKS Along the Gravity Canal of SRLIP - Package II Between KM 10.800 TO KM 32.000 (Irrigation channel crossing @Km.12.5, 12.875, 15.050 and SP @ Km 19.850 near B.G Kothuru), SRLIP Div. No.1., Somulagudem, Palvancha (507115), BhadradriKothagudem District, 0.55 Lakhs.

Dr.Arif Ali BaigMoghal and **Dr. G. V. Ramana,** Report on Borrow areas Investigations for Pumped Storage Project, Pinnapuram, 1200MW, Kurnool, Greenko Group, Rs. 2.77 Lakhs.

Dr.Arif Ali BaigMoghal, Report on Soil Testing for Determination of Safe Bearing Capacity for Soil Sample from Proposed Project for Devadula Lift Irrigation Project-Phase-III Package No II, Warangal District, Telangana State, SCADA communication system at pumping station in Warangal, District, Rs. 0.12 Lakhs.

Prof. Ramana Murty, Installation of Solar Panels at Goleti&Ramagundam, SCC Ltd., Rs. 4 lakhs.

Dr.G.V. Ramana and Prof. Deva Pratap, Laboratory investigation of Rock from Pinnapuram Pumped storage Project, Kurnool, Srinivasa Enterprises, 02-02-2019 to 04-03-2019, Rs. 1.52 Lakhs.

Dr.G.V. Ramana, Soil Testing For Determination of SBC For Soil Samples From Proposed Construction of 250 Kl Capacity Rcc Elevated Water Storage Resrvoir, 10-03-19 to 30-4-2019, Rs. 1.34 Lakhs.

Dr.G.V. Ramana, Determination of SBC for soil samples from proposed construction of stilt +G + 5 residential building, 9-04-19 to 18-6-2019, Rs. 0.14 Lakhs.

Dr.G.V. Ramana, Laboratory investigation of rock from psp, pinnapuram, 1200mw, Kurnool for six rock types, 15-04-2019 to 16-09-2019, Rs. 9.50 Lakhs.

Dr.G.V. Ramana, Consultancy report for the construction of residential scholl building (gurukulam) on hilly terrain, EE Tribal welfare division, 16-06-19 to 14-8-2019, Rs. 0.17 Lakhs.

Dr.G.V. Ramana, Laboratory investigations of rock/ rock fragment/ soil samples from block-b of bpa oc-2 extension mine of bellampalli region, Singareni collieries co. ltd, 10-06-19 to 11-09-2019, Rs. 1.02 Lakhs.

Dr.G.V. Ramana, Geotechnical investigation of fill soil for design of reinforced earth wall, Executive Engineer, 20-08-19 to 24-10-2019, Rs. 0.26 Lakhs.

Dr.G.V. Ramana, Laboratory investigation and detailed report of rock cores from Irep, Greenko energies private limited, 14-09-19 to 16-01-2020, Rs. 4.45Lakhs.

Dr.G.V. Ramana, Geotechnical investigation on fill soil for back filling of for e-bay walls and in between pump house, switch gear room, maintenance bay, devadula lift irrigation scheme, Executive engineer, 10-10-19 to 30-12-2019, Rs. 0.20Lakhs

Dr.G.V. Ramana, Foundation investigations at the original ground site of ikocp of srirampur area, Singareni collieries, Singareni collieries co. ltd, 04-01-2020 to 10-02-2020, Rs. 1.37 Lakhs.

Dr.G.V. Ramana, Foundation investigations at the original ground site of ikocp of srirampur area, Singareni collieries, 03-02-20 to 06-04-2020, 1.33Lakhs.

Dr.G.V. Ramana, Foundation investigations at the original ground site of rgocp-2, ramagundam-iii region, Singareni collieries, 10-02-2020 to 04-04-2020, Rs. 1.97 Lakhs.

Dr.G.V. Ramana, Laboratory investigation and detailed report of rock cores from irsep, greenko solar energy private limited, Greenko solar energy private limited, 24-01-2020, Rs. 0.79 Lakhs.

Dr.G.V. Ramana and**Dr.Arif Ali BaigMoghal**, Borrow areas investigations for pumped storage project, pinnapuram, 1200mw, Greenko Group, 16-09-2019 to 12-12-2019 Rs. 2.76 Lakhs

Prof. E.VenkataRathnam, **Dr.Ajey Kumar Patel** and**Dr.P.Venkateswara Rao**, Mission Bhagiratha-Vetting of Hydraulic Statements of Water Pipelines in Karim Nagar-Jagithyal&Mahabub Nagar Districts, Superintending Engineer, TDWSP, Karimnagar, Rs. 10.86 Lakhs.

Prof. E.VenkataRathnam, Dr.Ajey Kumar Patel, and**Dr. P.Venkateswara Rao**, Purushotapatnam Lift Scheme Stage1 & Lift2 Scheme of Polavaram Project, Superintending Engineer, P.I.P.L.M.C Circle, Polavaram Project, Rs.7.82 Lakhs.

Prof. E.VenkataRathnam and**Dr. Ajey KumarPatel**, Surge Analysis and Design of Protection Devices for water pumping main from Thungbhadra River to SRACC Factory Site, Sree Rayalaseema Alkalies and Allied Chemicals Limited, Rs. 2.30 lakhs.

Prof. E.VenkataRathnam, Vetting of Designs - Udayasamudram Lift Scheme-Surge Analysis for Water Pumping Pressure main of 2200mm diameter, MAYTAS-MEIL-KBL Joint Venture, Rs. 3.16 Lakhs .

Prof. E.VenkataRathnam, Dr.Ajey Kumar Patel and Dr.P.Venkateswara Rao, Vetting of Designs & Surge Analysis- Madakasira Branch Canal and Other Pumping Stations, MEIL, S-2, Technocrat Industrial Estate, Rs. 3.45 Lakhs.

Prof. E.VenkataRathnam, Vetting of Designs for the Proposed Drinking Water Supply to 17 Mandals of Warangal Districts under Mission Bhagiratha, SE TDWSP (RWS&S), Rs. 10.35 Lakhs.

Prof. M. Chandrasekhar, Prof. C.B. Kameshwara Rao, Prof. N.V. Umamahesh, Dr.M.V.N. Sivakumar, Dr.Ajey Kumar Patel and**Dr.S. Shankar**, Design Vetting of Surge Analysis for Pattisam Lift Irrigation Scheme, SE ISPHW Circle, Rs. 7.58 Lakhs.

Prof. N.V. Umamahesh and**Dr.Ajey Kumar Patel**, Design Vetting of Housing society in various sites in Vishakapatnam, SE APTIDCO, Rs. 33.39 Lakhs.

Prof. N.V. Umamahesh and**Dr.Ajey Kumar Patel**, Hydrologic & Hydraulic Studies for Amanishah Nallah, Jaipur, TPL, Rs. 5.86 lakhs.

Dr.Venkta Reddy and Dr.M. Sashi, Development of Web Based GIS Platform for a Telecom Company, Ski Solutions Corp, Rs. 18.72 Lakhs.

Dr.Venkta Reddy and**Dr. M. Sashi**, Detailed Topographical/Digital Survey plan of entire land with the contours at an interval of one meter, NIT Tadepalligudem , Rs. 4.8 Lakhs.

Dr. Venkta Reddy and **Dr. M. Sashi**, Asset Mapping Gram Panchayats in Warangal Rural and Warangal Urban, EPRIS project of NRSC, NRSC, Rs. 7.7 Lakhs.

Dr. Venkta Reddy and**Dr. M. Sashi**, Independent Certifying Authority for a GIS Solution project at Haldia Dock Complex, RSI SOFTECH INDIA PVT LTD., Rs. 1Lakh

Patents

Awarded (1)

Achanta Ramakrishna Rao and **Ajey Kumar Patel,** Hybrid Tank Aerator, No. 318880 (Awarded).

Filed (6)

C.B.KameswaraRao, D.RamaSeshuand**T.P.Tezeswi**. Helical Interlock System for Rapid Erection Of Pre-Cast Members. No. 201841039017 A (Filed).

C.B.Kameswara Rao, D.RamaSeshuand**T.D.Gunneswara Rao,** Mesh as Transverse Reinforcement In Reinforced Concrete. No. 201941038059 A (Filed).

C.B.Kameswara Rao, D.RamaSeshu, T.D.Gunneswara Rao andCh.Manjula**,** Prefabricated Mesh as Longitudinal Core Reinforcement in RC Members, No. 202041003566 A (Filed).

C.B.Kameswara Rao, D.RamaSeshu, D.KarthikandA.Saraswathi**,** A Novel Means of Anchorage for Reinforcing Bars in Reinforced Concrete Members, No. 202041005177 A (Filed).

R. Ramesh Nayaka, U. Johnson Alengaram**,** MohdZamin JumaatandSumianiYusoff**,** A process of Producing A Lightweight Eco-Friendly Hollow Masonry Block Devices, No. PI2020002945 (Filed).

Rahul V. Ralegaonkar and **Shashi Ram,** Application of co-fired blended ash for the development of bricks, No. 201721017816 (Filed).

Books and Book Chapters

Books (1)

Rathish Kumar Pancharathi, Bhaskar Sangoju and Sandeep Chaudhary, "Advances in Sustainable Construction Materials", Volume 68, Lecture Notes in Civil Engineering, **Springer Publishers** (**Scopus and Compendex Indexed**)

Book Chapters (20)

Suchith Reddy Arukala, **Rathish Kumar P., & Anand Raj. P.** (2019). "Quantitative assessment of sustainable performance criteria for Developing a Sustainable Building Assessment Tool (SBAT)", International Conference on Sustainable Infrastructure, California, American Society of Civil Engineers (ASCE) Library, pp. 689 – 702.DOI:1061/9780784482650.073

Suchith Reddy Arukala, **Rathish Kumar P., & Anand Raj. P.** (2018). "Developing a Sustainable Building Assessment Tool (SBAT) for Developing Countries—Case of India." In Urbanization Challenges in Emerging Economies, IIT Delhi, Reston, VA: American Society of Civil Engineers (ASCE) Library,137–148.DOI:10.1061/9780784482032.015

Suchith Reddy Arukala, **Rathish Kumar P., & Anand Raj. P.** (2018),"Sustainable performance indicators in the Built Environment for developing countries", Advances in Concrete, Structural and Geotechnical Engineering (ACSGE 2018), BITS Pilani, Bloomsbury India, New Delhi, India. ISBN: 978-93-87471-69-6, pp. 407-412

Nikhil Degloorkar &**Rathish Kumar P.** (2019), "Material characterization of ancient mortar and renovation of heritage structures for sustainability- A State of the Art Review", Advances in Sustainable Construction Materials, pp. 159-169. Springer, Singapore.DOI:1007/978-981-15-3361-11

Suchith Reddy Arukala, **Rathish Kumar P., & Anand Raj. P.** (2020). "A Qualitative and Quantitative approach to prioritize Sustainable Concrete using TOPSIS, in Advances in Sustainable Construction Materials, pp. 159-169. Springer, Singapore.DOI:1007/978-981-15-3361-7

Saurav Shah, Rajan Sharma, ShashiPaswan, Ashish Bhandari, Suchith Reddy Arukala&**P. Rathish Kumar** (2019). "Prioritizing the aggregate source bases on Particle Packing Density using Modified Toufar Model and MCDM methods", in Advances in Sustainable Construction Materials, pp. 171-182. Springer, DOI: 10.1007/978-981-15-3361-7

Sumasree, Anuhya. G, Jahnavi. M, Pratyusha P, Suchith Reddy Arukala, **Rathish Kumar. P**, "A framework to select fine aggregate alternative using MCDM Methods". in Advances in Sustainable Construction Materials, pp. 183-193. Springer, DOI: 10.1007/978-981-15-3361-7

Suchith Reddy Arukala, VaibhavKalpande&**Rathish Kumar. P** (2019), "Evaluation of Sustainable material through Life Cycle Assessment using PSI method". in Advances in Sustainable Construction Materials, pp. 87-101. Springer, DOI: 10.1007/978-981-15-3361-7

M. V. N. Sivakumar, Anand Raj P., Application of BIM Integrated LCA for Sustainable Habitat-A Review, Advances in Sustainable Construction Materials, Springer, 2020, pp. 147–158.

Arif Ali BaigMoghal, Munwar B Basha and Mohammed Ashfaq, Probabilistic Study on the Geotechnical Behavior of Fiber Reinforced Soils, Frontiers in Geotechnical Engineering, Springer, 2019.

Mohammed Ashfaq, **Heeralal M., and Hari Prasad Reddy P.**, A Study on Strength Behavior of Alkali-Contaminated Soils Treated with Fly Ash, Recycled Waste Materials, Springer, 2019, pp: 137-143.

G. Kalyan Kumar, Evaluation of Lateral Capacity of Pile Foundation Using Finite Element Method in Layered Soil, Advances in Geotechnical and Transportation Engineering. Springer, 2020, pp. 79-84

Kumar Kumarapu, **Shashi M., Venkata Reddy K.**, Development of Thermal Remote Sensing NDT Method for Early Age Strength Estimation of Concrete, National Conference on Advances in Sustainable Construction Materials (ASCM), 2020, pp.211-222

S. Shankar, S. Chakravarthi and G. Raj Kumar, Cement applications in Pavement Engineering, intech Open

P. Sridhar, Constructed wetlands for the removal of organic micro-pollutants, of Current Developments in Biotechnology and Bioengineering, 2020, pp. 87-140

P. Sridhar, Recovery and Purification Technologies of Biodiesel,Current Developments in Biodiesel Production: Technologies, Challenges, and Future Prospects, 2019, pp 453-484

P. Sridhar, Treatment of wastewater containing pharmaceuticals: biological treatment, Current Developments in Biotechnology and Bioengineering, Springer Singapore, 2020, pp. 463-520

P. Sridhar, Pre-treatment technologies to enhance anaerobic digestion from Sustainable Sewage Sludge

Management and Resource Efficiency, Intech-Open, London, EC3R 6AF, UK, 2020.

Chinthala Sumanth, Chamber Studies for Indoor Air Quality Modeling and Monitoring, Indoor Environmental Quality, 2020

Rahul V. Ralegaonkar and **Shashi Ram**, Sustainability (CSR): An Approach for Controlling Environmental Implications Due to Industrial Processes, In: Ghosh S. (eds) Sustainable Waste Management: Policies and Case Studies, Springer, Singapore, 2019, pp. 675-682

Conferences/ Workshops/GIAN courses/FDPs Conducted *(7)*

Effective Teaching and Learning Practices for Design and Operation of Water Supply Systems, 25-05-2019 to 29-05-2019, under Teaching Learning Centre (TLC). **Dr. Sridhar, Dr. Sumanth, Dr. P. Venkateswara Rao, Prof. Chandra shekar.**

Integrated Water Management Model for BIS Countries Under Climate Change Scenarios, 24/06/2019 to 28/06/2019, under sponsorship of DST-BRICS. **Dr. K. Venkata Reddy, Dr. M. Shashi, Prof. N.V. Umamahesh.**

Geospatial Technologies for Decision Makers, 28/06/2019 to 30/06/2019, under sponsorship of DST-NRDMS. **Dr. K. Venkata Reddy.**

Universal Human Values, 18/12/2019 to 21/12/2019, under sponsorship of TEQIP III. **Dr. Ram Gopal Reddy, Dr. Vakula and Dr.S. Shankar.**

Six-day Faculty Development Programme on Teaching Engineering Standards and Intellectual Property Rights for Academicians (ESIPR 2020), 13/02/2020 to 18/02/2020 under the Teaching Learning Centre (TLC). **Dr. G.V. Ramana, Dr. Srikanth Korla.**

Industry Academia meet on Waste Management Sector, 28/02/2020 to 29/02/2020, under sponsorship of MGNCRE. **Dr. P. Venkateswara Rao, Prof. K. V. Jayakumar.**

Five Day online Faculty Development Programme on Innovative Teaching Methods on Recent advances in Concrete And Sustainable Technologies (ReCAST), 01/07/2020 to 05/07/2020under Teaching Learning Centre**. Prof. P. Rathish Kumar, Prof. G. Rajesh Kumar, Dr. S. Venakateswara Rao.**

Guest talks/ Webinars delivered

Prof. N.V.Ramana Rao, A Webinar organised held by ACC Cement 'Safety in Construction' A Game Changer for Telangana, on 20th April, 2020, as Speaker during the Valedictory Session.

Prof. N.V.Ramana Rao, A Webinar organized at NIT Hamirpur on "National Education Policy NEP-2020 and Roadmap to its Implementation in NITs," held on 26th September, 2020 as CHIEF GUEST cum Panelist for expert opinion on the NEP-2020.

Prof. N.V.Ramana Rao, A Webinar series held at NIT Andhra Pradesh on "National Education Policy NEP-2020" on 23rd September, 2020 as distinguished Speaker.

Prof. N.V.Ramana Rao, A Webinar organised held by FICCI Telangana State Council in Association with Telangana State for Higher Education on 'National Education Policy 2020' A Game Changer for Telangana, on 19th September, 2020, as Speaker during the Valedictory Session.

Prof. N.V.Ramana Rao, International continuous Professional Development (CPD) webinar series on "Sustainable Practices and Advancements in Civil Engineering (SPACE 2020)", organised by Chaitanya Bharathi Institute of Technology, Hyderabad in association with Contractors Development Institute (CDI-NAC) during 9-9-2020 to 13-9-2020.

Prof. N.V.Ramana Rao, Webinar series organised by TASK Telangana 'Civil Tech Talks' Prof. N.V. Ramana Rao, Director, NIT Warangal as Chief Guest and delivered Inaugural address speaker on 15th September 2020.

Prof. N.V.Ramana Rao, Elsevier in collaboration with Central Library, NIT Warangal organised a Webinar on "Research Simplified with Elsevier: Plan Effectively, Read Quality, Publish Quality" held on 8th September 2020. Prof. N.V. Ramana Rao, Director, NIT Warangal as Chief Guest for the webinar.

Prof. N.V.Ramana Rao, National Webinar on "Strategies for Implementation of National Education Policy-2020 for the Technical Education" organised by NIT Warangal on 2nd September 2020. Prof. N.V. Ramana Rao, Director & Chief Patron and Eminent Speaker for the webinar.

Prof. N.V.Ramana Rao, A webinar on "Challenges for Chemical Engineers in Operating Heavy Water Plants" organised by the Department of Chemical Engineering on 1st September 2020. Prof. N.V. Ramana Rao, Director, NIT Warangal as Chief Guest for the webinar.

Prof. N.V.Ramana Rao, National Webinar on "National Education Policy-2020 (NEPCON-2020)" organized by KIIT Deemed to be University, Bhubaneswar on 29th & 30th August, 2020 over Zoom Virtual Platform. Prof. N.V. Ramana Rao, Director, NIT Warangal act as a Panel Speaker for the Webinar.

Prof. N.V.Ramana Rao, National Webinar on "Online Education – the Opportunities and Challenges", Dr.(Smt.) TamilisaiSoundrarajan, Hon'ble Governor of Telangana as Chief Guest, Prof.N.V. Ramana Rao,

Director was the Guest of Honour for Webinar held at NIT Warangal on 25th August 2020.

Dr B. Kavitha, Theory of plasticity, FDP Program, Vaagdevi college, Warangal, 10-11, December 2019.

Prof. V. Ramana Murthy, Ground Improvement Techniques, College of Engineering and Technology, Bhubaneswar, 30 August 2019.

Prof. V. Ramana Murthy, Case Studies in Geotechnical Engineering, College of Engineering and Technology, Bhubaneswar, 30 August 2019.

Prof. V. Ramana Murthy, Restoration of Kalyana Mandapa of Thousand Pillar Temple, Hanamakonda, Jawaharlal Nehru Technological University, Kakinada, 28 September 2019.

Prof. D. Rama Seshu, Sustainable Concretes, Lecture in FDP on Recent trends in sustainable design of structures, MVGR College of Engg, Vijayanagaram, 19 November 2019.

Prof. D. Rama Seshu, Health Monitoring of Concrete Structures, Kenote lecture in the International Conf on 'Advances in Science Engineering & Technology', ICSET, at KSRM College of Engg, 20 December 2019.

Dr. P. Sridhar, Sustainable building materials, FDP program at KITS Warangal, 27-31 August 2018.

Dr. P. Sridhar, Energy economics of the AD process & design parameters/criteria for anaerobic digesters and commercial models for biogas production, FDP program at NIT Warangal, 27-31 August 2018.

Prof. M. Chandra Sekhar, NBA Mock Evaluation Pocess, SWOT Analysis, SAR Preparation, Sri Mittapalli Engineering College, Guntur, 24-29, August 2019.

Prof. M. Chandra Sekhar, Outcome Based Education, JNTU Kakinada, 18 June 2019.

Prof. M. Chandra Sekhar, Overview of NBA in Outcome Based Education, IEEE Chapter, JNTU Ananatapur, 6-9 December 2019.

Prof. M. Chandra Sekhar, Tertiary Treatment of Wastewater, Aligarh Muslim University Aligarh, 18 December 2019.

Prof. M. Chandra Sekhar, Solid Waste Management, Keynote lecture at National Workshop on "SOLID WASTE MANAGEMENT PRACTICES, 19-21, August 2019.

Dr. P. Ravi Prakash, Fire Safety in Structures, FDP, KPRIT Coimbatore, 15 May 2020.

Dr. Ravishankar K.V.R., Design Aspects and Traffic Calming Techniques for Enhanced Road Safety, Two Day National Workshop on Road Safety Engineering, Maturi Venkata Subba Rao Engineering College (MVSREC), Hyderabad, Telangana, 20-21 September 2019.

Dr. Ravishankar K.V.R., Pedestrian Safety Considerations in Indian Traffic Conditions, Transportation Application and Urban Planning (TAUP-2019), Prasad V. Potluri Siddhartha Institute of Technology, Vijayawada, Andhra Pradesh, 03 August 2019.

Dr. Arif Ali BaigMoghal, Efficacy of Lime Treatment on Heavy Metal Retention Characteristics of Semi-Arid Soils, JNTU Hyderabad for Workshop on Geo Practices - 2019, 23 November 2019.

Dr. Arif Ali BaigMoghal, Geotechnical Challenges and Stability Requirements in the Design of Landfills, AMS College of Engineering, Avadi, Chennai, 27 April 2020.

Dr. Arif Ali BaigMoghal, Prospective Research Thrust Areas in Geotechnical and Geo-environmental Engineering, Gudlavalleru College of Engineering, Krishna District, Andhra Pradesh, 27 May 2020.

Dr. G. V. Ramana, A Case Study on Role of Geo-synthetics application in Hydroelectric power Projects", 5 days' Workshop on Continuing education Program Geo-synthetics in Infrastructure development (CEP-GID) held at NITW, Warangal conducted on 26th January to 1st February 2019.

Dr. G. V. Ramana, Durability of Concrete for Water Resources Structures, Faculty Development Program held at SRM Institute of Science and Technology, Delhi-NCR Campus, Modinagar.

Dr. G. V. Ramana, Fundamental duties of students (young minds) at Kendriya Vidyalaya, Warangal during Morning Assembly (Invitation received by Principal KVW).

Dr. G. V. Ramana, Engineering standards for hydropower projects (ISRM codes) at NITW for six days FDH on Teaching Engineering Standards and Intellectual Property Rights for Academicians, ESIPR 2020), 13th – 18th February.

Dr. G. V. Ramana, Engineering Standards for preparation of DPRs, at Teaching Engineering Standards and Intellectual Property Rights for Academicians, ESIPR 2020), 13th – 18th February 2020.

Dr. G. V. Ramana, Construction Materials for Concrete and Masonry Structures, at NITW for three-day National Workshop on Technical Skills from 28th -30th May-2019.

Dr. G. V. Ramana, Geo technical Investigations; Slope Stability for Approaches of Major bridges and flyovers, AP HRDI - Bapatla for Four Day Residential Training Programme on "Design of Bridges.

Dr. G. V. Ramana, Statistical Approach of In-Situ Shear Strength Parameters of Rock Mass, Indo-China research webinar series is jointly initiated by faculties from Shantou University, China, SVNIT, Surat & Indian

Geotechnical Society Surat Chapter on Date: 8th -19th May 2020.

Dr. P. Venkateswara Rao, Introduction to Integrated Solid Waste Management, Invited guest Lecture at RVRJC, Guntur, 03.08.2019.

Dr. P. Venkateswara Rao, Planning, Designing, Monitoring and inspection of wastewater treatment systems, AP HRDI - Bapatla -Residential Training Programme for engineers.

Dr. P. Venkateswara Rao, Global climate change and its Impacts, Kakatiya University, Warangal.

Dr. P. Venkateswara Rao, Introduction to Environmental Impact Assessment, L&T Engineers, Khammam.

Dr. B. Raghuram K, Urban Travel Commuters Behaviour and its Impact on Environment, E-Convention at Department of Civil Engineering, J D College of Engineering and Management, 30th May 2020.

Dr. B. Raghuram K, Evaluation of Urban Commuter Travel Behaviour and its impact on traffic emissions, One Week Short Term Training Program at Department of Civil Engineering, Shri Vishnu Engineering College for Women, 25th May 2020 to 30th May, 2020.

Dr. B. Raghuram K, Role of Consumer Behaviour on Travel Behaviour Analysis, A 3-day on-line FDP on Advances in Civil Engineering, Department of Civil Engineering, Swarnandhra College of Engineering and Technology, 21-23 May 2020.

Dr. B. Raghuram K, Crash data versus Surrogate safety data for traffic safety analysis, Invited talk, Department of Civil Engineering, Terna Engineering College, 04 April 2020.

Dr. Venkaiah Chowdary, Bituminous Mix Design Methods for Effective Pavements, Five-Day Workshop on "Emerging Trends in Transportation Geotechnics", organized by Vaagdevi College of Engineering, Warangal, Telangana, 23-27 September 2019.

Dr.D.Ravi Prasad, Non-destructive corrosion rate monitoring of RC members, technical fest Avanthi Institute Of Engineering And Technology, 31st Jan & 1st Feb 2020.

Dr.D.Ravi Prasad, Health Monitoring of Structures using Piezo electric Sensors, Work shop on Structural Health Monitoring of Civil Engineering Structures, VIT, Vellore, 13th March, 2020.

Dr. G. Rajesh Kumar, Concrete from Grey to Green, VTU, Belgaum, 15th September 2019.

Dr. G. Rajesh Kumar, The Philosophy of Prestressed Concrete, KLE college of Engineering, Chikoti, Belgaum, 21st May 2020.

Dr. R. Ramesh Nayaka, Low Cost Affordable Housing Solutions, 5 Days FDP at SECAB Institute of Engineering & Technology, Vijaypur, Karnataka, India, 8th February 2020.

Dr. R. Ramesh Nayaka, Challenges and Issues in Construction Practices, One-week workshop at Teegala Krishna Reddy Engineering College, Hyderabad, India, 26th February 2020.

Dr. R. Ramesh Nayaka, Supplementary Cementitious Materials, A webinar at Acharya Institute of Technology, Bengaluru, Karnataka, India, 22nd May 2020.

Dr Aneetha V., Construction Technology and Project Management, VaagdeviEngg College, Warangal, 8th January 2020.

Dr Aneetha V., Research Paper Writing, VaagdeviEngg College, Warangal, 11-5-2020.

Dr. S.Shankar, Quality Control and testing Procedures" for Low Volume Roads, Indian Highway Academy of Engineering, NOIDA, for National Quality Monitors during 11th December 2019, NOIDA, Delhi, 11 Dec. 2019.

Prof. N. V. Umamahesh, Urban Flood Modelling: Issues and Challenges, Invited talk at AP Human Resources Development Institute, Bapatla, 19 July 2019.

Prof N. V. Umamahesh, Operational Flood Forecasting using Ensemble Weather Forecast - A review, Keynote Lecture at International Conference on Hydraulics, Water & Coastal Engineering, HYDRO-2019, Osmania University, Hyderabad, 19 Dec. 2019.

Prof. N. V. Umamahesh, Modelling Techniques and Modelling Impact of Climate Change, Invited talk at SGGS College of Engineering & Technology, Nanded.

Dr. Arpan mehar, Recent Advances in traffic and transportation engineering, Keynote lecture, K. L. University, Vijayawada Campus, A.P. India, 28 Dec. 2019.

Prof. N. V. Umamahesh, Application of Neural Networks and Fuzzy Logic in Civil Engineering, Invited talk (online) at Global Institute of Engineering and Technology, Hyderabad, 02 May 2020.

Dr. K. Gopikrishna, Fragility analysis of RC Buildings, Online Expert Lecture at global trends in civil & infrastructural engineering (gtcie – 2020), IARE, Hyderabad, 26-30th May 2020.

Prof P.Rathish Kumar, Repair and Rehabilitation of Concrete Structures, Delivered Three online Lectures in the Webinar Series jointly organized by Sree Chaitanya College and Engineering, Karimnagar and ACCE(India) Karimnagar Centre 29th April-8th May 2020.

Prof P.Rathish Kumar, Behaviour of Elasticity and Plasticity of Structures, Keynote Lecture on Principles of Elasticity, Five Day FDP at Vaghdevi College of Engineering, Warangal, 02-06, December 2019.

Prof P.Rathish Kumar, Towards Sustainable Concrete: Development, Evaluation and Prioritization, Keynote Lecture in Three Day International Conference on Construction Materials and Smart Structures for Sustainable Development, VNR Vignana Jyothi Institute of Engg and Tech, Hyderabad, 29-31 Jan 2020.

Prof P.Rathish Kumar, Concreting Concrete-A Sustainable Approach, Expert Lecture at RGUKT, Nuzvid, Andhra Pradesh, 01 Feb 2020.

Prof. Deva Pratap, Ground Water Resources Evaluation using Remote Sensing and GIS, JNTU, Kakinada, 29 Nov. 2019.

New Labs Established

(Equipment/Software)*(Rs. 30.22 Lakhs)*

A new equipment named as "UV Spectrophotometer" has purchased with a funding of 3.03 Lakhs under NITW-Seed Grant, the main application is Analyzing samples.

A new equipment named as "IAQ monitor" has purchased with a funding of 4.26 Lakhs under NITW-Seed Grant, the main application is Monitoring Indoor Air.

A new equipment named as "Rock Extensometer" has purchased with a funding of 2.3 Lakhs under NITW- Seed Grant, the main application is Elastic Constants of Rocks.

A new equipment named as "up-gradation of existing Cyclic Triaxial test" has purchased with a funding of 2.45 Lakhs under NITW- Seed Grant, the main application is Resilient modulus testing.

A new equipment named as "Three Gang Consolidometers" has purchased with a funding of 4.92 Lakhs under NITW- Seed Grant, the main application is determining Compressibility and Consolidation Characteristics.

A new equipment named as "Fatigue testing Equipment" has purchased with a funding of 10.0 Lakhs under NITW-Seed Grant, the main application is Fatigue test of materials.

A new equipment named as "Thermal Scanner" has purchased with a funding of 3.34 Lakhs under NITW-Seed Grant, the main application is Thermal remote Sensing.

Awards/Recognitions/Achievements

Prof. N.V.Ramana Rao, Recipient of the prestigious `BHARAT RATNA SRI MOKSHAGUNDAM VISVESVARAYA AWARD, The Institute of Engineers (India)

Prof. N.V.Ramana Rao, Fellow of Institution of Engineers (India), Kolkata – (F-1241741)

Prof. N.V.Ramana Rao, Fellow of the Telangana Academy of Sciences (FTAS)

Prof. N.V.Ramana Rao, Life Member, Telangana State Academy of Sciences, Hyderabad.

Prof. P. Rathish Kumar, Earth Leader for Sustainable Development award by KPR Foundation and Council for Green Resolution (CGR) 2020, granted for 2019-2020.

Prof. P. Rathish Kumar, Member of the Research Advisory Council for National Council for Construction and Building Materials, Hyderabad, 2015-Till Date.

Prof. P. Rathish Kumar, selected for the DUO-INDIA Fellowship for Collaborative Research and Teaching with Prof Thomas Dyer, University of Dundee, Scotland, granted for 2020-2021.

Prof. P. Rathish Kumar, selected for the National Scholarship Program (Slovakian Govt), Teaching in Department of Slovak Technical University, Bratislava, granted for 2020-2021.

Prof. P. Rathish Kumar, Member of the Evaluation Committee of the Japanese Government Monbush-MEXT Research Scholarship and JSPS Fellowship, 2017-Till Date.

Prof. P. Rathish Kumar, Member of the IS 2095(Part 3-Reinforced Gypsum Plaster Boards, Tiles, Cornices and Mouldings): 2018, Revision of the Gypsum Plaster Boards-Specification (Third Revision)

Prof. P. Rathish Kumar, Convener for revision of all parts of the Indian Standard Code IS 2542-1978 including tests for Gypsum, Plaster, Concrete and Mortars, 2018-Till Date.

Prof. P. Rathish Kumar, Member of the Revision of Indian Standard Code IS 712:1984 ie Specification for building limes (third revision), 2018-Till Date.

Prof. P. Rathish Kumar, Member of CED-4 ie Lime and Gypsum Products of the Bureau of Indian Standards, 2018-Till Date.

Prof. P. Rathish Kumar, Member of the Preparation of the Handbook of lime for the Buruea of Indian Standards, 2018-Till Date.

Prof. M. Chandra Sekhar, Selected for Erasmus+ KA107 Cycle 2019-2022 Teaching staff mobility at the USC.

Prof. M. Chandra Sekhar, Leadership for Academic Professionals (LEAP) are AMU and Monash University (Dec 2019 – Feb 2020).

Prof. M. Chandra Sekhar, Organized International Conference on Innovative Trends in Civil Engineering for Sustainable Development, September 13-15, 2019.

Prof. M. Chandra Sekhar, Visited University of Virginia, Charlottesville, USA for discussions on follow-up of MoU Activities during, Nov 2019.

Prof. M. Chandra Sekhar, Member of Committee for drafting model curriculum for undergraduate degree courses in engineering and technology, AP state council for higher education.

Prof. M. Chandra Sekhar, Member of Editorial Advisory Board of Analytical Chemistry Letters.

Prof. M. Chandra Sekhar, Offered Honorary Rosalind Member of London Journals Press - Membership ID#KJ52424 (2020).

Prof. K. V. Jayakumar, Distinguished Alumnus Award from the National Institute of Technology Karnataka, August 2019, during the Diamond Jubilee celebrations of the institute.

Prof. C. B. Kameswara Rao, member of the BIS CED -2.2 Cement & Concrete (2017 to till date)

Prof. D.Ramaseshu, member of the BIS CED -2.2 Cement & Concrete (2017 to till date)

Dr. P. Hari Krishna, Best Citizens of India, 2019.

Dr. S. Shankar, National Advisory Committee Member for the preparation of a whitepaper on Self-Healing Roads (DST-TIFAC), 2020.

Dr. Sridhar Pilli, Editorial Member, American Journal of Environmental Science and engineering; sustainable forestry; Natural Resources Conservation and research; Vehicle Dynamics.

Prof. Rathish Kumar, Editorial Board Member, Journal of FactaUniverstatis and Journal of Cement WapnoBeton, Journal of Civil Engineering Research, International Journal of Theoretical and Applied Mechanics, International Journal of Mechanics and Solids, International Journal of Mechanics(Structural), ManTech publications Pvt Ltd, Journal of Civil Engineering and Construction Technology, Journal of Advanced Engineering Research, American Journal of Civil Engineering R &D, Journal of Advanced Research in Construction and Urban Architecture.

General MoU's between NEERI and Department of Civil Engineering, NIT Warangal.

General MoU's between NCCBM and Department of Civil Engineering, NIT Warangal.

General MoU's between WALAMTARI and Department of Civil Engineering, NIT Warangal.

General MoU's between PSI and Department of Civil Engineering, NIT Warangal, March 2020.

General MoU's between INVENTTA Industries and Department of Civil Engineering, NIT Warangal, March 2020.

General MoU's between Texas A&M AgriLife Research Industries and Department of Civil Engineering, NIT Warangal, 19th December 2019.

MOU for Development and Demonstration of Pilot-scale Hybrid Wastewater Treatment System with Hydrodynamic Cavitation and Biosurfactant for Recycling of Textile EffluentPrime Textiles, Warangal and Manipal University, Rajasthan, December 2019.

Research Guidance (Completed in 2019-20) (*19*)

M. Muzzaffar Khan, Probabilistic Seismic Hazard Analysis Of Warangal Region, under the guidance of **Dr. G. Kalyan Kumar**.

D. Abhigna, Gap Acceptance Behavior and Capacity Analysis of Urban Uncontrolled Intersections in Mixed Traffic Conditions, under the guidance of **Dr. K.V.R. Ravi Shankar**.

Dang Dong Ngyuen, Impact of climate change on hydrological regimes in the Saigon-Dongnai River basin (2019, ICCR Research Fellow from Vietnam), under the guidance of **Prof. K.V.Jayakumar**

Dasari Karthik, A Scientific Approach to Estimate the Masonry Labour Productivity using Human Physical Parameters, **Prof. C.B.Kameswara Rao**.

PoojariYugendar, Micro and Macroscopic Analysis of Crowd Behavior and Evacuation Planning, under the guidance of **Dr. K.V.R. Ravi Shankar**.

Eswar S., Pedestrian Behaviour Modeling on Level Changing Facilities inside Railway Stations, under the guidance of **Dr. K.V.R. Ravi Shankar**.

Jayakrishna J., Mode-wise Travel Time Prediction Modelling in Mixed Traffic Conditions, under the guidance of **Dr. K.V.R. Ravi Shankar**.

K. Praveen, Studies on shear behaviour of recycled aggregate based steel fiber reinforced Self Compacting Concrete, under the guidance of **Dr. S. Venkateswara Rao**.

K. J. N. Sai Nitesh, Study on Torsional Behaviour of Recycled Aggregate based Steel Fiber Reinforced Self Compacting Concrete, under the guidance of **Dr. S. Venkateswara Rao**.

ArukalaSuchith Reddy, Development of a framework for sustainable building assessment, under guidance of **Prof. P. Rathish Kumar** and **Prof. Anand Raj P.**

P. Lakshmi Sruthi, Behavioural Studies on Alkali Transformed Kaolinitic Clays - Control Measures, under the guidance of **Dr. P. Hari Prasad Reddy**.

V. V. Praveen Kumar, Study on strength and durability characteristics of lime sludge based blended cement concrete, under the guidance of **Dr. D.Ravi Prasad**.

Srikanth Koniki, A Study on Influence of Fiber Hybridization on Strength And Constitutive Stress-Strain Behaviour of Concrete, under the guidance of **Dr. D.Ravi Prasad**.

K.S. Radhika, Studies on Static and Dynamic Behavior of Hybrid Fiber Reinforced and Functionally Graded RC Beams, under the guidance of **Dr. D.Ravi Prasad**.

D.Harinder, Rutting Potential of Coir Geotextiles as Interface over Poor Subgrade for Low Volume Roads, under the guidance of **Dr. S.Shankar**.

ShirishaPulukuri, Real Time Watershed Modeling using Advanced Geospatial Methods and Soft Computing Techniques, under the guidance of **Dr. K Venkata Reddy** and **Prof Deva Pratap**.

Le ThiHoaBinh, ICCR Modelling Extreme Hydrologic Events under Nonstationary Condition in Ho Chi Minh City, Vietnam, under the guidance of **Prof. N V Umamahesh** and **Prof E Venkata Rathnam**.

Vinay Ashok Rangari, Hydrologic Modeling and Risk Assessment of Urban Floods: A Case Study Of Hyderabad City, under the guidance of **Prof. N V Umamahesh** and **Dr. Ajey Kumar Patel**.

S. Srikanth, Traffic flow modelling and simulation of traffic behavior under mixed traffic conditions, under the guidance of **Dr. Arpan Mehar**.

International Visits of the Faculty Members/ students*(12)*

Prof. N.V. Ramana Rao visited Portugal to participate in the Heritage General Assembly and Workshop during 25.05.2019 to 01.06.2019 at IST, Lisbon, Portugal

Dr. S. Shankar visited For Presented a Paper and visited the Aristotle University for Research Collaboration Discussions, Greece Thessaloniki, Greece, 12th – 14th June 2019.

Dr. P. Sridhar visited For Attending international Conference at HERAKLION University, Europe, 26th -29th June 2019.

Dr. P. Venkateswara Rao visited For Attending international Conference at HERAKLION University, Europe, 26th -29th June 2019.

Dr. Chinthala Sumanth visited For Interaction with Chinese experts for collaborations on Air Pollution as a part of MOU between Chang en University and NIT Warangal, Chang en University, China, June 28th – July 7th, 2019.

Dr.Chinthala Sumanth visited For Presenting a paper in CMAS international conference in UFMG, Belo horizonte, Brazil, UFMG, Belohorizonte, Brazil, Brazil, 18th – July 27th, 2019.

Dr. K.V. Ravi Shankar visited For Presenting two conference papers at 26th ITS World Congress 2020, Singapore, 21 -25th October 2019.

Prof. M. Chandra Sekhar visited for discussions on follow-up activities of MoU signed between UVA and NITW at University of Virginia, USA, 2nd -13th November 2019.

Dr M. Shashi visited For Seconded faculty to Asian Institute of technology, Asian Institute of Technology, Thailand, August - December 2019.

Dr. Arif Ali BaigMoghal visited For Presented 5 Papers (Orally) at Geo-Congress 2020, Minneapolis, Minnesota, University of Minnesota, USA, 24th – 29th February 2020.

Prof. C. B. Kameswara Rao visited For Attending international Conference at Gordon Research Conference, USA, 23rd -28th February 2020.

Dr. P. Hari Prasad Reddy visited For Presented 3 Papers (Orally) at Geo-Congress 2020, Minneapolis, Minnesota, University of Minnesota, USA, 24th – 29th February 2020.

Students Achievements

Job Placements (Campus)

BTech (CED):**52** students

MTech

Water Resource Engineering:	**3**
Environmental Engineering:	**2**
Engineering Structures:	**7**
Geo-Tech. Engineering:	**2**
Transportation Engineering:	**4**
Construction Technology & Management:	**2**

AsmitaSubedi, M.Tech, Graduate Engineer-Transport,WSP Consultants India Private Limited, Noida, Uttar Pradesh.

Sai SahithiDosapati, M.Tech, Assistant Engineer, ASC Infratech Private Limited, Noida, Uttar Pradesh.

Dr. D. Abhigna, Ph.D., Assistant Professor, Kakatiya Institute of Technology & Science, Noida, Uttar Pradesh.

Dr. S. Srikanth, Ph.D., Assistant Professor, REVA University, Bengaluru, Karnataka

Dr. Villuri Mahalakshmi Naidu, Ph.D., Assistant Professor, Gayatri Vidya Parishad College of Engineering, Visakhapatnam, Andhra Pradesh.

Dr. D. Harinder, Ph.D., Assistant Professor, VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad, Telangana.

Dr. PoojariYugendar, Ph.D., Assistant Professor, Chaitanya Bharathi Institute of Technology, Hyderabad, Telangana.

Dr. Eswar Sala, Ph.D., Assistant Professor, Gudlavalleru Engineering college, Gudlavalleru, Andhra Pradesh.

Higher Education

Arjun P.V., M. Tech., Joined Ph.D. program at Indian Institute of Technology Kharagpur.

Chintada Chandrasekhar, M. Tech., Joined Ph.D. program at Indian Institute of Technology Roorkee.

Mohd Tahir Ansari, M. Tech., Joined Ph.D. program at National Institute of Technology Warangal.

Shuddhashil Ghosh, M. Tech., Joined Ph.D. program at Indian Institute of Technology Indore.

Ch.Murali Krishna, M. Tech., Joined Ph.D. program at Indian Institute of Technology Delhi.

Lab development

Mr. D. Nihkil Kumar (Scholar), Facilitated the "Procurement of materials from various heritages sites and testing materials used." under the supervision of **Prof. Rathish Kumar.**

Mr. B. Murali Krishna (Scholar), Facilitated the "Development of DIC in the Structures Laboratory and its extension on field for consultancy." under the supervision of **Dr.T.P.Tezeswi.**

Mr. E. Srikanth (Scholar), Facilitated the "Enhancement of safety and ergonomics of the Rock triaxial test in geotechnical laboratory", under supervision of **Dr. G.V.Ramana.**

Ms. Amulya, Mr. Shravan Kumar (Scholars)& M.Tech students, Facilitated the "Fabrication of permanent water system for the Cyclic triaxial test in geotechnical laboratory", under supervision of **Dr. G.V.Ramana.**

Mr. Ahmad Reza Rostayee (M.Tech)Facilitated the "Setup of lab scale slow sand filter for removal of Nitrate from groundwater", under supervision of **Dr. Hariprasad Reddy.**

Several Scholars and M.Tech students participated in the "Setup of Solid Waste based (25 m^3/d) Bio-methanation Plant for Thermal (Cooking) Application for NITW", under the supervision of **Dr. P.V.Rao**.

Mr. Sarrela Chakravarthi(Scholar)& Mr. G.Rajkumar (M.Tech) Facilitated the "In-house fabrication of fatigue testing machine ",under the supervision of Dr**. S.Shankar.**

Mr.Abhishek (M.Tech), Facilitated the "Setup for study of Formaldihyde emissions in classroom environment", under the supervision of **Dr. C. Sumanth.**

Conference visits

P.Rakesh, Attended RILEM-ICI Doctoral Course on Advanced Concrete Technology, IIT-Madras, under the supervision of **Dr. S.Venkateswara Rao**, 18-11-2019-23-11-2019.

D. Nikhil Kumar, Attended RILEM-ICI Doctoral Course on Advanced Concrete Technology, IIT-Madras, under the supervision of **Prof. Rathish Kumar**, 18-11-2019-23-11-2019.

K. Chandra Sekhar, Attended RILEM-ICI Doctoral Course on Advanced Concrete Technology, IIT-Madras, under the supervision of **Prof. Rathish Kumar**, 18-11-2019-23-11-2019.

Civil Engineering Association Activities*(46)*

- SKETCH IT: 12-03-20
- STAAD PRO WORKSHOP: 25 &26-02-20
- DISHA (Teach Underprivileged Children): 25-02-20
- GRAM PARIVARTHAN 3.0: 01-03-20
- MEME MAKING CONTEST: 06-02-20
- TENSEGRITY: 28-02-20
- SPORTS WEEK: 02 to 06-03-20
- BHUVI-SAMVAD: 19-02-20
- ACE WITH EASE (Resume Making): 04-02-20
- CROSSWORD SERIES: 1 to 4 &12-10-19, 04-11-19, 29-12-19, 03-02-20
- GuestTalk(ACE Academy-Mahipal Reddy): 31-01-20
- MOCK GATE TEST SERIES: 1 to 4, 20-10-19, 26-01-20 – 30-01-20
- WEBINAR ON DURABILITY OF CONCRETE:24-01-2
- CAREER GUIDE: 22-01-20
- GUEST TALK ON PRE ENGINEERED BUILDING SYSTEM (Md RAHAMATULLA): 21-01-20
- ECO SNAP: 17-01-20
- INSIGNIA 2.0: 14-01-20
- BRANCH T-SHIRT: 22-01-20
- ALUMNI TALK (SAMEER AHMED): 10-01-20

- GROUP DISCUSSION: 10-01-20
- TOWN PLANNING: 09-01-20
- BRIDGE FABRICO: 07-01-20
- SAND TOWER COMPETITION: 02-01-20
- TREASURE HUNT: 26-12-19
- TALK WITH TNP: 30-12-19
- ONLINE APTITUDE TEST: 09-10-19, 17-11-19
- INSIGNIA 1.0: 08-11-19
- LECTURE SERIES (Dr.V Ramana Murthy): 07-11-19
- CIVIL STUDENT SEMINAR: 13-11-19
- SPANDANA FOUNDATION VISIT : 01-11-19
- GOOGLE IT QUIZ: 29-10-19
- GIFT HAPPINESS: 27-10-19
- ALL ABOUT CIVIL: 24-10-19
- KNOW YOUR BRANCH (Prof. K.V. Jaykumar): 21-10-19
- CIVIL FRESHERS: 16-10-19
- GUEST LECTURE ON ADVANCES IN FORMWORK FOR CONCRETE STRUCTURES: 14-10-19
- T-SHIRT DESIGNING COMPETITION: 12-10-19
- BUILDING SAVVY (ARTICLE WRITING): 11-10-19
- TREE PLANTATION DRIVE: 07-09-19
- ESSAY WRITING COMPETITION: 17-09-19
- INSIGNIA 3.0 : 20-03-20
- CAD CONTEST: 13-03-20
- ARTICLE WRITING; 12-03-20
- WEBINAR ON PERFORMANCE BASED CONCRETE FLOORING: 10-04-20
- QUARANTAINMENT: 27-03-20
- INSIGNIA - FAREWELL EDITION

Distinguished Guests visiting the Department/Delivering Expert Lecture/Keynote Address (*2*)

Mr. A. Manoharan (FORMER Sr. Scientist and Zonal Officer, CPCB, MoEF, India), "Case studies on Environmental Impact Assessment and Environmental Audit in India", Coordinator: Dr. Ambika S - Date 30.04.2019

International conference on "Innovative Trends in Civil Engineering for Sustainable Development (ITCSD-2019)", Coordinator: Prof. M.Chandrasekhar, Date: 13-9-2019 to 15-9-2019.

Outreach Programmes (*16*)

Prof. N.V.Ramana Rao, Member, Board of Governors (BoG), of Indian Institute of Information Technology, Design and manufacturing (IIITDM) Kurnool (2019)

Prof. N.V.Ramana Rao, Member, Building & Works Committee (BWC) of Indian Institute of Information Technology (IIIT), Tiruchirappally.

Prof. N.V.Ramana Rao, Member, Executive Council 'Heritage Network.

Prof. N.V.Ramana Rao, Member, "NIT Think Tank" for improving Rankings of NITs and IIEST Shibpur under National Institutional Ranking Framework (NIRF).

Prof. N.V.Ramana Rao, Member, Academic Council, SRM University.

Prof. N.V.Ramana Rao, Member, JEE Apex Board (JAB) for conduct of JEE Examination 2018, 2019 & 2020 for admission into IITs, NITs & CFTIs.

Prof. P. Ratish Kumar, BOS member of Kakatiya University, Warangal and Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, Maharashtra.

Prof. M. Chandra Sekhar, BOS Member of SV University, G.Pullaiah College of Engineering & Technology, (autonomous) Kurnool,Sidharth Institute of Engineering & Technology, (autonomous) Puttur and Srinivasa Ramanujan Institute of Technology (AUTONOMOUS), Ananthapuram.

Prof. K.V. Jayakumar, BOS Member of NIT Goa, NITK Academic Senate, Faculty Selection NITK and NIT Kurukshetra.

Prof.C.B.Kameswara Rao, BOS member of Sri Vasavi Engineering College, Tadepalligudem, AP.

Prof. D. Ramaseshu BOS member of Vignan University Guntur, LBR college of Engg, Vijawada, JNTU Pulivendula, JNTU Ananthapur, CVR Engg College Hyderabad, VBIT , Ghatkesar, Hyderabad and KITS Warangal.

Prof. G.Rajesh Kumar, BOS member of JNTU Hyderabad, JNTU Kakinada, Vaagdevi Warangal, Shashi Institute of Tech., Tadapalligudem.

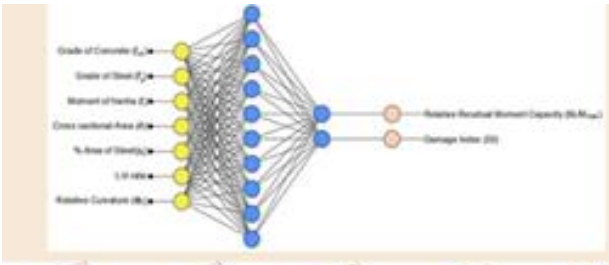
Prof. V. Ramanamurthy, BOS member of BVC College of Engineering and SR College of Engineering Warangal.

Prof. C.S.R.K. Prasad, BOS member of JNTU Kakinada, RVR&C Guntur, AadikaviNannaya University Rajamhendravaram and Raisoni College of Engineering Nagpur.

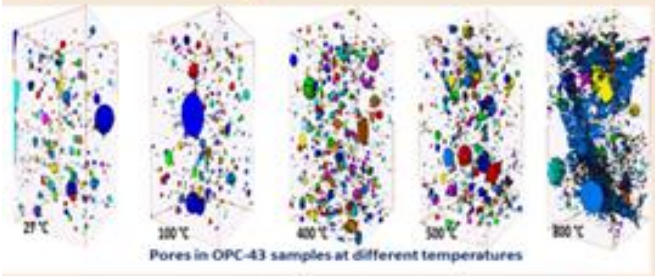
Prof. T.D.Gunneshwar Rao, BOS member of SRKR College of Engg., Bhimavaram and BapatlaEngg. College.

Dr.K.Venkat Reddy, BOS member of JNTU Kakinada.

Research Highlights

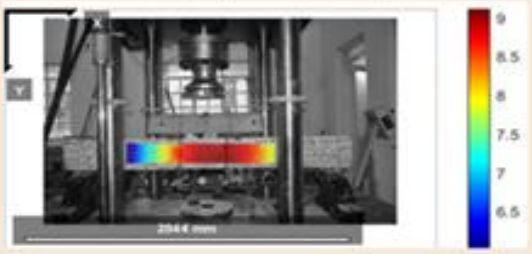


Experimental setup for scour depth measurements around a pier in a rectangular flume

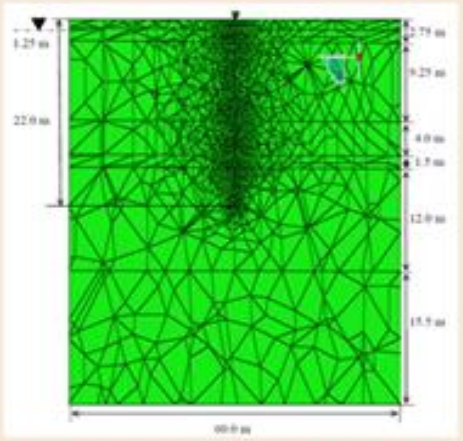


Pores in OPC-43 samples at different temperatures

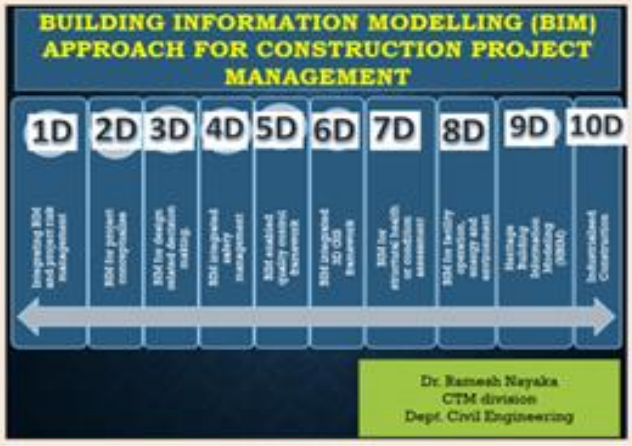
Discharge measurement using Ultrasonic flow meter



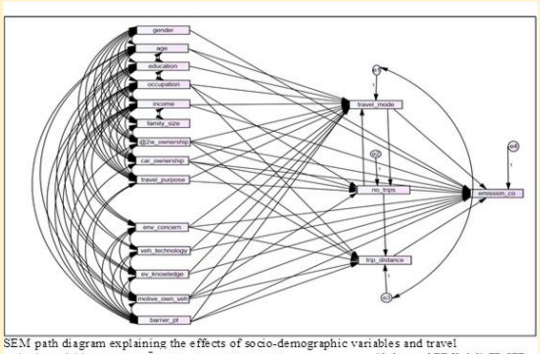
PILE VIBRATION TESTING SETUP



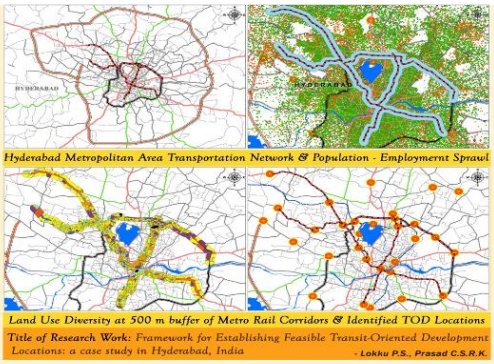
FINITE ELEMENT MODELLING OF A PILE UNDER DYNAMIC LOADING

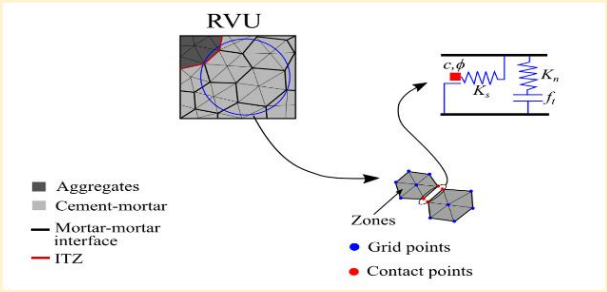


Research Highlights

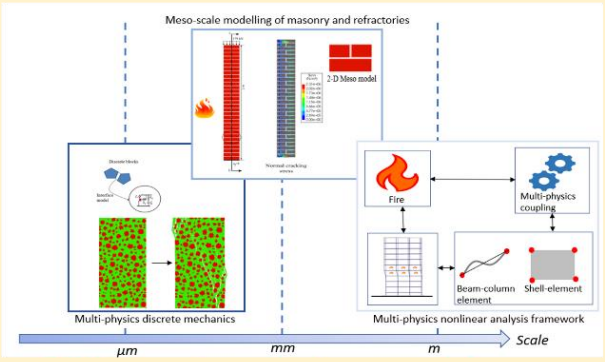


SEM path diagram explaining the effects of socio-demographic variables and travel attitude variables on Carbon Emission from vehicular traffic. **Akshay and BR Kadali, TD CED**

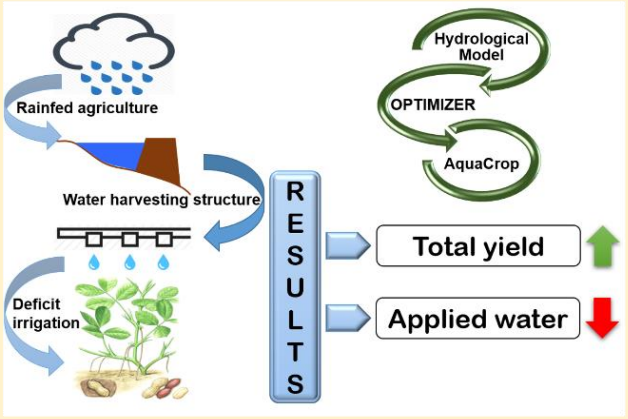


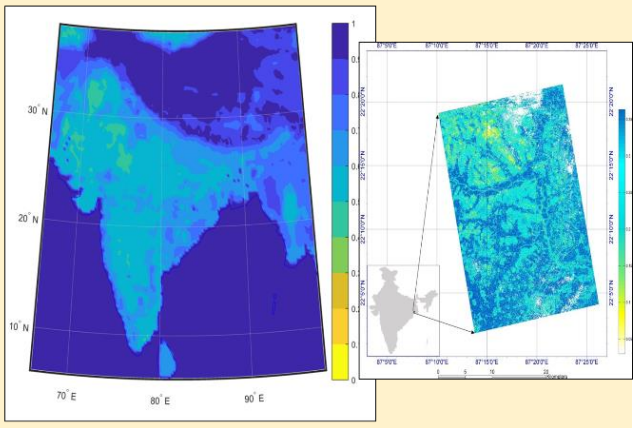


Discrete element modelling of concrete



Multi-physics nonlinear analysis of structures under fire

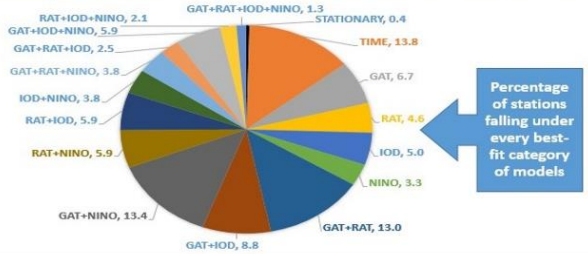


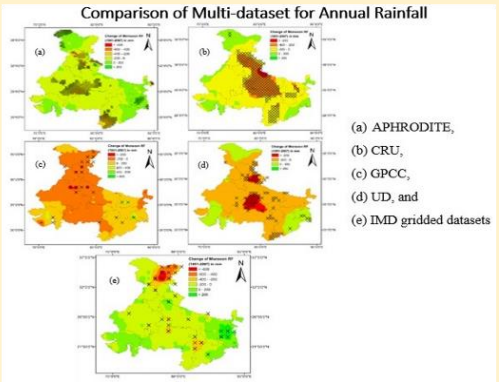


Satellite based soil moisture estimation

Selected distribution functions for frequency analysis of annual maximum rainfall

Distributions	Stationary Condition						Non-stationary Condition					
	IP	EC	WC	NC	NW	NE	IP	EC	WC	NC	NW	NE
Gumbel	14	3	8	12	5	4	21	4	12	13	6	2
Lognormal	25	24	22	10	20	3	26	21	18	9	20	2
Gamma	9	5	3	2	3	1	8	7	4	2	4	2
Generalised Gamma	21	14	4	9	7	6	15	14	3	9	4	8
Logistic	1	-	1	-	-	3	-	-	1	-	1	3





CIVIL ENGINEERING

SUMMARY OF CIVIL ENGINEERING

(June 1, 2019-May 31, 2020)

S.No.	Activity	Number
1	Publications (Peer Reviewed Journals/ conferences)(SCOPUS/SCI)	
	International Journals	*138*
	National Journals	*4*
	International Conferences	*65*
	National Conferences	*25*
2	Funded Research Projects/SPARC projects (2019-20)	
	Completed Projects	2
	DBT, SERB	Rs. 68.85 Lk
	Ongoing Projects (Rs 7.713 Crores)	16
	IMPRINT PROJECTS (1.33 Cr + 0.38 Cr)	2
	FIST PROJECT (2.16 Cr)	1
	BRICS project (39 Lakhs)	1
	DST, SERB, BRNS, DRDO	12
3	SPARC Project Workshops	6
4	Consultancy Works (2019-20)	Rs. 3.5Cr
5	Patents	7
	Awarded	1
	Filed	6
6	Books and Book Chapters	21
	Books	1
	Book Chapters	20
7	Conferences/ Workshops/GIAN courses/FDPs Conducted	*7*
8	Guest talks/ Webinars delivered	*68*
9	New Labs Established (Equipment/Software Procured)	*Rs. 30.22 Lk*
10	Awards/Recognitions/Achievements	*35*
11	Research Guidance (Completed in 2019-20)	*19*
12	International Visits of the Faculty Members/ students	*12*
13	Students Achievements	
	Placements	
	B.Tech	80%
	MTech	60%
	Higher Education (M.Tech, PhD at IITs & Abroad)	5 %
	Lab Development Activities	8
	Conference visits	3
14	Civil Engineering Association Activities	*46*
15	Distinguished Guests visiting the Department/Delivering Expert Lecture/Keynote Address	*2*
16	Outreach Programmes	*16*

The Department of Electrical Engineering is one of the oldest departments of National Institute of Technology (formerly Regional Engineering College), Warangal (NITW). Established as one of the major departments of the institute, since inception in 1959, the Department of Electrical Engineering has been actively engaged in teaching and research in diverse fields of Electrical Engineering. With excellent faculty, the department offers Undergraduate program (B. Tech) in Electrical and Electronics Engineering, Postgraduate degrees (M. Tech) in Power Electronics & Drives and Power Systems Engineering and Ph.D programs in all the areas of electrical engineering. All the three programs have been accredited for full term of accreditation in three accreditations in 1987, 2004 and 2014-15 by NBA as per Washington Accord. Department is strong with all faculty members holding PhD degrees and having expertise in various fields. A new M. Tech. (Smart Electric Grid) which is going to start in the the academic year 2020-21. Currently there are 27 faculty, whose broad areas of expertise include State Estimation and Real Time Control of Power Systems, Applications of ANN and Fuzzy Logic in Power Systems, Power System Deregulation, Power System Transients, EMTP applications in Power Systems, Relay coordination, Application of Power Electronics for Power Quality Improvement and Industrial Drives, DSP controller Drives, Simulation of Power Electronic Converters and Drive systems and Control of Special Machines. The department has state of the art infrastructure in frontier areas of research in the domains of Power Systems and Power Electronics & Drives

Department of Electrical Engineering

ELECTRICAL ENGINEERING

Details of Faculty Members

Dr. S Srinivasa Rao
Professor & Head
Research areas: Power Converters, Electric Drives; Renewable Energy Systems.

Dr. M Sydulu
Professor (HAG)
Research areas: Power Systems-Real-Time Control of Power Systems, ANN, Fuzzy Logic, GA Applications to Power System.

Dr. D M Vinod Kumar
Professor (HAG)
Research areas: Power Systems-AI Applications, Stability, Security, Deregulation, Restructuring, Multi-Objective Evolutionary Algorithms

Dr. D V S S Siva Sarma
Professor (HAG)
Research areas: Power Systems-Protection, Condition Monitoring of Electrical Equipment, Switching Transients.

Dr. N Subrahmanyam
Professor
Research areas: Power Systems-Distribution System Studies; Automation; Renewable Energy.

Dr. B K Murthy
Professor
Research areas: Wind and Wave Energy; Doubly fed Induction Machines, Electric drive.

Dr. N Vishwanathan
Professor
Research areas: Switched Mode Power Supplies, Induction Heating, Electric Drives

Dr. V T Somasekhar
Professor
Research areas: Power Electronics, AC Drives and Renewable Energy Systems

Dr. M Sailaja Kumari
Professor
Research areas: Power Systems-ANN, Evolutionary Algorithms, Deregulation, Transmission Pricing

ELECTRICAL ENGINEERING

Dr. N V Srikanth
Associate Professor
Research areas: Power Systems Stability and Control, HVDC and FACTS, AI Techniques, Real-time Control.

Dr. ChVenkaiah
Associate Professor
Research areas: Power Systems-AI Techniques, Deregulation, Restructuring; Financing, Power Procurement and Exchange.

Dr. B L Narasimharaju
Associate Professor
Research areas: Power Electronics-LED Lighting Systems; SRM drives, Grid Integration of Solar Energy.

Dr. S P Selvi
Assistant Professor
Research areas: Power Electronics LED Lighting, Induction Heating, High Frequency Soft-Switched Inverters.

Dr. P Suresh Babu
Assistant Professor
Research areas: Power Systems-Protection, Filtering Algorithms, Protection Schemes, Relay Coordination, PMU & WAMS.

Dr. A Kirubakaran
Assistant Professor
Research areas: Power Electronic Converters, Multilevel Inverters, Power Quality RES &Distributed Generation.

Dr. B Nagu
Assistant Professor

Research areas: Power Systems Stability, HVDC and AI Techniques, SPV Systems and Smart Grid Technologies.

Dr. G Siva Kumar
Assistant Professor

Research areas: Power Electronics Application to Power System and Renewable System.

Dr. D Sreenivasarao
Assistant Professor

Research areas: Power Quality, Custom Power Devices, FACTS, Multilevel Inverters, Improved Power Quality Converters.

ELECTRICAL ENGINEERING

Dr. A V Giridhar
Assistant Professor

Research areas: High Voltage Engineering, Condition Monitoring of Power Equipments

Dr. M Udaya Bhasker
Assistant Professor

Research areas: Bi-directional DC-DC converters, Energy Storage System, Digital Controls

Dr. Y Chandrasekhar
Assistant Professor

Research areas: Power Systems-RES, Micro grids, Fast EV Charging Stations, Block chain Technologies to Smart Grid.

Dr. T Vinay Kumar
Assistant Professor
Research areas: Power Electronics Drives and Multi-Level Inverters

Dr. P Srinivasan
Assistant Professor
Research areas: Power Electronics, AC Drives, Electric Vehicles, RES.

Dr. Ch. Ramulu
Assistant Professor
Research areas: Power Electronics, Open-end Winding Induction Motor Drives, RES.

Dr. I Satish Kumar
Assistant Professor

Research areas: Power Systems-Restructuring, Economic Dispatch, AGC, LFC, Micro Grids

Dr. Altaf Q H Badar
Assistant Professor

Research areas: Power Systems, Artificial Intelligence

Dr. D Swati
Assistant Professor

Research areas: Power Electronics, Multilevel Inverters, Electric Drives

ELECTRICAL ENGINEERING

Dr. Palash Mishra
Asst. Professor
Areas of Interest: Online Condition Monitoring of Power Apparatus, Partial Discharge Diagnostics, Polymeric Insulation, Nano Dielectrics.

Dr. Ram Krishan
Asst. Professor
Areas of Interest: Power system stability and Optimization, Integration Renewable Energy Sources, Battery Energy Storage System

Dr. Jeyasenthil R
Asst. Professor
Areas of Interest: Control System Design: Linear and Nonlinear Control, Quantitative Feedback Theory (QFT). Application areas, Control of Power electronic converters and Power system

Dr. Deepak R Pullaguram
Asst. Professor
Areas of Interest: Microgrids, Renewable energy resource, Power system dynamics, and Power system optimization

Dr. Kanasottu Anil Naik
Asst. Professor

Areas of Interest: Wind energy system grid integration issues,Intelligent control techniques application in power system ,DSP techniques application in power system ,Micro-grid stability and control

Dr. Debasmita Panda
Asst. Professor

Areas of Interest: Power Market Risk Management, Portfolio Optimization, Power Trading, Economic Dispatch, Congestion Management, Restuctured Power Systems

Dr. Mahamad Nabab Alam
Asst. Professor
Areas of Interest: Protection coordination; power system protection and optimization; adaptive protection using phasor measurement units; networked microgrids analysis, protection, and optimization; distribution system state estimation; hydroelectrical engineering; distribution automation; artificial intelligence techniques; numerical and metaheuristic optimization techniques

Publications (in peer reviewed journals)

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Satish Reddy D, Suman Kumar, B Anil Kumar and **S Srinivasa Rao**, " Bi-Polar DC Micro Grid based Wind Energy System," 7th International Conference on Advances in Energy Research(ICAER), IIT Bombay, Mumbai, India during 10-12 December 2019

Vishnu Prasad M, Bonala Anil Kumar and **Srinivasa Rao Sandepudi**, "Grey Relational Analysis based objective Function Optimization for Predictive Torque Control of Induction Machine," *2020 IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2020)*, Cochin, India, 2020, pp. 1-6.

Bhaskar S S Gupta Yelamarthi and **Srinivasa Rao Sandepudi** *"Fault-Tolerant Converter Topology for Speed Control of Induction Motor Drive"* International Conference On Emerging Frontiers in Electrical and Electronic Technologies (IEEE-ICEFEET 2020). NIT Patna

Bhaskar S S Gupta Yelamarthi and **Srinivasa Rao Sandepudi,** *" Scalar Control of Induction Motor Drive with Inverter Fault-Tolerance Capability"* International Conference On Emerging Frontiers in Electrical and Electronic Technologies (IEEE-ICEFEET 2020). NIT Patna

Narasimharaju B. L, G. Sainadh, Uday Shankar,"PV fed LLC-LC Multi-resonant Converter based LED Driver," *2019 IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP)*, Chennai, India, 2019, pp. 1-5.

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S. Madhu Babu, VKV Sathyakar, **Narasimharaju B. L**, Akshay K. Rathore, Harish S Krishnamoort, "Novel Single-Stage Transformer-less Cascaded Differential Boost Single-Phase PV Inverter for Grid-Tied Applications," *2020 IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2020)*, Cochin, India, 2020, pp. 1-5.

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Swati Tandon, Akshay K. Rathore, **Narasimharaju B. L,** "A ZVS Series Resonant Current-Fed PWM Controlled DC-DC Converter," 2020 IEEE International Transportation Electrification Conference and Expo, ITEC2020, USA Chicago, 24 - 26 June 2020, pp1-6

R. Arunprasath, M. Rathinakumar, D. Vijayakumar, S. Meikandasivam and **A. Kirubakaran**, "Two-Stage SEPIC Based Single-Phase Five-Level Inverter for Photovoltaic Applications," *2019 Innovations in Power and Advanced Computing Technologies (i-PACT)*, Vellore, India, 2019, pp. 1-4.

Sunil Kumar,B. and **A. Kirubakaran**, "A Complete Fault-Tolerant Solution For A Single-Phase Five-Level Hybrid Flying Capacitor Inverter," *2019 Innovations in Power and Advanced Computing Technologies (i-PACT)*, Vellore, India, pp. 1-5, 2019.

A Pranay Kumar, **G Siva Kumar**, **D Sreenivasarao,** "Model Predictive Control of Four Level NNPC DSTATCOM for Power Quality Improvement in Distribution System," *IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society*, Lisbon, Portugal, 2019, pp. 7063-7068.

Udaya Bhasker Manthati, Annu K M, Srinivas Punna, "Analysis of Sliding Mode Controller and PI Controller for distributed energy systems" during 25th -28th June 2019 to the IEEE International Conference on Smart Grid and Smart Cities (IEEE-ICSGSC 2019) at University of California, Berekeley, USA.

C. R. Arunkumar and **Udaya Bhasker Manthat**i, "Design and Small Signal Modelling of Battery-Supercapacitor HESS for DC Microgrid," *TENCON 2019 - 2019 IEEE Region 10 Conference (TENCON)*, Kochi, India, 2019, pp. 2216-2221.

Gurappa Battapothula ; **Chandrasekhar Yammani ; Sydulu Maheswarap**u "Multi-Objective Optimal Scheduling of Electric Vehicle batteries in Battery Swapping Station," *2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe)*, Bucharest, Romania, 2019, pp. 1-5.

Bhimavarapu Gayathri ; **Chandrasekhar Yammani**, " Multi-Attacking Strategy on Smart Grid with Incomplete Network Information," 2019 8th International Conference on Power Systems (ICPS), Jaipur, India, 2019, pp. 1-5.

C. Srinivasarathnam, **Chandrasekhar Yammani, and Sydulu Maheswarapu,** "Frequency control of Autonomous Hybrid Multi-Microgrid System," *2019 National Power Electronics Conference (NPEC)*, Tiruchirappalli, India, 2019, pp. 1-6.

C. Srinivasarathnam, **Chandrasekhar Yammani, and Sydulu Maheswarapu,** " Optimal Scheduling of Micro-sources in Multi-Microgrids for Reliability Improvement," *2019 National Power Electronics Conference (NPEC)*, Tiruchirappalli, India, 2019, pp. 1-6.

Lokesh Vankudoth, Dr. **Altaf Q. H. Badar**, " "Distribution Network Optimization through Siting and Sizing of BESS," *2019 8th International Conference on Power Systems (ICPS)*, Jaipur, India, 2019, pp. 1-5.

Ibrahim Anwar Ibrahim, M. J. Hossain, Benjamin C. Duck, **Altaf Q. H. Badar**, " "Parameters Extraction of a Photovoltaic Cell Model Using a Co-evolutionary Heterogeneous Hybrid Algorithm," *2019 20th International Conference on Intelligent System Application to Power Systems (ISAP)*, New Delhi, India, 2019, pp. 1-6.

Puppala Rajendhar, J Belwin Edward, **Altaf Q. H. Badar**, " Eye controlled rover for mapping the environment," International Conference on Automation, Signal Processing, Instrumentation and Control (ISASIC – 2020) February 27-28, 2020, Vellore, India

Funded Research Projects/SPARC projects (2019-20)

(Completed Projects)

Dr. T Vinay Kumar (PI), " Reduction of Torque Ripple in Direct Torque Controlled Three-Phase Permanent Magnet Synchronous Motor Drive for a Hybrid Electric Vehicle " Rs. 33.26 Lakhs Completed on 14 March 2020. (EEQ/2016/000188, dated 02.03.2017)

(Ongoing Projects)

Dr. B. L Narasimharaju (PI); Prof. D. M Vindod Kumar,Dr. S. Srinivasa Rao, Dr. A.V. Giridhar, Dr. V. V Mani; Research Collaborators: Dr. Akshay Kurmar Rathore, Concordia University, Canada, Dr. K. Vijay Babu, MIT Manipal, Industry Collaborators: Dr. D. Raveendhra, M/s Zunik Energies Pvt. Ltd., Sri. G. Veeranarayana, M/s. Ademtek, Design and Development of High Efficient Switched Reluctance Motor based Solar Photovoltaic (SPV) Water Pumping System (WPS), IMPRINT-India, MHRD. Rs.79.8452 Lakhs, 2019. (Lr. NO. IMP/2019/000295, Dt. 30-Dec-2019)

Prof. S Srinivasa Rao (PI), Prof. B. K. Murthy(CO-PI), Investigations on Control Flexibilities of Grid Integrated Solar Photo Voltaic Energy Conversion System, Sponsored under RSoP Scheme by Central Power Research Institute (CPRI), Bangalore, Ministry of Power (MoP), Govt. of India. Nov 2018, Rs. 31.10 Lakhs. (CPRI/R&D/TC/GDEC/ 20I9 Date : 06 .02.2019)

Prof. S Srinivasa Rao (PI), Prof. B. K. Murthy(CO-PI), Investigations on Multi-level Converter Interfaced Bi-Polar DC Micro-grids with Adaptive Centralized Energy Management System, Sponsored under EMR Scheme by DST, Aug. 2017, Rs. 54.80 Lakhs. (File No. EMR/2016/00006225 Dated:04-Aug-2017)

Dr. B. L Narasimharaju (PI); Dr. N. Vishwanathan and Dr. S. Porpandiselvi, Design and Development of High-Efficient PFC based AC-DC LED Driver for AC-Grid Fed LED Lighting System. Rs.27.535 Lakhs, 2019. (EMR/2017/004913)

Dr S Porpandiselvi, (PI), Prof. N Vishwanathan (Co PI),and Dr. B L Narasimharaju(Co PI), Development of High PF Grid connected Induction Cooker with Direct AC-AC Conversion for Vessels of Different Material, DST-SERB-CRG Scheme, Rs. 32.89 Lakhs, 2019. (CRG/2018/004568, 09/05/2019) (CPRI/R&D/TC/GDEC/ 20I9 Date : 06 .02.2019)

Dr S Porpandiselvi, (PI): Prof. N Vishwanathan (Co-PI), Dr. B L Narasimharaju (Co-PI), Design and Development of Efficient Induction Cooker suitable for Vessels of different materials, Sponsored under RSoP

Scheme by Central Power Research Institute (CPRI), Bangalore. Rs. 14.28 Lakhs, 2019 (RSOP/2019/GD/12, 13/05/2019)

Dr. A. Kirubakaran (PI), and Dr. V. T. Somasekhar (CO-PI), Development of a High Efficiency Single Phase Quasi-Z-Source Based Isolated DC/AC Conveter for PV Applications, Rs. 33. 27 Lakhs, 2017 (File No. EMR/2016/007811; SERB/F/2449/2017-18; Dated (04 July, 2017))

Dr. V. T. Somasekhar (PI), and Dr. A. Kirubakaran (CO-PI), Design and Development of Cascaded Quasi-Z Source Multilevel Inverter For Grid Connected Photovoltaic System, Rs. 41.10 Lakhs, 2017 (FILE NO. EMR/2016/007806 ; SERB/F/2118/2017-18 ; Dated(24 June, 2017))

Dr. Ravi Kumar Jatoth (PI), and Dr. V. T. Somasekhar (CO-PI), Design and Implementation of Intelligent Fractional Order Controller for Industrial Application Using IoT, Rs. 35 Lakhs, 2018 (DST/ICPS/CPS-Individual/2018/433(G))

Dr. B. L Narasimharaju (PI), Dr. A. V. Giridhar (Co-PI), Dr.Ch. Ramulu, (Co-PI). Foreign Investigators: Prof. Subhashish Bhattacharya (PI), NCS University USA, Dr. Akshay Kumar Rathor, (Co-PI), Concordia University, Canada, Dr. Harish S. Krishnamoorthy (Co-PI), University of Houston, USA, Development of New High Gain Transformer-less Inverter Topology for PV Based Grid Tie Applications, Rs. 95.04 Lakhs (SPARC/2018-2019/P1392/SL, Dt.15-March-2019)

Dr. P Suresh Babu (PI) "Blackout Prevention and Quick Service Restoration in Regional and United Indian Power Grid with Protection Reliability Enhancement using Optimal PMU Placement". SERB-DST, Government of India, New Delhi, Rs. 24.87 lakhs,2019.(SERB: EEQ/2018/000128 dated 15.02.2019.)

Dr. Bhookya Nagu (PI) "Design and Development of Solar PV and Fuel Cell Energy based Nano-Grid System.". SERB-DST, Government of India, New Delhi, Rs. 47.68 lakhs,2017 (SERB: EEQ/2016/000814 dated 19.03.2017.)

Dr. Chandrasekhar Yammani (Co-PI), Dr. Chandrasekhar Perumalla (PI), Prof. Sukumar Mishra(Co-PI), Dr. Ashu Verma (Co-PI), "Grid Interconnection protocols for largely dispersed minigrids/microgrids for electrification of rural India," under DST, India-Under Indo-Norway joint call on Renewable Energy with Rs. 39.99 Lakhs.(INT/NOR/RCN/P-04/2019, Dt 16/12/2019)

Dr. T Vinay Kumar, (PI) " An Effective Predictive Torque Controlled Permanent Magnet Synchronous Motor Drive for a Photo-Voltaic based Hybrid Electric Vehicle with Reduced CO2 Emissions," Rs. 3 26.22 Lakhs (DST, ECR/2018/001541, dated 13.03.2019)

Dr. I Satish Kumar (PI), Development of an efficient framework for optimal allocation of energy sources in a restructured distribution systems including D-FACTS and PMU's, DST-SERB, Rs 16.68 Lakhs. (DST-SERB EEQ/2016/000263)

Consultancy Works

Dr. A. V. Giridhar and Prof. M. Sydulu, "Testing Rubber Hand Gloves Samples upto 33kV, of TSNPDCL (Telangana State Northern Power Distribution Company Limited), on 05-09-2019 (Lr.No.: CGM/P&MM/NPDCL/Wgl./GM/DE/P1/A2/D.No.6140, Dt. 24/01/19).

Patents Filed/~~Granted~~

Ramsha Karampuri, Sachin Jain and **V.T. Somasekhar,** "Minimization Of Leakage Current In Transformer-Less Standalone Solar PV Powered Induction," File no. 201841004256 A, 2018

Suresh.L, and **V.T. Somasekhar, "** A Dual Dc- Power Supply Based Four - Level Open - End Winding InductionMotor Drive With A Flying Rectifier-Inverter Combination," File No. 201741032892 A, 2017

Neti Vishwanathan, S. Porpandiselvi, Kasi Ramakrishnareddy, "Full-Bridge Soft Switched Driver for LED Based Street Lighting Application," File no. 201641038698, 2016

N. Vishwanathan, Devara Vijaya Bhaskar, Tanmoy Maity, **S.Porpandiselvi,** " Cyclic on-off Control for a Three-Output Inverter for Induction Cooking Application with Independent Control, File no. 201641030518, 2016.

Conferences/ Workshops/GIAN courses/FDPs Conducted

Dr. N. Vishwanathan, Dr. B.L Narasimharaju and Dr. S. Porpandiselvi, Organized a Course on "Control and Applications of Resonant Inverters, 14-02-2020 to 15-02-2020, NIT Warangal.

Dr. B. L Narasimharaju & Dr. Ch. Ramulu, Organized a Six Day Faculty Development Program on "Power Conversion Technologies and Applications"01-06 May, 2019 at NIT Warangal, sponsored by E&ICT Academy, NIT Warangal.

Dr. Udaya Bhasker Manthati & Dr. Suresh Babu Perli, Organized a Six Day Faculty Development Program on " Applications of Digital Signal Processing Techniques for Power Electronic Systems," 13-05-2019 to 18-5-2019 at NIT Warangal, sponsored by E&ICT Academy, NIT Warangal

Dr. G Siva Kumar and Dr. T Vinay Kumar, Organized a Six Day Faculty Development Program (FDP) on "Recent Trends in Power Electronics Applications in Smart Grid, Electric Vehicles, and Renewable Energy" during 17 - 22 June, 2019 at NIT Warangal, sponsored by E&ICT Academy, NIT Warangal (Ministry of Electronics and Information Technology (MeitY), GOI).

Dr. T. Vinay Kumar, Organized a "One Day Faculty Development Programme (FDP) on Applications of Electric Motor Drives in Electric Vehicles," on 24-01-2020, NIT Warangal.

Dr. Altaf Q. H. Badar, Organized a " One Programme on Impact of Electric Vehicles on Electricity Demand and Distribution: Challenges and Opportunities," on 30.09.2019, NIT Warangal.

A. Kirubakaran & V.T. Somasekhar, Organized a Six Day Faculty Development Program on "Integration of Renewable Energy Sources" "03-08 June, 2019 at NIT Warangal, sponsored by E&ICT Academy, NIT Warangal.

SPARC Project Activities

Dr. B. L Narasimharaju, Dr. AV Giridhar & Dr. Ch. Ramulu, Three Week in-House SPARC Course on "Analysis of High Gain Converters for Grid Connected Photovoltaic Systems, Week-1, Week-2 , July 2019 (01/07/2019 to 12/07/2019), Week-4 , July 2019 (23/07/2019 to 26/07/2019)

Dr. B. L Narasimharaju, Dr. AV Giridhar & Dr. Ch. Ramulu, Five Day National SPARC Workshop on "Advanced Resonant Converters for Micro-Grid and Electric Transportation, 15/07/2019 to 19/07/2019

Dr. B. L Narasimharaju, Dr. AV Giridhar & Dr. Ch. Ramulu, Two Week in house SPARC Course on "Renewable Energy and Distributed Power Generation, 16/12/2019 to 27/12/2019

Guest talks/ Webinars delivered

Prof. N Vishwanathan, delivered lecture on "Bi-Directional Converters", in Vasavi College of Engineering, Dec. 2019.

Dr. B.L Narasimharaju delivered lecture on " Power Converters & Control Techniques for Power Management System in Electric Vehicles", in Six day FDP on 'Strategies and ICT Tools for Hybrid Vehicles' 7th to 12th February, 2019, NIT Warangal on 02-12-2019

Dr. B.L Narasimharaju delivered lecture on " LED Drivers for Grid & off-Grid fed Lighting Systems", Six Day Faculty Development Programme on Strategies and ICT Tools for Power Conversion Technologies & Applications, 1st to 6th May 2019, NIT Warangal, on 05-04-2019

Dr. B.L Narasimharaju delivered lecture on " LED Drivers for Grid & off-Grid fed Lighting Systems", Five Day National SPARC Workshop on Advanced Resonant Converters for Micro-Grid and Electric Transportation, 15th to 19th July 2019, NIT Warangal on 18/07/2019.

Dr S Porpandiselvi delivered lecture on "Introduction to Induction Heating Applications ", 2 days FDP on "Control and Applications of Resonant Inverters", at NIT Warangal, on 14.02.2020.

Dr S Porpandiselvi delivered lecture on " Control Techniques for High Frequency Inverters ", 2 days FDP on "Control and Applications of Resonant Inverters", at NIT Warangal, on 15.02.2020.

Dr A. V. Giridhar deliverd a Keynote Speaker/lecture on " Emerging trends in High Voltage Engineering and Pulsed Power Technology", in IInd National Conference on Modern Trends & Innovations in Electrical Engineering (NCMTIEE – 2K20)- Dept. of EEE- QIS College of Engineering & Technology- Ongole- Andhra Pradesh on 11/02/2020.

Dr. Chandrasekhar Yammani delivered lecture on " Energy management of Smartgrids and Microgrids using IoT", at RVR & JC College of Engineering, Guntur on 06 August 2019.

Dr. Chandrasekhar Yammani delivered lecture on " EV Fast Charging Stations-Optimal Dispatch of Vehicle-to-Grid (V2G) Battery Storage using p-ELECTRE Method", at QIS College of Engineering & Technology, Ongole on 15 Nov 2019

Dr. Chandrasekhar Yammani delivered lecture on " Fast Charging Stations and DGs in coupled electrical distribution and transportation network", at Chaitanya Bharathi Institute of Technology, Hyderabad on 27 Nov 2019.

Dr. Chandrasekhar Yammani delivered lecture on " Multi-Objective planning of Electric Vehicle Charging stations in Smart Electric Grids", at VNR Vignana Jyothi Institute of Engineering and Technology, Hyd on 3 Dec 2019.

Dr. T. Vinay Kumar delivered lecture on "Speed control of Advanced Electrical Drives", at SVNIT on 04-03-2020.

Dr. T. Vinay Kumar delivered lecture on "Special electric motor drives for electric Vehicle applications", at Nagpur Institute of Technology, Nagpur on 23-05-2020.

Dr. Srinivasan Pradabane delivered lecture on "Advanced topics in Power Electronics", at Jayamukhi Institute of Technological Sciences, Warangal on 20-04-2019.

Dr. Srinivasan Pradabane delivered lecture on "Design challenges in Multilevel Inverters", at Vaagdevi College of Engineering, Bollikunta, Warangal on 23-04-2019.

Dr. Srinivasan Pradabane delivered lecture on "Recent advances in Power Electronics", at Vaagdevi College of Engineering, Bollikunta, Warangal on 25-04-2019.

Dr. Srinivasan Pradabane delivered lecture on "Recent advances and applications of Power Electronics", at SR Engineering College, Warangal on 27-04-2019.

Dr. Altaf Q. H. Badar delivered lecture on "Artificial Intelligence Applications to Electrical Engineering", at KDKCE, Nagpur on 14/01/2019.

Dr. Altaf Q. H. Badar delivered lecture on "LaTeX for Document Preparation", at KDKCE, Nagpur on 09-05-2019.

Dr. Altaf Q. H. Badar delivered lecture on "Artificial Intelligence Applications to Electrical Engineering", at TGPCET, Nagpur on 09-06-2019.

Dr. Altaf Q. H. Badar delivered lecture on "Artificial Intelligence Applications to Electrical Engineering", at SVPCET, Nagpur on 22/01/2020.

Dr. Altaf Q. H. Badar delivered lecture on "Courses for improving Placement Probability", at ACET, Nagpur on 23/01/2020.

Dr. Altaf Q. H. Badar delivered lecture on "Artificial Intelligence Applications to Electrical Engineering", at RCOEM, Nagpur on 24/01/2020.

Awards/Recognitions/Achievements

Bhaskar S S Gupta Yelamarthi and ***Srinivasa Rao Sandepudi*** got best paper award in IEEE- International Conference on Emerging Frontiers in Electrical and Electronics Technologies held during 10-11 July 2020 at NIT Patna. Paper Title: Fault-Tolerant Converter Topology for Speed Control of Induction Motor Drive.

Research Guidance (Completed in 2019-20)

T. Ratna Rahul (Roll No. 714122), "Investigation on Control Strategies for Grid and Off-Grid Connected Inverters in 'Distributed Generation System," Supervisor: **Prof. D. M. Vinod Kumar**, Awarded: October 2019

Ch.K. Ramakrishnareddy (Roll No. 714117), "Investigation on Control Strategies for Grid and Off-Grid Connected Inverters in Distributed Generation System," Supervisors: **Prof. N. Vishwanathan & Dr. S.P. Selvi**, Awarded: 2019

Suresh Lakhimsetty (Roll No. 715015), "Improvised Space-Vector Pulse Width Modulation Schemes for Four-Level Open-End Winding Induction Motor Drives," Supervisor: **Prof. V. T. Somasekhar**, Awarded: Nov. 2019

Tirupathi Abhilash (Roll No. 715020), "Performance Evaluation of Hybrid Multilevel Inverter Topologies for Medium Voltage Applications," Supervisors: **Dr. A. Kirubakaran & Prof. V.T. Somasekhar,** Awarded: June 2020

B Anil Kumar (Roll No. 701406), "Multi-Objective Model Predictive Control of Grid-Tied Solar Photovoltaic System," Supervisor: **Prof. S Srinivasa Rao,** Awarded: 2019

Madasthu Santhosh (Roll No. 715023), "Investigations on Wind Speed Forecasting using Artificial Intelligence Techniques," Supervisor: **Dr. Ch Venkaiah**, Awarded: 22-07-2020.

Saptarshi Roy (Roll No. 714121), "Novel Techniques for identification and locating faults in power system compensated with FACTS devices," Supervisor: **Dr Suresh Babu Perli,** Awarded: Nov. 2019

Jammy Ramesh Rahul (Roll No. 714010), "Investigations on Impedance Source-Based Multilevel Inverters for Photovoltaic Applications," Supervisor: **Dr Kirubakaran A** Awarded: Oct. 2019

M. Hareesh (Roll No. 714011), "Power Quality Enhancement by DSTATCOM with Improved Performance," Supervisor: **Dr G SIVA KUMAR,** Awarded: Dec. 2019

MoUs Signed:

An MoU was signed between M/s. ABB Power Products and Systems India Limited (APPSIL), Bengaluru--560092 represented by its Mr. Venu Nuguri, Managing Director and NIT Warangal represented by its Prof. N.V. Ramana Rao, Director NIT Warangal on 25/6/2020. APPSIL will support NITW in defining and updating the course content for M.Tech (Smart Electric Grid) which is starting from Ay 2020-21, support in setting up of laboratory for Smart Electric Grid technology education, internships, experimentation and research activities including hardware, software, connectivity, Smart Electric Grid platform and applications.

Photo of MoU betewwen NITW and ABB Bangalore

MOU with Power Grid Corporation of India (PGCIL) and NIT Warangal on 30/12/2020

Photo of MoU betewwen NITW and PGCIL, New Delhi

An MOU was signed between Power Grid Corporation of India (PGCIL) and NIT Warangal on 30/12/2020. The main objective of this MOU is to have long term association between POWERGRID and NIT Warangal in the area of Energy Management. The MOU also aims at advancing and implementing energy efficiency and sustainable energy projects at NIT Warangal campus in the areas mutually agreed. Such as Space Cooling/Heating, Lighting and Fans, Water Pumping, Power Distribution, Waste to Energy, Joint Research, Development and Deployment of projects related to Energy sector relevant to POWERGRID

International Visits of the Faculty Members/ students

Dr Kirubakaran A, visited Genoa, Italy to present a paper in the IEEE EEEIC Conference on 11-14 June 2019

Dr G Siva Kumar, visited Lisbon, Portugal Italy to present a paper in the *IECON 2019 is the 45th Annual Conference of the IEEE Industrial Electronics Society (IES),* on 14-17 Oct. 2019

Dr. M. Udaya Bhasker, visited University of California, USA to present a paper in the IEEE-ICSGSC-2019 on 25-28 June 2019

Dr. Chandrasekhar Yammani, visited University POLITEHNICA of Bucharest to present a paper in the Presentation of paper at 2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe) International Conference on 29/09/2019-02/10/2019.

Students Achievements

Mr. B. Dinesh Reddy (Roll No. 162109, 4/4 B.Tech) secured All India Rank 66 in GATE2020 (Reg. No. EE20S51402510)

Ms. Sai Madhurya (Roll No. 162154, 4/4 B.Tech) and **Mr. Gitesh Chaudhari** (Roll No. 172214, 3/4 B.Tech selected for the OPJEMS Scholarship (O.P. Jindal Engineering and Management Scholarship). The award carries a medal and a cash prize of Rs 80,000 each. The OPJEMS Scholarship is given by Jindal group, is aimed at promoting academic and leadership excellence and are awarded to meritorious students who emulate the vision and values of Shri O. P. Jindal and have the potential to become leaders in entrepreneurial excellence and innovation

Team TEJAS*, the electric go-kart team of 19 members, consisting of B Tech 3rd and 2nd Year students of Electrical, Mechanical and ECE branches have participated in the *7th E-GKDC Electrical Go-Kart Design Challenge, organized by *ISNEE* : Indian Society of New Era Engineers Motorsports India in Kari Motor Speedway Racetrack, Coimbatore from 11th to 14th of February.

Team Tejas secured *AIR 3* position in this national level competition.

They have also won various prizes in sub-categories such as:

Best Acceleration and Braking Award.

Best Design Award.

Best Cost Analysis Report.

Best Captain Award.

AIR 2 in Skid-Pad.

Technical Association Activities

The Electrical Engineering Association (EEA), is the official technical association of Department of Electrical Engineering, NIT Warangal. With each year, a team of highly motivated students come together to organize events and activities for the benefit of students of NIT Warangal in general, Electrical Engineering Department in specific.

As it's said that,

"Legacy is not leaving something for people. It's leaving something in people.

The team of EEA 2019-2020 have worked towards organizing several activities, events and new initiatives to benefit and cater to the needs of students in terms of industry skills, soft skills, career guidance and creating an interactive environment.

EEA 2019-20 has conducted over 50+ events, which include 17 skill development Events, 9 awareness events, 7 expert lectures, 7 technical workshops, 7 fun events and 4 first of kind initiatives.

Starting off with the Inaugural ceremony on 9th of September 2019, EEA conducted several industry expert lecture sessions on: "Passive Tracker Systems for SPV arrays" by Shri. Ramesh Pawar M, Addl. Gen. Manager (Rtd.), BHEL, Hyderabad on 9th September 2019;

"Campus Energy Monitoring System" by Dr. Y Pradeep Kumar, IIT Hyderabad on 16th October 2019; "PMU Applications in Smart Grid" by Prof. Jaya Bharata Reddy, NIT Trichy on 17th October 2019; "Graduation & Opportunities in USA" by Dr. Harish S Krishnamoorthy, University of Houston on 28th December 2019; "Power Systems of the Future" by Mr. Venu Nuguri, Managing Director, ABB Power Products and Systems India Limited Bangalore on 26th February 2020; Webinar on "Are you Industry Ready?" by Mr. Ashwini Tambi, Alumni and an IT professional turned entrepreneur on 26th April 2020; Webinar on "Functioning of Load Dispatch Centers" by Mr. Ramkumar Kothamasu, Deputy Manager, Power System Operation Corporation Ltd. on 3rd May 2020.

To create a platform for the students to learn new skills, several technical workshops like:

MATLAB Workshop (8th September 2019), Machine Learning Workshop (20th October 2019), Integrated Circuits Workshop (3rd January 2020), SIMULINK and MULTISIM Workshop (4th January 2020) in association with EA & HAM Club, Web Dev Workshop (5th January 2020), VERILOG Workshop (2nd February 2020), Resume Workshop (7h February 2020) were conducted. Mentored by our highly experienced faculty and students from final and pre final years.

To promote the research culture among students, EEA launched an online experience sharing series named "Perspicacity" wherein students who bagged prestigious research internships shared their experiences about applying for the same, work and end results. The EEA also publishes a monthly technical Magazine "FLASH" aimed to help keep students updated to the latest trends & technology requirements in the industry. A series "Paraphrase" was also initiated with the aim to provide visualization of concepts by animated videos available online. EEA released a series of small informative videos on the occasion of World Energy Conservation Day – to spread awareness about conserving energy, and a even more important role as an Electrical Engineer.

EEA recognized the widening gap of interaction between alumni and students and took steps to release "SeeNears" an online experience sharing series by our eminent Alumni.

Internships and Placements have become buzz words for students in their second and pre final year. With the increasing competition in the job sector, it becomes necessary to groom the students for the interview and tests before they actually face them. To help address this issue, EEA in association with CCPD (Centre for Career Planning and Development) organized several events - Internship Talk for Second Years (20th October 2019),Placement Talk for Pre Final Years (25th February 2020), Mock OT for Hardware Sector (26th December 2019), Mock OT for Core Electrical Sector (23rd December 2019), Mock OT for Software Sector (27th February 2020), Mock Internship Interview (29th February 2020), Mock Placement Interview (1st March 2020), Accelerate Program (1st March 2020), Mock Group Discussion Session (5th March 2020), Placement Experience Series (Online). The students welcomed these initiatives and participated in good numbers. The events were primarily mentored by final year students and some pre final year students who have bagged placements and internships at big companies.

Several fun and interactive events were also taken up, which essentially provided a platform for interaction between faculty – students & Senior – juniors. Haywire (3rd October 2019), Freshers Event (18th October 2019), Tejas Orientation (24th October 2019), Sneek Peek , Snap It Caption it (31st October 2019), Electromania(during TZ'19), Know Your Branch, Decipher Hunt (9th January 2020), Electropreneur (10th January 2020), Circuit Debugging (26th January 2020), Digital Circuit Design Challenge (12th February 2020), Article Writing (20th February 2020), Tech Quiz in association with Quiz Club (24th February 2020), Free Time with Faculty, Sports Week (first week of March), Mythology Quiz (6th March 2020), Essay writing on Women's Day, Senior Connect (14th April 2020) were aimed to create a challenging environment for students to think out of the box, help students understand the college (for first years) and also improve their quizzing, writing and creative skills.

Three of the new initiatives include:

1. DATA Bank which is a compilation of the academic materials including notes and Reference books stored on digital media. Created with the aim to equip all students with sufficient academic resources at hand.

2. Class Song of the Batch of 2020 – which is a flashback of memories in college, available on YouTube, it has crossed 26k+ views

3. Donation Drive: EEA conducted a donation drive on the occasion of Diwali. The money collected from faculty and students was used to buy some "Happy Moments" at an Old Age home and an Orphanage.

"Alone we can do so little, together we can do much" – the team of EEA consists of 40 members (Executive Members, Joint Secretaries and Additional Secretaries. Faculty Advisor: Dr. A.V. Giridhar, Treasurer: Dr. Ch. Ramulu and General Secretary: Ketul Mehta. The EEA team has strived hard for skill development and helping students by interaction.

Distinguished Guests visiting the Department/Delivering Expert Lecture/ Keynote Address

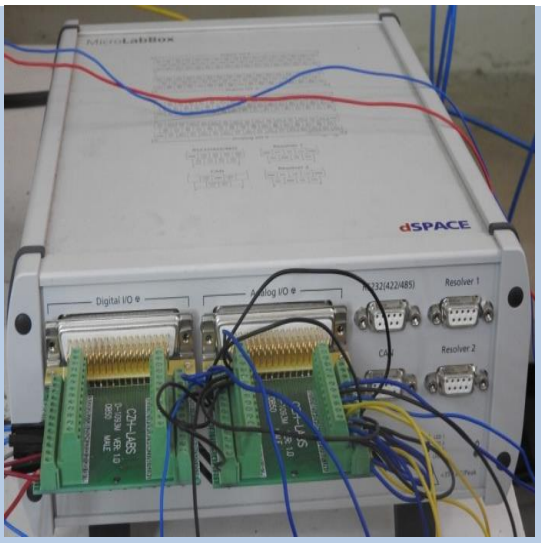
Outreach Programmes

ELECTRICAL ENGINEERING

Special Equipment Sanctioned

Transmission Line Model

Comprehensive AC Drive



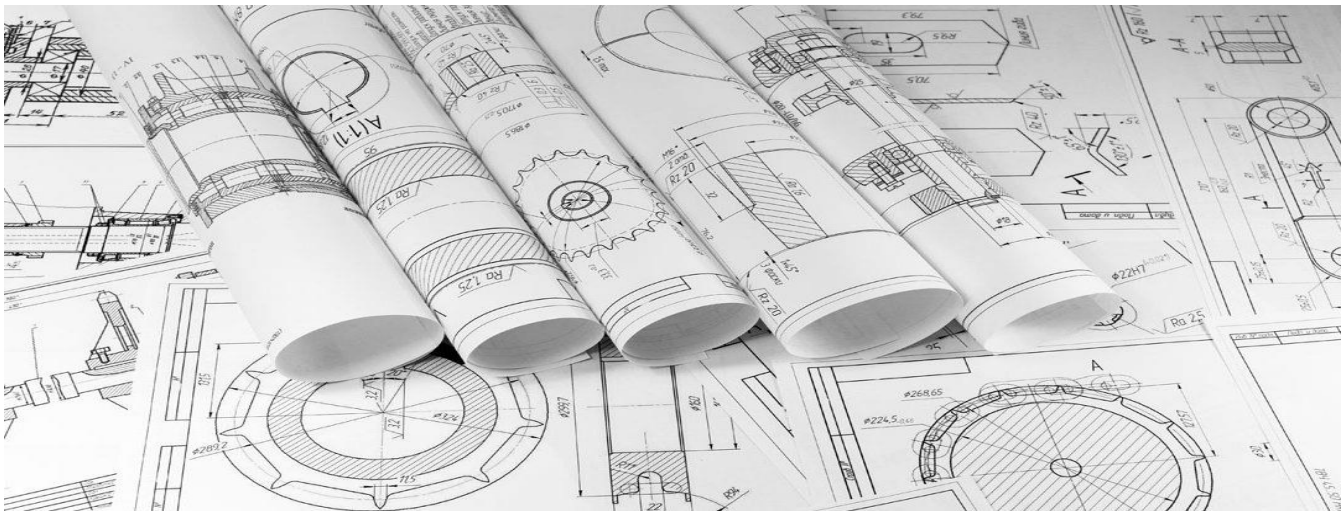
DSPACE MicroLab Box

Hardware In-loop System

Department Thrust research areas:

- ***Power Systems***
  - Power system stability
  - HVDC and FACTS Controllers
  - Distribution system automation
  - Real Time Control
  - Soft computing techniques
  - Deregulation
  - Protection
  - Power Quality
  - Fault Diagnosis
  - High Voltage Engineering
- ***Power Electronics & Drives***
  - Switch Mode Power Supplies
  - Modular Power Supplies and Reliability Studies
  - Power Electronic Drives
  - DSP Controlled Drives
  - Wind/Wave Energy Systems
  - Transient Effects in Drives
  - SVM Schemes for Multilevel Inverters
  - Renewable Energy Sources
- ***Smart Electric Grid***
  - Smart Electric Vehicles
  - Smart Grid Planning & Operation
  - Smart Grid Communications and Protocols
  - Smart Grid Resiliency and Cyber

DEPARTMENT OF MECHANICAL ENGINEERING



The Department of Mechanical Engineering was established in 1959, along with the setting up of the Regional Engineering College Warangal (RECW), the first among the chain of RECs. The department offers an undergraduate and seven graduate programs in addition to Ph.D. All programs are NBA accredited in compliance with the Washington Accord.

The department has highly qualified and committed faculty members who are well recognized and are members of many national and state level policy making and advisory bodies. The department of mechanical engineering has the honour of being recognized as QIP center since 2001, to offer graduate and Ph.D. programs to faculty of other technical institutions.

MECHANICAL ENGINEERING FACULTY

Dr. Adepu Kumar

Professor & Head of Department

Areas of Interest

Friction stir welding/Processing, Additive Manufacturing, Electrical Discharge Machining, Fabrication and characterization of Micro/Nano composites

Dr. K. Madhumurthy

Professor (HAG)

Areas of Interest

Thermal Engineering; IC Engines; Biofuels; Entrepreneurship; Industrial and Small Enterprise Management

Dr. C. Surya Prakasa Rao

Professor (HAG)

Areas of Interest

Manufacturing

Dr. L. Krishnanand

Professor

Areas of Interest

Industrial Engineering; CAD/CAM ; Supply Chain Management ; Additive Manufacturing

Dr. S. Srinivasa Rao

Professor (HAG)

Areas of Interest

Two-phase flow, I.C. Engines, Experimental Heat Transfer, Solar Energy

Dr. A. Neelakanteswara

Professor

Areas of Interest

Operations Management, Supply Chain Management, Theory of Constraints, Quality Engineering and Management

Dr. P. Bangaru Babu

Professor (HAG)

Areas of Interest

Mechanical Vibrations; Vibration Control; Finite Element Analysis; Mechanism Science; Engineering Design, Rotor Dynamics, Vehicle Dynamics.

Dr. A. Venugopal

Professor (HAG)

Areas of Interest

Conventional and Un-Conventional Machining, Coatings for High -Speed Machining, Rapid Prototyping, Metrology

Dr. N. Selvaraj

Professor & HAG

Areas of Interest

Modeling and Simulation, Flexible Manufacturing System, CNC Technology, Machine tools, Pull Systems and Composite

Dr. K. V. Sai Srinadh

Professor

Areas of Interest

Mechanical behavior of materials, Manufacturing process

Dr. P. Ravi Kumar

Professor & HAG

Areas of Interest

I.C. Engines, Alternate Fuels, Design of Air Car, Fuel Cell Car (Solar/Hydrogen), Flying car, Engine Simulation, Lean burn combustion, Adiabatic engine, CNG & HCNG engine, Exhaust gas re-circulation, Turbocharger engines.

Dr. G. Amba Prasada Rao

Professor & HAG

Areas of Interest

IC Engines; Engine Exhaust emission control; Alternate fuels; HCCI, Combustion

Dr. R. Narasihma Rao

Professor

Areas of Interest

Tribology, Kinematics & Dynamics of Machinery, Machine Design, Finite Element Methods, Advanced Light Weight Composites

Dr. V. Suresh Babu

Professor

Areas of Interest

Mechanism, Dynamics, Vibrations, Composite Material, Fault Diagnosis

MECHANICAL ENGINEERING

Sri. G. R. K. Gupta

Associate Professor

Areas of Interest

CFD, Turbo-machines, Jet propulsion

Sri. I. A. K. Reddy

Associate Professor

Areas of Interest

Elements of Mechanical Engineering

Dr. A. Veeresh

Associate Professor

Areas of Interest

IC Engines, Alternate Fuels, Emissions control, Fuel cell, Refrigeration and Air-conditioning

Dr. Y. Ravi Kumar

Associate Professor

Areas of Interest

CAD/CAM/CIM, rapid prototyping, additive manufacturing, 3D printing, Bio-CAD, Bio-printing

Dr. M. Joseph

Associate Professor

Areas of Interest

Metal Forming, CAD/CAM, Statistical Modeling

Dr. P. Subash Chandra

Associate Professor

Areas of Interest

Machining of high temperature alloys, CNC technologies, Optimization techniques, composite materials

Dr. V. Vasu

Associate Professor

Areas of Interest

Nano-materials, Nano-fluids, Nano-composites, Material testing Sustainable manufacturing, Metal cutting, Micro-Nano Machining Mechatronics & Systems Controls

Dr. G. Naga Srinivasulu

Associate Professor

Areas of Interest

I.C. Engines; Heat Transfer and Turbo machines

Dr. P. Vamsi Krishna

Associate Professor

Areas of Interest

Sustainable Manufacturing; Application of solid lubricants in machining; Application of nano-materials in machining.

Dr. K. Kiran Kumar

Associate Professor

Areas of Interest

Thermal Engineering; Heat Transfer; Nano-fluids; Refrigeration & Air-Conditioning; CFD; Non-Conventional Energy sources.

Dr. V. Rajesh Khana Raju

Associate Professor

Areas of Interest

Fluid Dynamics, Heat Transfer, CFD, Combustion, Microfluidics

Dr. Srikanth Korla

Associate Professor

Areas of Interest

Piezoelectric Energy Harvesting, Structural Health Monitoring, Product Design and Development

Dr. Hari Kumar

Associate Professor

Areas of Interest

Geometric Modeling for CAD, Finite Element / Iso-geometric Analysis, Robotics and Applied Optimization.

Dr. D. Jaya Krishna

Associate Professor

Areas of Interest

Utilization of Solar energy, CFD, Latent heat storage materials, Aerodynamics of cricket ball, Heat line visualization, heat transfer in porous media

Dr. B. Satish Ben

Associate Professor

Areas of Interest

Structural Health Monitoring, Tool Condition Monitoring, Nano Composites

MECHANICAL ENGINEERING

Dr. V. P. Chandra Mohan

Associate Professor

Areas of Interest

(i) Computational Fluid Dynamics (ii) Convection and conduction heat transfer (iii) Drying and Simultaneous solution of heat and mass transfer(iv) Alternative fuels and Hydrogen fuel cell(v) Experimental heat transfer

Dr. T. Sadasiva Rao

Assistant Professor

Areas of Interest

Manufacturing Engg. & Foundry Technology

Dr. Syed Ismail

Assistant Professor

Areas of Interest

Tribology; Surface Texturing; Lubrication

Dr. Karthik Balasubramanian

Assistant Professor

Areas of Interest

Microchannel Flow Boiling; Phase Change Heat Transfer; Microfluidics; Thermal management; Solar Thermal; Solar PV and Hybrid systems; HVAC systems.

Dr. Gujjala Raghavendra

Assistant Professor

Areas of Interest

Composites, Nano materials, Tribology, Polymer Composites.

Dr. Venkatesh Gudipadu

Assistant Professor

Areas of Interest

Microwave Material processing, Hybrid Machining, Advanced Manufacturing Processes, Surface Engineering.

Dr. Vijay Kumar Manupati

Assistant Professor

Areas of Interest

Manufacturing Systems Design, Supply Chain Management, Intelligent Manufacturing Systems, Soft Computing Techniques

Dr. P. Suresh

Assistant Professor

Areas of Interest

Distributed-Reconfigurable and Integrated macro/microsensors design.; Non-Destructive

Dr. Marrapu Bhargava

Assistant Professor

Areas of Interest

Metal forming, formability evaluation and prediction, hydroforming and formability

Dr. Hari Krishna

Assistant Professor

Areas of Interest

Nanoscale Heat and Mass Transfer; Molecular Dynamics

Dr. Anant kumar Rai

Assistant Professor

Areas of Interest

Fluid mechanics, Hydraulic turbines, Turbomachinery, Hydropower, Renewable Energy, Material wear testing, Sediment Transport

Dr. Shivraman

Assistant Professor

Areas of Interest

Welding, wear, corrosion and welding metallurgy

Dr. Manjaiah M

Assistant Professor

Areas of Interest

Advanced manufacturing, shape memory alloys, additive manufacturing, surface engineering

Dr. Gaurav Kumar Sharma

Assistant Professor

Areas of Interest

Computer aided design, digital manufacturing, product design

Dr. Satyanand Abraham

Assistant Professor

Areas of Interest

Thermal Management Of Electronic Package, Gas Turbines and vehicle Battery, Waste Heat Recovery, Surface Wettability

MECHANICAL ENGINEERING

Dr. Gangadharudu Talla

Assistant Professor

Areas of Interest

Non- traditional machining, metal cutting, surface engineering, micro machining

Dr. Thamarai Selvan

Assistant Professor

Areas of Interest

Computational solid mechanics, contact mechanics, FEM, FGM, layer substrate systems

Dr. Prasanth Anand Kumar

Assistant Professor

Areas of Interest

Computational Fluid Dynamics and Heat Transfer, Electronics Cooling ,Heat Transfer Augmentation ,Heat Exchanger Design,Refrigeration & Air-Conditioning

Dr. Chinige Sampath

Assistant Professor

Areas of Interest

Liquid metal cooling, jet impingement, porous media , lattice Boltzmann method

Publications(Peer Reviewed Journals)

International Journals (136)

A N Jinoop, C P Paul, J Denny, S K Nayak, P Vamsi Krishna, K S Bindra, Laser Additive Manufacturing of Hastelloy-X Thin Walls using Directed Energy Deposition: Parametric Investigation and Multi-Objective Analysis, Lasers in Engineering, 46(1-4), 2020, 15-34. Scopus. (IF: 0.383)

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incorporation of different wire meshes in between perforated current collectors and Membrane electrode assembly on the Passive Direct Methanol Fuel Cell, Chinese Journal of Chemical Engineering (Elseveir), (Accepted, July, 2020.) (Scopus).

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Chandramohan VP, Solar Updraft Tower Power Plant, Teqip/Coe/2016 Dated 03-11-2016, Centre of Energy - Teqip, Nitw, Teqip/Coe/2016 Dated 03-11-2016 Rs. 6.5 Lakhs

Devanuri Jaya Krishna, Design and Development of an Efficient and Cost Effective Solar Water Latent Heat Storage System (SB/FTP/ETA-0130/2014), DST-SERB Start-Up Research Grant (Young Scientists), 29.81 lakhs (INR)

Devanuri Jaya Krishna, Thermal Management of Continuous and Pulse Heating Based Electronic Components by Using a Heat Sink Impregnated with A Phase Change Material (DR2019004), IEI R&D, 30,000/- (INR)

G Raghavendra and Satish Ben, Fabrication and characterization of porous nano carbon from activated bio waste for tribological and structural applications, DST(SERB) ECR, 2019, 37.1 lakhs 1. Project Name: DST - Science and Engineering Research Board (ECR)

G.Naga Srinivasulu (PI), S.Srinivasa Rao and V.Vasu, SPARC Project Titled "Experimental Investigations on different Geometrical shapes of Passive Direct Methanol Fuel cell stacks for Low Power Applications, MHRD, Rs. 43,24,722/-,Sanctioned on 15th March, 2019

G.Naga Srinivasulu (PI), S.Srinivasa Rao, Amba Prasad Rao and V.R.K.Raju, SPARC Project Titled "Simulation and experimental evaluation of dual-fuel Homogeneous Charge Compression Ignition Engine by using reactivity fuels", MHRD, Rs. 36,78,922/- Sanctioned on 15th March, 2019

G.Naga Srinivasulu (PI), P.V.Suresh and S.Srinivasa Rao, Design and Development of Passive Direct Methanol Fuel cell integrated with liquid electrolyte for Portable Power Applications," SERB-EMR, Rs. 19,45,939/-, completed on 31st March 2020

Gudipadu Venkatesh, Manufacturing of Advanced materials using microwave hybrid heating technique, RSM grant, NIT Warangal

N.Selvaraj and MED Team, DST- FIST was granted Project order no: SR/FST/ETI-376/2014 dated 04-03-2014 and the amount sanctioned is 2.04 cr

P. Vamsi Krishna (CO-PI), National Centre for Development of Advanced Materials and Manufacturing Processes for Clean Coal Technologies for Power Applications, DST - through ARCI, Proposed Budget: 90.812 Lakhs, 2018 – 2021

P. Vamsi Krishna (PI), Vibration Assisted Turning for Improving Fatigue Life of Ti6Al4V Aerospace Components, DST- AMT, level-1, Proposed Budget: 28.6 Lakhs, 2018 - 2020

R Narasimha Rao, Syed Ismail, Insight Development on Tribological Response of Hybrid Aluminum Based Nanocomposites for Transportation sector, SPARC, MHRD, India, project no. SPARC/2018-19/P1393/SL and 15-03-2019, Rs. 40.52 Lakhs.

R.Narasimha Rao, Syed Ismail, Insight Development on Tribological Response of Hybrid Aluminium Based Nano composites for Transportation sector , MHRD-SPARC (Scheme for Promotion of Academic and Research Collaboration) A Government of India Initiative, (Rs. 40,52,310)-Awarded-06/02/2019 (Ongoing), [Prof. Manoj Gupta & Prof. Lu Li, NUS, Singapore].

Srikanth K., Uday Bhasker M., Modelling and Simulation of Energy Harvesting using Piezoelectic Materials and Super Capacitors, RCI – DRDO, if any, 17-01-2017 to 31-12-2019, Rs. 6.75 Lakhs

Suresh Periyannan," Ultrasonic Sensors Design and Development for Industrial Application", Rs: 5, 00,000, Funding Agency: RSM, NIT Warangal, Sep 2018 - Sep 2020

Syed Ismail, Development of Multi-Scale Textured Piston Ring and Study of its Impact on the Fuel Economy of an Internal Combustion Engine, Science & Engineering Research Board (SERB) under Department of Science and Technology, India, project No. ECR/2017/000479 and 04-07-2017, Rs. 32.604 Lakhs.

V.K Manupati, "Developing of Telefacturing based distributed manufacturing support system for optimal manufacturing service for Indian small and medium scale enterprises". Project Name: Research Seed Grant (RSM), 5 lakhs

V.K Manupati, "Developing of Telefacturing based distributed manufacturing support system for optimal manufacturing service for Indian small and medium scale enterprises". Rs. 13.59 Lakhs

V.K Manupati, Artificial Intelligence, Machine Learning and Deep Learning applications in Production and Manufacturing systems, DST-ICPS, Rs. 9 lakhs

Y. Ravi Kumar, Krishnanand L, Investigation on error identification and mitigation in Bio-rapid prototyping for Oral and Maxillofacial surgery, Science and Engineering Research Board (SERB) under Extra Mural Research Scheme, Project No. SB/S3/MMER/037/2013 Dated 17.06.2014 to 16.06.2017, Rs. 43.84 Lakhs.

Y. Ravi Kumar, Rapid Prototyping for Dental Surgical Planning and Implant Placement, Department of Science and Technology (DST) under FastTrack Scheme, Project No. SR/FTP/ETA-35/08 Dated 03.02.2009 to 02.02.2012, Rs. 15.00 Lakhs.

Consultancy Works

Prof. S. Srinivasa Rao is carrying out consultancy work for M/s. Rockwell Industries, Hyderabad on Fault Diagnostics of Compressors during January, 2020 for an amount of Rs. 53,460/-.

Patents

Awarded/Filed

Chandramohan V.P., Ramakrishna Balijepalli, Pritam Das, K. Kirankumar, Design and development of solar updraft tower (SUT) plant for generating electrical power: A novel structure, appropriate materials with optimized collector angle, Application No: 201941018001 A, 17/05/2019

K. Balasubramaniam, Suresh Periyannan, A novel ultrasonic waveguide technique for distributed sensing and measurements of physical and chemical properties of surrounding media, Granted, US Patent no: US 10520370B2, 2019.

K. Balasubramaniam, Suresh Periyannan, A Novel Waveguide Technique for the Simultaneous Measurement of Temperatures Dependent Properties of Materials. US Patent no: US 10,794,870 B2, Oct 2020.

K. Balasubramaniam, Suresh Periyannan, Integrated Thermocouple Waveguide Sensor System and Method to Measure Physical Properties of Waveguide Material and Surroundings. PCT filed during July 2020, PCT/IN2020/050592.

Manmadhachary A, Aditya Mohan A, Giridhar Kumar V and Ravi Kumar Y, Implantable Device for Temporomandibular Joint and Method of Production Thereof, USA Patent Application No: 16/628663, Filed on 04-01-2020.

Srikanth Korla, Akash Paidalwar, Shubham Awashi, Saumay Agarwal, Dual Security Pad Lock, Published on 06/11/2015, Reply to FER on 03/09/2019.

Srikanth Korla, Suryawanshi Nikhil Ramakrishna,, Pen Stand Puzzle, Indian Patent application Number: 201641009916, Published on 17/06/2016, Reply to FER on 07-03-2019.).

Books and Book Chapters

Amrit Kumar Thakur and V. P. Chandramohan, Productivity Enhancement of Passive Type Solar Still Using Copper and Aluminum Based Absorber Plate with Al2O3 NanoFluid in Water Basin, Chapter 26, S. Singh and V. Ramadesigan (eds.), Advances in Energy Research, Vol. 2, Apr. 2020, Springer Proceedings in Energy, https://doi.org/10.1007/978-981-15-2662-6_26

G. Amba Prasad Rao, T.Karthikeya Sharma, "Engine Emission Control Technologies,Design Modifications and Pollution Mitigation Techniques", Apple Academic Press -CRC/Taylor&Francis.

K Raghavendra, M Manjaiah, N Balashanmugam, 4D printing Chapter 4 of "Materials Forming, Machining and Post Processing" Springer, (2020) ISBN 978-3-030-18854-2.

K. Benarji, Y. Ravi Kumar and S. Kanmani Subbu, "FEA of Electrical Discharge Machining on the Particle Metal Matrix Composite", Advances in Simulation, Product Design and Development, pp. 255-266, Springer Publisher, 2020.

K. Velmurugan, V. P. Chandramohan, S. Karunanidhi, D. Sai Phaneendra, Thermal Management of Avionic Packages Using Micro-blower, Advances in Applied Mechanical Engineering, Lecture Notes in Mechanical Engineering, Springer, 763-773, Feb. 2020, https://doi.org/10.1007/978-981-15-1201-8_82.

Martins M., Varela M.L.R., Putnik G., Machado J., Manupati V.K. (2019) Tools Implementation in Management of Continuous Improvement Processes. In: Hamrol A., Kujawińska A., Barraza M. (eds) Advances in Manufacturing II. MANUFACTURING 2019. Lecture Notes in Mechanical Engineering. Springer, Cham. https://doi.org/10.1007/978-3-030-18789-7_29

N. Ch. Kaushik, Ch. Sri Chaitanya, R.N. Rao, Material removal mechanism of hybrid Grp/SiCp/Al-Mg-Si composites during high stress abrasive wear condition, Proceedings of Asia International Conference on Tribology. ISBN: 978-967-13625-2-5 (online).

N. Selva Raj involved in drafting AICTE model curriculum for Diploma courses in engineering and technology (Mechanical Engg and Production Engg), AICTE, 2019.

N. Selva Raj published a book chapter on Tribological studies on Aluminum based particulate reinforced MMCs- Lambert Academic Publishing, 2019.

N. Selva Raj published a book chapter Prediction of tribological properties of Al MMCs using ANN models – Lambert Academic Publishing, 2019

P. Narasimha Chandra, N. Ch. Kaushik, Ch. Sri Chaitanya, R. N. Rao, Effect of rotational speed on dimensional wear coefficients of solution treated Al-Mg-Si and Al-Zn alloys tested in abrasion condition, Proceedings of Asia International Conference on Tribology. ISBN: 978-967-13625-2-5 (online).

P. Vamsi Krishna, editor for "Advances in Applied Mechanical Engineering- Select proceedings of ICAMER 2019" published in Lecture Notes in Mechanical Engineering published by Springer.

P. Vamsi Krishna, Editor for "Advances in Light weight materials and structures - Select proceedings of ICALMS 2020" published in Springer Proceedings in materials Published by Springer

P. Vamsi Krishna, Guest Editor for "Materials Today Proceedings, Volume 27, issue P2, 2020- First International conference on Advanced Lightweight Materials and Structures" Published by Elsevier

Panchal M, Raghavendra G, Omprakash M, Ojha S, Vasavi B. Effect of Eggshell Particulate Reinforcement on Tensile Behavior of Eggshell Epoxy Composite. InInnovative Product Design and Intelligent Manufacturing Systems 2020 (pp. 389-397). Springer, Singapore

Prakash MO, Raghavendra G, Panchal M, Ojha S. Thermogravimetric Analysis of Biochar from Arhar Fiber Powder Prepared at Different Pyrolysis Temperatures.

InInnovative Product Design and Intelligent Manufacturing Systems 2020 (pp. 429-437). Springer, Singapore.

Ramakrishna Balijepalli, V. P. Chandramohan and K. Kirankumar, Design and Performance Investigation of Wind Turbine Blade for Solar Updraft Tower under Low Wind Speeds (Chapter 27), S. Singh and V. Ramadesigan (eds.), Advances in Energy Research, Vol. 2, Apr 2020, Springer Proceedings in Energy, https://doi.org/10.1007/978-981-15-2662-6_27

Sri Chaitanya, R.N. Rao, Tribological Behaviour of Aluminium Syntactic Foams under Dry Sliding Conditions: Effect of Sliding Distance, Emerging Trends in Mechanical Engineering [ETME 2019], January 9-10, 2019, NIT Warangal, India.

V K Manupati et al., (2019) "Integration of process planning and scheduling in an energy efficient flexible job shop: A hybrid moth flame evolutionary algorithm". Wiley, Taylor and Francis, CRC Press.

V K Manupati et al., (2019) "Telefacturing based distributed manufacturing Environment", Wiley, Taylor and Francis, CRC Press.

V Phanindra Bogu, Madhu M N, Y. Ravi Kumar, K Asit Kumar, "Design and Analysis of Various Homogeneous Interconnected Scaffold Structures for Trabecular Bone", Mechanical Engineering for Sustainable Development: State-of-the-Art Research, Vol.1, pp. 91-102, AAP-CRC Press (Tylor & Francis Group), 2019.

V.K Manupati et.al (2020) "Ontology based metamodel for hybrid collaborative schedule". In: Madureira A., Abraham A., Gandhi N., Varela M. (eds) Hybrid Intelligent Systems. HIS 2018. Advances in Intelligent Systems and Computing, vol 923. Springer, Cham.

V.K. Manupati et al., (2020) "Energy efficient network manufacturing system using controlled elitist non-dominated sorting genetic algorithm". Proceedings of International conference of Mechatronics and Cyber-mixmechatronics. Springer, PP-188-206.

Conferences/ Workshops/GIAN courses/FDPs Conducted *(7)*

Dr. M J Davidson, Dr. G Venkatesh and Kanmani Subbu S has Coordinated a GIAN program "171036L07 : Multi Scale Modeling of Sheet Metal Forming" December 3-7, 2019 (GIAN Expert: Prof. Dorel BANABIC, Professor, Technical University from Cluj-Napoca, Romania)

Dr. Manjaiah has delivered talk at one week online Faculty Development Programme on " Industry 4.0 & additive manufacturing on "Metallic Additive Manufacturing " on 4th August 2020, J.N.N.College of Engineering , Karnataka, India.

Dr. Manjaiah M has conducted FDP on Powder Production, Characterization and Fabrication of metal parts by DED and WAAM Processes, A SIX DAY ONLINE FDP on "Teaching and Learning of Additive Manufacturing Technology: Emphasis on Metal 3D Printing" during July 13-18, 2020 at NIT Warangal, India.

Dr. Manjaiah M has delivered a lecture in "Powder Production and Characterization Methods in 3D Printing", ONLINE AICTE-ATAL FDP on "3D Printing" during June 15-19, 2020 at NIT Warangal, India.

Dr. Manjaiah M has delivered a lecture in a Workshop on Artificial Intelligence machine learning, and deep learning applications in Production and manufacturing systems. Jan 2-15th, 2020 at National Institute of Technology Warangal.

Dr. Manjaiah M has delivered a lecture on Additive Manufacturing in FPD, 2019 at Jyothy Institute of Technology, Bengaluru.-Keynote

Dr. Manjaiah M has delivered a lecture on Additive Manufacturing- National level Technical Conference-2019 dated 30th April 2019 at Yenepoya Institute of Technology, Mangalore-Invited

Dr. Manjaiah M has delivered a lecture on Metallic Additive Manufacturing at 5-day FDP on 3D printing dated 10th July 2019 at A J Institute of Technology, Mangalore-Invited.

Dr. Manjaiah M has delivered a talk (Webinar) during Four Days Faculty Development Program on "RESEARCH METHODOLOGY- A DETAILED RESEARCH PROCESS" on 1st August 2020. SANATHANA RESEARCH & TRAINING INSTITUTE, Mysore, Karnataka, India.

Dr. N. Selvaraj has conducted one week GIAN course on Mechatronics systems and Product design during 16th – 20th December 2019.

Dr. Raghavendra Gujjala has organised a 5 day workshop on New Frontiers of Engineering Applications in Steelmaking for RINL-VSP Executives during Feb. 24-28 2020 at NIT Warangal, India.

Dr. Srikanth Korla, Dr. V Vasu, Prof. L Krishnanand (MED) and Dr. GV Ramana (CED) have a organized a FDP on Teaching Engineering Standards and Intellectual Property Rights for Academicians (ESIPR 2020) during 13th –18th, February 2020.

Dr. V P Chandramohan, Dr. G Naga Srinivasulu and Dr. V Vasu have conducted a TEQIP-III Sponsored 5 – Day WORKSHOP on "Hands on Practice - Writing Technical Research Articles and Reports", during Aug 7 – 11th, 2019.

Dr. V.K. Manupati has organized a Department of Science and Technology, Interdisciplinary Cyber Physical System (DST- ICPS) division sponsored Short Term Training Program (STTP) on "Artificial Intelligence, Machine learning and Deep Learning applications in Production and Manufacturing Systems" during 2nd to 15th of Jan, 2020.

Dr. Y. Ravi Kumar and Prof. L. Krishnanand have conducted A One Week AICTE-ATAL FDP on "3D Printing and Design" during December 16-20, 2019 at NIT Warangal, Warangal, India

Dr. Y. Ravi Kumar and Prof. L. Krishnanand have conducted A One Week GIAN Course on "Medical Prototyping using 3D Printing" during July 15-19, 2019 at NIT Warangal, India (Foreign Expert: Prof. Ian Gibson, Deakin University, Australia)

Dr. Y. Ravi Kumar and Prof. L. Krishnanand have conducted A One Week ONLINE AICTE-ATAL FDP on "3D Printing and Design" during June 15-19, 2020, NIT Warangal, Warangal, India.

Dr. Y. Ravi Kumar and Prof. L. Krishnanand have organised a One Week ONLINE TLC FDP on "Teaching and Learning of Additive Manufacturing Technology: Emphasis on Metal 3D Printing" during July 13-18, 2020, at NIT Warangal, Warangal, India.

Prof. R.Narasimha Rao, has organized a Five day National SPARC (MHRD) workshop on Tribological responce of advanced (NANO) Composites" during Feb. 24-28, 2020 at Department of Mechanical Engineering, NIT, Warangal, Telangana, India.

Guest talks/ Webinars delivered

Dr. Ch. Sampath kumar delivered a lecture on Recent trends in Heat Transfer for Narayana Engineering college, Nellore, Andhra Pradesh (Webinar)

Dr. D. Jaya Krishna delivered a lecture in GIAN program (Exergy Analysis of Industrial Processes (February 11 – 15, 2019), Delivered lecture on Utilization of solar energy for hydrogen production at NIT Warangal, India.

Dr. D. Jaya Krishna delivered a lecture on Emerging Technologies and Challenges in Mechanical Engineering (ETCME) (21 October – 02 November, 2019), Delivered lectures on: i. Aerodynamics in Sports ii. Solar Hydrogen Production, R.V.R. & J.C. College of Engineering, India.

Dr. D. Jaya Krishna delivered a lecture on Modeling and Simulation Using a CFD Tool (August 01-03,2019), Delivered lecture on: Computational Fluid Dynamics using Ansys Fluent (Hands on practice, VSM College of Engineering, India.

Dr. D. Jaya Krishna delivered a lecture on One Week Faculty development programme on Research in Energy Technologies (online FDP) (July 06 –11, 2020), Delivered lecture on: Energy Storage Technology, Bharati Vidyapeeth (Deemed to be University) College of Engineering, Pune, India.

Dr. D. Jaya Krishna, delivered a lecture on Advancements in phase change material based Thermal and renewable energy technologies (online FDP) (June 01-05,2020), Delivered lecture on: Characterization of PCMs and their compatibility with metals, Lakireddy Balireddy College of Engineering, India.

Dr. D. Jaya Krishna, delivered a lecture on Research Trends in Mechanical Engineering (online FDP) (June 15 – 20, 2020), Delivered lecture on: Phase Change Materials: Applications, classification and selection criteria, Gudlavalleru Engineering College, India.

Dr. G. Naga Srinivasulu delivered the Expert Lecture on "Fuel Cell Technology and Applications", through Webinar for 'Five Day Online Faculty Development Programme on RESEARCH INNOVATIONS in MECHANICAL ENGINEERING (RIME-2K20)', 13th to 17th July, 2020, at Sasi Institute of Technology and Engineering, Tadepalligudem.

Dr. G. Naga Srinivasulu delivered the Expert Lecture on "Fuel Cell Technology and Applications", through Webinar for Five Day Online Faculty Development Program (FDP) on Sustainable Mobility Solutions in the Indian Context (27th – 31st July 2020), at VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad.

Dr. G. Naga Srinivasulu delivered the Expert Lecture on "Fuel Cell Technology and Applications", through Webinar for SVR College of Engineering, Nandyal, on 5th June, 2020.

Dr. Gangadharudu Talla delivered a lecture on "Theory of Metal Cutting", St. Ann's College of Engineering & Technology, Chirala, 23/06/2020 (Webinar)

Dr. Gangadharudu Talla delivered a lecture on "Tools for Documentation: Conference, Journal and Thesis Writing", Vagdevi College of Engineering, Warangal, 13/06/2020 (Webinar)

Dr. Gangadharudu Talla delivered a lecture on "Wire Electric Discharge Machining and Its Applications", G H Raisoni College of Engineering and Management, Pune, 30/07/2020 (Webinar)

Dr. Gangadharudu Talla, delivered a lecture on "Manufacturing Technology". Narayana Engineering College, Gudur, 10/06/2020 (Webinar)

Dr. Gudipadu Venkatesh delivered talk on "Optimization of Ultrasonic Assisted Abrasive Flow Machining in "Artificial Intelligence, Machine Learning

and Deep Learning Applications in Production and Manufacturing Systems (2nd January 2020 – 15th January 2020)

Dr. M J Davidson delivered a lecture through Webinar conducted by Sri Vishnu Institute of Technology Bheemavaram on 4th July 2020.

Dr. P. Vamsi Krishna delivered lecture in Five Day Online Faculty Development Programme (Contemporary Developments in Manufacturing Processes, Sustainable Manufacturing and Industrial Technologies) on "Sustainable manufacturing", 11th June 2020, Pragati EDr. P. Vamsi Krishna delivered lecture in Five Day Online Faculty Development Programme (Research Trends in Mechanical Engineering) on "Hybrid nano cutting fluids in machining" 20th June 2020, Gudlavalleru Engineering college, Gudlavalleru , A.P.

Dr. P. Vamsi Krishna delivered lecture in National Seminar (Emerging trends in Nano-Materials and their Engineering Applications-NSENMEA-2019) on "Application of nanofluids to machining", 20th September 2019, GVP College of Engineering, Visakhapatnam.

Dr. P. Vamsi Krishna delivered on "Sustainable manufacturing", 21st September 2019, BVC INSTITUTE OF TECHNOLOGY & SCIENCE, Amalapuram.

Dr. Raghavendra Gujjala has given "Advanced composites"Recent Research Developments in Materials Engineering and Mechanical Design (FDP)Vishnu Institute of Technology Bhimavaram 21/07/2020

Dr. Raghavendra Gujjala has given a lecture in FDP titled Advanced Materials and Additive Manufacturing at Nalla Malla Reddy Engineering College on 13 June 2020.

Dr. Raghavendra Gujjala has given a lecture on the tribology on 28th may 2020 Webinars in Kalasalingam University Anand Nagar, Krishnankoil – 626126(online)

Dr. Srikanth Korla delivered a lecture on Creativity and Product Design, One week FDP on Design thinking and product innovation, PVP Siddhartha Institute of Technology, March 2020.

Dr. Srikanth Korla delivered a lecture on Product Design and Development, Webinar Series, Vaisakha Institute of Technology, May 2020

Dr. Syed Ismail delievred a guest talk on Tribology: Bearings and Lubrication at Vasireddy Venkatadri Institute of Technology, Guntur, on 31-01-2020.

Dr. V. K. Manupati as a Keynote Speaker: Keynote on 17th December 2019 in Five day academy programme on "Education 4.0 for Industry 4.0"

Dr. V. K. Manupati as a Keynote Speaker: Keynote on 9th November 2019 in Five Day Academy Programme on Virtual Reality in Education (VRE) at NIT Warangal.

Dr. V. K. Manupati as a Keynote Speaker: on "Virtual Reality and Augmented Reality for Industry 4.0", in AICTE Training and Learning 2019.

Dr. V. K. Manupati delivered a key note talk on Production and Manufacturing Systems for Industry 4.0 for one week online Faculty development Program (FDP) on "Recent Developments in Mechanical Engineering", organized by MED, KITS Warangal in association with ISTE, during 7st to 11th July 2020.

Dr. V. K. Manupati delivered a talk as a resource person on "Virtual Reality and Augmented reality for Industry 4.0", in AICTE Training and Learning 'Virtual Reality in Education' - 16-20 June 2020.

Dr. V. K. Manupati delivered Invited Talk: on "Development of cyber physical system based manufacturing system design for process optimization" in a Plenary Session at 9th International Conference on advanced concepts in Mechanical Engineering on 4th June 2020 at Romania.

Dr. Y. Ravi Kumar delivered a "Key note lecture on Advances in Additive Manufacturing" in an International Conference on Advances in Minerals, Metals, Materials, Manufacturing and Modelling (ICAM5-2019), September 25-27, 2019, (On the eve of Diamond Jubilee Celebrations of NIT Warangal) under TEQIP-III grant, Organized by Department of Metallurgical and Materials Engineering National Institute of Technology Warangal Warangal-506 004, Telangana State (India).

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing and Design" in National Level Webinar Series on Emerging Areas of Technology, July 13–20, 2020, K.J. Somaiya Institute of Engineering and Information Technology, Mumbai, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing Applications" in a TEQIP-III Sponsored 3-day National Level Workshop on 3D Printing and It's Applications, February 26 – 28, 2020, JNTUH College of Engineering Jagtial, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing Fight Against COVID-19" in A One-Day IEEE student chapter Webinar On Role of 3D Printing in COVID-19 Pandemic, May 21, 2020, Department of Electrical Engineering, NIT Warangal, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing Fight Against COVID-19" in A One-day TEQIP-III Sponsored National Webinar on Role of Additive Manufacturing (3DP) during COVID-19, June 09, 2020, GEC Banswara (Rajasthan) & BVM EC (Gujarat), India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing in Classroom Teaching" in a One-Day Workshop on Additive Manufacturing, Pace Institute of Technology & Sciences, Vallur, Ongole, India, September 21, 2019.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing in Medicine" in A 03-Day Workshop on 3D Printing, May 27 – 29, 2020, Ramachandra College of Engineering, Eluru, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing in Pre-planning and Re-constructive Surgeries" in A One-Week E & ICT FDP on 3D Printing for Industrial & Bio-medical Applications, December 02 – 06, 2019, VNRVJIET, Hyderabad, E&ICT Academy: NIT Patna, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing of Novel Materials" in A One-week International ONLINE FDP on Role of Materials and Processing in Additive Manufacturing: 3D Printing to Industry (RMPAMPI-2020), July 19–24, 2020, GLA University, Mathura, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing: 4th Industrial Revolution" in A Two-Week DST-ICPS Division STTP on Artificial Intelligence, Machine Learning and Deep Learning Applications in Production & Manufacturing Systems, January 02 – 15, 2020, NIT Warangal, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing: A Game Changer Technology" in A One-Day Webinar on 3D Printing- A Game Changer Technology, July 25, 2020, Engineering Staff College of India (ESCI), Hyderabad, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing: An overview" in A One-week Short Term Course on CIM/CNC, May 25 – 29, 2020, NITTTR, Chandigarh, India.

Dr. Y. Ravi Kumar delivered a lecture on "3D Printing: Post-COVID" in a 01-Day Webinar on 3D Printing for Biomedical Applications, G.H. Raisoni College of Engineering, Nagpur, India, May 30, 2020.

Dr. Y. Ravi Kumar delivered a lecture on "Additive Manufacturing: 4th Industrial Revolution" in A One-week AICTE-ATAL Sponsored FDP on 3D Printing & Design, November 25 – 29, 2019, JNTUA College of Engineering, Pulivendula, India.

Dr. Y. Ravi Kumar delivered a lecture on "Additive Manufacturing" in A Five-Day ONLINE FDP on Imminent Trends in Mechanical Engineering, June 29–July 03, 2020, Kommuri Pratap Reddy Institute of Technology, Hyderabad, India.

Dr. Y. Ravi Kumar delivered a lecture on "Advances in Additive Manufacturing" in A Five-Day Technical Symposium on Advances in Materials and Manufacturing Engineering, June 30–July 04, 2020, G.S Mandal's Maharashtra Institute of Technology (MIT), Aurangabad, India.

Dr. Y. Ravi Kumar delivered a lecture on "How to Build DIY Printers" in a Four-Day Workshop on Do It Yourself Workshop on Product Engineering through Additive Manufacturing, September 23 – 26, 2019, Centurion University (CUTM), Parlakhemundi, Odisha, India.

Dr. Y. Ravi Kumar delivered a lecture on "Recent Advances in Additive Manufacturing Processes" in A One-week ONLINE STC on CAD/CAM and RPT Techniques (ICTO-127), July 27–31, 2020, NITTTR, Chandigarh, India. Delivered the Lecture on "Fuel Cell Technology and Applications" for 5 Day Faculty Development Programme on 'Recent Advances in Thermal Energy Systems(RATES-2K19)', from 11th November to 15th November 2020, at Sasi Institute of Technology and Engineering, Tadepalligudem.

Dr. Y. Ravi Kumar delivered a lecture on "Recent Advances in CAD/CAM Systems" in a 2-day National Level Workshop on Modelling Software and their Applications, February 04 – 05, 2020, KU College of Engineering and Technology, Kakatiya University Campus, Warangal, India.

Dr. Y. Ravi Kumar delivered a lecture on "Research Opportunities in Additive Manufacturing" in A One-week ONLINE FDP on Research opportunities in Advanced Manufacturing Processes, June 22–28, 2020, Bharati Vidyapeeth, College of Engineering, Pune, India.

Dr. Y. Ravi Kumar delivered a lecture on "Role of 3D Printing in COVID-19 Pandemic" in A One-Day IE India Warangal Local Chapter On Role of 3D Printing in COVID-19 Pandemic, May 27, 2020, IE(I) Warangal Local Chapter, NIT Warangal, India.

Dr. Y. Ravi Kumar delivered a lecture on "Role of 3D Printing in COVID-19 Pandemic" in A One-Day Webinar On Role of 3D Printing in COVID-19 Pandemic, June 04, 2020, Dhanekula Institute of Engineering & Technology, Vijayawada, India.

Dr. Y. Ravi Kumar delivered a lecture on "Role of 3D Printing in Industry 4.0" in A One-week ONLINE FDP on Industry 4.0 – A Vision of Design & Manufacturing, June 16–20, 2020, Chaitanya Bharathi Institute of Technology, Hyderabad, India.

Dr. Y. Ravi Kumar delivered a lecture on "Role of Additive Manufacturing during COVID-19" in A One-Day National webinar on Role of Additive Manufacturing (3D Printing) during COVID-19 , July 21, 2020, Government Engineering College, Nowgong, India.

Dr. V.P Chandra Mohan gave a lecture on Basics of Research, Literature survey and problem identification, Two days workshop on the Basics of Research, RGUKT-Nuzvid, Andhra Pradesh, India, 14-15th Dec. 2019

Dr.V.P Chandra Mohan gave a lecture on CFD and its Applications on Drying Industries, CAPE Institute of Technology, Kanyakumari Dist, Tamilnadu, 8th June 2020

Dr.V.P Chandra Mohan gave a lecture on Discretization Procedures to Estimate Temperature Distribution Inside a Domain and How to Write a Computer Program, STTP on Artificial Intelligence, Machine Learning and Deep Learning Applications in Production and Manufacturing Systems (2 – 15th January 2020), NIT Warangal, India, 10th Jan. 2020.

Dr.V.P Chandra Mohan gave a lecture on RESEARCH METHODOLOGY during July 8th to 12th, 2019 at S.R.K.R Engineering College, Bhimavaram, One week Faculty Development Program on RESEARCH METHODOLOGY, S.R.K.R Engineering College, Bhimavaram, Andhra Pradesh, India, July 8th to 12th, 2019

Dr.V.P Chandra Mohan gave a lecture on RESEARCH METHODOLOGY, FDP Program on 'RESEARCH METHODOLOGY', PBR Visvodaya Institute of Technology, Nellore Dist, Andhra Pradesh, India, 26th Dec. 2019

Prof. R.Narasimha Rao (Resource Person), Tribological response of Machine Components, Five day National SPARC (MHRD) work shop on Tribological responce of advanced (NANO) Composites" organized by Department of Mechanical Engineering, NIT, Warangal, Telangana, India., Feb, 24-28, 2020

Prof. R.Narasimha Rao delivered a lecture as an Invited Speaker in Indiana Summit 2019 at Indiana University - Purdue University, Indianapolis, USA during October 3-5, 2019.

Prof. S. Srinivasa Rao delivered an Expert Lecture on 29th APRIL, 2020 on the topic of HYBRID VEHICLES for the faculty of CMR College of Engineering and Technology, Kandlakoya, Medchal Road, Hyderabad-501401.ngineering College, Surampalem, E.G Dist.

New Labs Established (Equipment/Software

D. G. Venkatesh developed "Ultrasonic Assisted Magnetic Abrasive Finishing" Sponsored under RSM grants and TEQIP III

Dr. D.Jaya Krishna procured the Equipments "Solar System Analyzer" and "Solar Power meter" for Rs.2,80,672/- purchased on 05/03/2020

Dr. G. Naga Srinivasulu developed the equipment "Electronic Load bank"

Dr. G. Naga Srinivasulu developed the equipment "Passive Direct Methanol Fuel Cell Setup"

Dr. Syed Ismail initiated 'Laser Processing Laboratory' and purchased The Nd:YAG laser with accessories of worth 22.64 Lakhs under SERB-ECR project.

Dr. Y. Ravi Kumar and Prof. L. Krishnanand established "Metal Additive Manufacturing Facility" with a funding of Rs. 1.6 Crores under TEQIP – III scheme during January 2020, The facility is meant for laboratory classes for UG, PG students of Mechanical and allied Departments and also for research purpose

Prof. S. Srinivasa Rao procured "CONVERGE-CFD", a combustion modelling software was purchased by the department for an amount of Rs. 5.00 lakhs from TEQIP-II funds.

Awards/Recognitions/Achievements

Dr. Raghavendra Gujjala received a Best paper award: IPDIMS. NIT Rourkela, Best presentation, 2019

Dr. Srikanth Korla acted as the Chair, Plenary & Keynote session, 2nd International conference on Recent advances in Materials & Manufacturing Technologies (IMMT 2019), BITS Pilani Campus, Dubai, UAE , NOV 2019

Dr. V. K. Manupati acted as a International Scientific Committee member for ICIE-2020: Manufacturing, Management for sustainable and collaborative I4.0 oriented Manufacturing systems (3M_S&CI4.0).

Dr. V. K. Manupati acted as a Program Committee Member in ICCM-2020 organized by IIMT, Bhubaneswar,Dec 19-20, 2020, Bhubaneswar,India. http://interscience.ac.in/ICCM 2020/program.php

Dr. V. K. Manupati acted as a Program Committee Member in HIS 2019: 19th International Conference on Hybrid Intelligent Systems (https://easychair.org/cfp/HIS2019)

Dr. V. K. Manupati acted as a Program Committee Member of WICT 2019 (10th World Congress on Information and Communication Technologies).

Dr. V. K. Manupati acted as a Technical Event Committee member for Energy and Environmental Technologies for Sustainable Development, 14-16 February 2020 (http://mnnit.ac.in/ccf20/index.html)

Dr. V. K. Manupati acting as a Editorial Review Board member of International Journal of web portals (Scopus).

Dr. V. K. Manupati acting as a International Advisory committee member ICIE2020: Innovation in engineering, University of Minho, Portugal, 8-10 July 2020.

Dr. V. K. Manupati acting as a Program Committee Member IBICA 2019: The 10th International Conference on Innovations in Bio-Inspired Computing and

Applications (IBICA 2019) GIET University, Gunupur, Odisha, India, 16-18 December 2019

Dr. V. K. Manupati as a Editor for Special Issue on: "Industry 4.0 and Sustainable Manufacturing" Call for Papers: International Journal of Advanced Operations Management (Scopus Indexed).

Dr. V.P.Chandra Mohan acting as Associate Editor, AGRONOMY RESEARCH, SCI Journal, 17-02-2020 to till date

Dr. V.P.Chandra Mohan acting as the Assistant Editor, Renewables: Wind, Water, and Solar, Springer, 10-05-2020 to till date

Dr. V.P.Chandra Mohan acting as the Regional Editor, Journal of Thermal Engineering, Estonia, SCI Journal, 19-03-2020 to till date

Dr. V.P.Chandra Mohan and Dr. V.R.K Raju were awarded with the most cited Elsevier article for year 2020 published in Energy Procedia and the article titled as Design, Development and Performance of Indirect Type Solar Dryer for Banana Drying

Dr. V.P.Chandra Mohan is acting as the Reviewer Recongnize award Applied Energy, Energy Conv and Managmnt, Energy, International Journal of Heat and Mass Transfer, Ren Energy and Sust Energy Reviews, Journal of Food Science, 2019-2020

Dr. V.P.Chandra Mohan received Manak - Inspire Award, National Innovation Foundation – India, 2019-2020

Dr. Y. Ravi Kumar received the "Best Technical Paper Award" for the paper co-author with K. Benarji and P. Aswin on "Numerical Simulation and Experimental Study on SS316 by Laser Assisted Direct Metal Deposition (L-DMD), 2nd International Conference on Recent Trends in Metallurgy, Materials Science and Manufacturing (IMME19), National Institute of Technology Tiruchirappalli, Tamil Nadu, India, December 27-28, 2019.

Prof. R.Narasimha Rao acted as Session Co-Chair, Indiana Summit 2019, Indiana University - Purdue University, Indianapolis, USA, October 3-5, 2019.

Research Guidance (Completed in 2019-20) (*19*)

Mr. A. Prasad Reddy has awarded PhD degree under the supervision of **Dr. P.Vamsi Krishna** and **Prof. R.Narasimha Rao** for thesis titled "Mechanical and Tribological Properties of AA6061-2SiCp-xGr Hybrid Nano composites Fabricated Through Ultrasonically Assisted Stir Casting Method" in Nov. 2019.

Mr. Abhay Bhanudas Lingayat (715031) has awarded PhD degree under the supervision of **Dr. Chandramohan V.P., Dr. V.R.K. Raju** for thesis titled "Experimental and Numerical Investigations of Indirect Type Solar Dryer for Drying of Agricultural Food Products" on 01/08/2019.

Mr. Balijepalli Ramakrishna (716134) has awarded PhD degree under the supervision of **Dr. Chandramohan V.P., Dr. K. Kirankumar** for thesis titled "Design, Development and Performance Parameters Evaluation of Small Scale Solar Updraft Tower (SUT) Plant" on 17/06/2020.

Mr. G. Srinu has awarded PhD degree under the supervision of **Dr. P.Vamsi Krishna** for thesis titled "Performance evaluation of vegetable oil based hybrid nano cutting fluids in turning of AISI 1040 steel" in Dec. 2019.

Mr. Madhukar P has awarded PhD degree under the supervision of **Prof. N.Selvaraj and Prof.C.S.P.Rao** for thesis titled "Fabrication and Experimental Investigations on Nano-Particulates Reinforced Al7150 Metal Matrix Composites" in June 2020.

Mr. Manoj Panchal has awarded PhD degree under the supervision of **Dr. Raghavendra Gujjala** for thesis titled "Tribological and mechanical studies of bio-based novel nano composites and their application for waste water treatment" on 08/05/2020.

Mr. Minugu Om Prakash has awarded PhD degree under the supervision of **Dr. Raghavendra Gujjala** for thesis titled "Fabrication and Characterization of Porous Nano Carbon from Activated Biowaste for Structural and Tribological Applications" on 09/05/2020.

Mr. Nagendra Babu Samineni has awarded PhD degree under the supervision of **Prof. G. Amba Prasad Rao** for thesis titled "Studies on Design and Development of High Temperature Cellular Ceramic Heater" on 20/02/2020.

Mr. Narasimha Suri Tinnaluri (714130) has awarded PhD degree under the supervision of **Dr. D. Jaya Krishna** for thesis titled "Heatline visualization of thermal transport in anisotropic porous media using a generalized non-Darcy formulation" on 14/11/2019

Mr. P Venkatewara Babu has awarded PhD degree under the supervision of **Dr. Syed Ismail and Dr. B Satish Ben** for thesis titled "Tribological Performance of Positive Lubrication–An Experimental and Numerical Approach under Surface Textured Sliding mixed Contact" in July 2020

MECHANICAL ENGINEERING

Mr. Pratap naidu has awarded PhD degree under the supervision of **Dr. Raghavendra Gujjala** for thesis titled "Mechanical and tribological behaviour of graphitic carbon nitride(g-C3N4) filled glass fiber epoxy hybrid Composites" on 16/05/2020.

Mr. Ravichandra D (714016) has awarded PhD degree under the supervision of **Prof. Ravi Kumar Puli, Dr. Chandramohan V.P.** for thesis titled "Experimental Analysis of Performance, Combustion and Emission Characteristics of VGT Engine Fueled with Diesel and Biodiesel" on 13/09/2019.

Mr. S.V.B Vivekanand has awarded PhD degree under the supervision of **Dr. V.R.K Raju** for thesis titled "Fluid Flow and Heat Transfer Studies of Two−Phase Flow Inside Microchannels" on 29/11/2019.

Mr. Venkata Koteswara Rao. K has awarded PhD degree under the supervision of **Dr. G Naga Srinivasulu** for thesis titled "Hybridization and Performance Analysis of mid -sized Fuel Cell Hybrid Vehicle using Standard Driving Cycles" in Jan. 2020.

Mr. Venkata Sai Sudheer has awarded PhD degree under the supervision of **Dr. K Kiran Kumar and Dr. Karthik Balasubramanian** for thesis titled "Investigation of Thermal Performance of Two Phase Natural Circulation Loop Filled with Nanofluid" on 15/06/2020.

International Visits of the Faculty Members/ students *(12)*

Dr. Raghavendra Gujjala attended The 2nd World Summit on Advances in Science, Engineering and Technology October 3-5, 2019 Venue: Indiana University-Purdue University, Indianapolis, USA

Dr. Syed Ismail visited Indiana University-Purdue University, Indianapolis, USA to present a paper in the conference during Oct 3-5, 20191.

Dr. Y. Ravi Kumar visited 3D Systems-Phenix Systems France Plant at Riom to perform Pre-dispatch inspection cum Factory Acceptance Test (FAT) for the DMP Flex 100 Metal 3D Printer purchased under TEQIP –III during November 12-16, 2019

Prof. N. Selvaraj under LeAP visited Aligarh Muslim University, Aligarh, 15th – 30th Dec 2019.

Prof. N. Selvaraj under LeAP visited Monash University, Melbourne, Australia visited 17th – 21st February 2020

Prof. R.Narasimha Rao Visited Purdue University, Indianapolis, USA, International Conference, October 3-5, 2019.

Prof. S. Srinivasa Rao visited Monash University, Melbourne, Australia during 15 to 22, February, 2020, under LEAP Training, sponsored by MHRD, GOI.

Students Achievements

Job Placements (Campus)

B.Tech (MED):**92** students

M.Tech

Thermal Engineering	**4**
Manufacturing Engineering	**4**
Computer Integrated Manufacturing	**6**
Machine Design	**7**
Automobile Engineering	**6**
Materials & Systems Engineering Design	**6**
Additive Manufacturing	**2**

Mechanical Engineering Association Activities *(30)*

A SESSION ON INTERNSHIP GUIDE

INTERACTIVE SESSION BY MANU KHANDELWAL (alumni)

TEACHERS DAY CELEBRATION

KNOW YOUR BRANCH

MESHERS - THE MECHANICAL FRESHERS

INTERACTIVE SESSION BY SRINIVAS BAIRY (alumni)

MATLAB WORKSHOP by PROF V HARI KUMAR

T-SHIRT DESIGING COMPETITON

INTERACTIVE SESSION BY RAHUL RAVI (alumni)

SOLIDWORKS WORKSHOP

AUTO QUIZ

RESUME AND SOP WRITING

CONTRAPTION

SCI-FI STORY WRITING

INTERACTIVE SESSION BY DR. IBRAHIM DINCER

MEME MAKING COMPETITION

ANSYS WORKSHOP

ARMAGEDDON (SPRINGSPREE ATTRACTION)

SPORTS WEEK

MECHANICAL ENGINEERING

EFFICYCLE INDUCTION - A PRESENTATION-CUM-INDUCTION BY THUNDERBOLT

TEAM GOKART INDUCTION - PRESENTATION BY TEAM MECHXAUSTERS

TEAM BAJA PRESENTATION

TEAM SUPRA PRESENTATION

TEAM QUADBIKE PRESENTATION

MOCK PLACEMENT

SPORTS WEEK

3D-PRINTING WORKSHOP

INSIDE OUT BY PROF KARTHIK SUBRAMANIAN

INTERNSHIP AND PLACEMENT GUIDE

GUEST TALK WITH ENGG. SERVICES ALUMNI

Electronics and Communication Engineering

Electronics and Communication Engineering was integral part of Electrical Engineering department with masters program in Electronics & Instrumentation [1967] and under graduate program in ECE [1971]. The ECE Department got separated subsequently in 1990.

The department witnessed sea change in terms of academics and research progress since its inception through addition of 2 more PG programs in due course and extensive full time and part-time research programs viz., VLSI System design and Advanced Communication systems.

The ECE department gradually acquired expertize in multiple dimensions through strong 36 full time faculty members catering to the academic needs of nearly 700 students. The department bagged several R&D projects to the tune of Rs 6.5 crores in the niche areas including smart antennas, Millimeter wave front-ends, IC Design, 5G communication, signal processing and machine learning sponsored by MHRD, DST, Ministry of Defense, Meity etc.,

Our UG and PG students are placed in several core companies including Intel, Qualcom, Texas Instruments, Cadence, Sandisk, Xilinx, Synopsys etc., along with software companies like Oracle, Goldman Sachs, Microsoft, Mathworks etc.. The department enjoys strong research collaborations with Defense laboratories, AMD, ECIL, Intel, Austria micro Systems. With a blend of experienced and young faculty the department is inching ahead towards new heights.

ELECTRONICS AND COMMUNICATION ENGINEERING

Details of Faculty Members

Prof. Anjaneyulu L
Professor & HoD
Signal & Image Processing Antennas Underwater communications

Prof. Narasimha Sarma
Professor
Numerical Electromagnetics ANNs and Wireless Sensor Networks Antennas

Prof. T Kishore Kumar
Professor
Speech Adaptive Radar Real Signal Processing VLSI & Embedded Systems

Prof. N. Bheema Rao
Professor
Design and Modelling of On-chip Inductors for RF applications and Device modelling

Prof. C. B. Rama Rao
Professor
Digital and Adaptive Signal Processing DSP Architectures & Algorithms

Sri. M. V. Raghunath
Associate Professor
Image Processing Communication Systems

Sri. K. Ravi Kishore
Associate Professor
Wireless Sensor & Computer Networks Digital System Design Wireless Communications

Sri. S. K. L. V. Sai Prakash
Associate Professor
Sensors and IoT Networks Mobile Networks Green Communications

Sri. P. H. K. Prasad
Associate Professor
Wireless Communications

ELECTRONICS AND COMMUNICATION ENGINEERING

Dr. B. Lakshmi
Associate Professor
IoT VLSI Architectures Embedded System Design FPGA Design Low Power VLSI design

Dr. K. V. Sridhar
Associate Professor
Bio-medical signal/Image Processing Adaptive Signal Processing

Dr. T V K Hanumanth Rao
Associate Professor
Biomedical signal processing and VLSI

Dr. P. Srihari Rao
Associate Professor
Analog/ Mixed Signal/ RF IC Design Communication Systems Smart Sensors

Dr. A. Prakasa Rao
Associate Professor
Smart Antenna Systems Optimization Techniques and Signals and Systems

Dr. P. Muralidhar
Associate Professor
Embedded Systems & FPGA based Design VLSI Architectures for Video Signal Processing

Dr. D. Vakula
Associate. Professor
Antenna Arrays & Fault Diagnosis Multi-function & Ultra Wide Band Antennas ANN

Dr. V. Venkata Mani
Associate. Professor
Signal Processing for wireless communication MIMO OFDM UWB & Green Communication

Dr. Ravi Kumar Jatoth
Associate Professor
Signal Processing Algorithms Nature Inspired Algorithms Signal Conditioning Circuits

ELECTRONICS AND COMMUNICATION ENGINEERING

Dr. S. Anuradha
Associate Professor
Wireless and Mobile communications Coding Techniques Fading Channels Cognitive Radios

Dr. P. Prithvi
Assistant Professor
Speech Processing Embedded Systems Digital System Designs

Dr. V. Rama
Assistant Professor
Bio-medical Signal Processing Artificial Neural Networks Digital Logic Design

Dr. K. Sarangam
Assistant Professor
VLSI Circuit Design low power design novel device

Dr. Kalpana Naidu
Assistant Professor
Resource Allocation for Heterogeneous Networks and 5G Wireless Networks

Dr. Gande Arun Kumar
Assistant Professor
Microwave and Millimeter wave passive and active circuits Filters and antennas

Dr. Atul Kumar Nishad
Assistant Professor
Nanoscale Interconnects and Devices. 2D materials VLSI Circuit Design Spintronics

Dr. V. Narendar
Assistant Professor
Modelling & Simulation of Semiconductor Devices CNT & novel 1D/2D materials VLSI Circuits

Dr. Himansu S. Pradhan
Assistant Professor
Fiber Optic Sensors Optical Signal Processing & Communication Structural Health Monitoring

ELECTRONICS AND COMMUNICATION ENGINEERING

Dr. Gopi Ram
Assistant Professor
Time- Modulated Antenna Array Structures Evolutionary Optimization Techniques

Dr. K. N. Srinivasarao B
Assistant Professor
VLSI architectures for image and video processing Embedded systems design

Dr. Md. Farukh Hashmi
Assistant Professor
Image Processing & Embedded Systems IoT Machine Learning RTOS

Dr. M. Satish
Assistant Professor
Novel devices design Compact modeling Design of embedded/IoT systems

Dr. K. Prakash
Assistant Professor
Flexible Electronics Embedded Systems & VLSI Biomedical Electronics

Dr. Vasundhara
Assistant Professor
Adaptive Signal Processing System Identification and Parameter Estimation

Dr. Amarjit Kumar
Assistant Professor
Reconfigurable Multiband and Multifunctional Radio-Frequency Integrated Circuits

Dr. Ekta Goel
Assistant Professor
Semiconductor device modelling Simulations Nano scale devices Advanced MOS device

Dr. Chayan Bhar
Assistant Professor
Optical networks access networks metro networks service migration resource allocation

Publications (in peer reviewed journals)

Ratikanta Sahoo and **D. Vakula**: Compact metamaterial inspired conformal dual-band antenna loaded with meander lines and fractal shaped inductor for Wi-Fi and WiMAX applications, IET Microwaves, Antennas & Propagation, vol.13, no.13, pp.2349-2359, 2019.

Ratikanta Sahoo, **Damera Vakula**: Gain enhancement of conformal wideband antenna with parasitic elements and low index metamaterial for WiMAX application, AEU-International Journal of Electronics and Communications, vol.105 , pp. 24-35, 2019.

Ratikanta Sahoo, **Damera Vakula**.: Bow-tie-shaped wideband conformal antenna with wide-slot for GPS application, Turkish Journal of Electrical Engineering & Computer Sciences, vol. 27, no. 1, pp.80-93, 2019(SCI).

Kishor Ingle , **Ravi Kumar Jatoth**: An Efficient JAYA Algortihm with Levy flight for Non-linear Channel Equalization, Expert Systems with Applications, 2020,Volume 145,112970.

Jailsingh Bhookya , **Ravi Kumar Jatoth**: Improved Jaya algorithm-based FOPID/PID for AVR system, The international journal for computation and mathematics in electrical and electronicengineering, https://doi.org/ 10.1108/COMPEL-08-2019-0319.

Jailsingh Bhookya , **Ravi Kumar Jatoth**: Sine-Cosine-Algorithm for Optimal Fractional Order PID Controller Parameters Tuning of the AVR System, Evolutionary Intelligence, Issue 4/2019.

Prathap Soma, **Ravi Kumar Jatoth**: Fast and memory efficient de-hazing technique for real-time computer vision applications, Springer/ SN Applied Sciences, 2, 454 (2020).

Souma. G. Mallick, **G. Arun Kumar**, B. Biswas, S. Chatterjee, and D. R. Poddar: A Planar eight-way compact substrate integrated waveguide based radial power divider with broadband performance, Microwave and Opt. Tech. Letters, Vol. 62, No. 3, 2020.

Sumit. P. Singh, **G. Arun Kumar**, and Bijit Biswas: Design and Optimization of a Tunable W-band Subharmonic Cavity based Gunn Diode Oscillator using Computer aided Design Technique, International Journal of RF and Microwave Computer-aided Engineering, Vol. 29, No.9, 2019.

Vadthiya Narendar, Gupta, S.K. & Saxena, S.: *First Principle Study of Doped Graphene for FET Applications* Silicon 11, 277–286, 2019.

Vadthiya Narendar, Pallavi Narware, V Bheemudu, Bhukya Sunitha: Investigation of Short Channel Effects (SCEs) and Analog/RF Figure of Merits (FOMs) of Dual-Material Bottom-Spacer Ground-Plane (DMBSGP) FinFET, Silicon 11, 2019.

Himansu Shekhar Pradhan, P. K. Sahu: Measurement of temperature and strain simultaneously with high spatial resolution for long sensing range, IET Optoelectronics, vol. 13, no. 6, 2019, pp. 288-294.

Jiménez, D.A., Reyna, A., Panduro, M.A., Carlos del Rio, **Gopi Ram**, Luz Balderas: UAVs-based antenna arrays using time modulation, Telecommun Systems, 2019.

B.K.N. Srinivasarao, and I. Chakrabarti: VLSI Architecture for Enhanced Approximate Message Passing Algorithm, IEEE Transactions on Circuit Systems for Video Technology, (Early Access) DOI: 10.1109/TCSVT.2019. 2943363, Sep 2019.

Om Prakash, **Satish Maheshwaram**, Swen Beniwal, Naresh Gupta, N Singh, SK Manhas: Impact of Time Zero Variability and BTI Reliability on SiNW FET-Based Circuits, IEEE Transactions on Device and Materials Reliability 19 (4), 741-750, 2019.

C. Bhar, E. Agrell, K. Keykhosravi, M. Karlsson, P. A. Andrekson : Channel allocation in elastic optical networks using traveling salesman problem algorithms, IEEE/OSA Journal of Optical Communications and Networking on low margin optical networks, Vol 11, No. 10, pp. C58-C66, October 2019.

M. Hadi, **C. Bhar**, E. Agrell: General QoS-Aware Scheduling Procedure for Passive Optical Networks, IEEE/OSA Journal of Optical Communications and Networking (accepted for publication in May 2020).

Publications (in peer reviewed conferences)

J. Ashish and **A. P. Rao**: Design and Implementation of Compact Dual band U-slot Microstrip Antenna for 2.4GHz WLAN and 3.5GHz WiMAX Applications, 2019 International Conference on Smart Systems and Inventive Technology (ICSSIT), Tirunelveli, India.

S. Karthik Sairam, **P.Muralidhar**: Hybrid Fast Motion Estimation for HEV, 6th International Conference on Signal Processing and Integrated Networks (SPIN) Noida 2019, PP.1082-1085.

S. Karthik Sairam, **P. Muralidhar:** Fast encoding in HEVC using subsampling with unsymmetrical octagonal search pattern, 2019 IEEE 16th India Council International Conference (INDICON), Rajkot,13-5,December,2019 PP. 1-4.

S. Karthik Sairam, **P. Muralidhar:** Fast Encoding using X-Search Pattern and Coded Block Flag Fast Method, International Conference on Communications, Signal Processing and VLSI (IC2SV2019), October 26-27, 2019, NIT Warangal.

B.B. Shabarinath, **P. Muralidhar**: Custom-IP for Gradient Descent Optimization based on Hardware/ Software Co-design Paradigm, 24th International Symposium on VLSI Design and TEST(VDAT 2020) June 23-25, 2020, IIT Bhubaneswar.

B.B. Shabarinath, P.**Muralidhar**: Convolutional Neural Network based Traffic-Sign Classifier Optimized for Edge Inference, TENCON 2020 16-19 ,November ,2020 Osaka International Convention Center, Osaka,Japan.

Shravya Krishna K and **D Vakula:** CONFORMAL OMNI DIRECTIONAL ANTENNA FOR GPS APPLICATIONS, in Proc. of IC2SV2019, Warangal, India, Oct. 2019.

Ratikanta Sahoo and **D. Vakula**: Design of Batman shaped Compact Comformal Antenna for Wimax applications, 41st photon ICs and Electromagnetics research Symposium(PIERS), Rome, Italy, June 15th - 21st 2019.

Khorgade S, and **D. Vakula**: Wide band spiral Antenna with Superstarte Designs for radio Altimeter, 41st photon ICs and Electromagnetics research Symposium(PIERS), Rome, Italy, June 15th -21st 2019.

A Sowjanya and **D Vakula:** Microstrip Band Pass Filter Using Symmetrical Split Ring Resonator for X band Applications**,** 2019 IEEE Indian Conference on Antennas and Propogation (InCAP)19-22 Dec. 2019.

Tulsiram, **Ravi Kumar Jatoth**: Real time implementation of PID controller for cylendrical tank system using short range wireless communication, International COnfernce on Modeeling, Simulayion and Intelligent Compuring(MOSICom-2019), BITS Pilani, Dubai Campus.

M Vijay Kumar, and **Ravi Kumar Jatoth:** Design of fractional order PID controller PID/FOPID controller for speed control of DC Motor using Harris Hocks Optimization, International Confernce on Adavances in System, Control and Computing, MNIT Jaipur.

Bhupati Divya Dehit, and **Ravi Kumar Jatoth**: Real time implementation of CNN based drowsinss detection System on NVIDIA JETSON NANO platform, International Confernce on Adavances in System, Control and Computing, MNIT Jaipur.

Kalpana Naidu: Simple Solution to Reduce Interference in Cognitive Radio Networks, in Proc. of IEEE IMICPW-2019, Trichy, India, May. 2019.

Mahima Jeslani, and **Kalpana Naidu:** Automated Bayesian Drowsiness Detection System using Recurrent Convolutional Neural Networks, in Proc. Of IC2SV2019, Warangal, India, Oct. 2019.

Kalpana Naidu, Hemanth kumar Gai, Amgothu Ravi kumar, and Vanlin Sathya: Optimal Resource Allocation Based on Particle Swarm Optimization, in Proc. of IC2SV2019, Warangal, India, Oct. 2019.

R. B. Battula, J. Kakarla, **Kalpana Naidu** and P. Subbarao: Spectrum aware opportunistic routing in multi-interface multi-channel CRWMN, in Proc. of 2019 IEEE ICESIP, Chennai, India, Jul. 2019, pp. 1-7.

Dhruba Das, Bijit Biswas, **Arun Kumar Gande** and Sibabrata Mondal: A Compact Very Narrow Band Coaxial Cavity Resonator Filter at X-band with SMA Connector Feed, CALCON 2020, February, 28-29, Kolkata, India.

Souma Guha Mallick, Bijit Biswas, Sayan Chatterjee, **G. Arun Kumar**, and D. R. Poddar: A Multilayered Transition between SIW and ESIW, CALCON 2020, February, 28-29, Kolkata, India.

Akash Tyagi, Bijit Biswas, **G. Arun Kumar**, Biplob Mondal: Design and Simulation of a Dual Band Radiometer for Humidity and Temperature Profiling, International Conference on Communications, Signal Processing and VLSI (IC2SV2019), October, 26-27, Warangal, India.

Akash Tyagi, Bijit Biswas, **G. Arun Kumar**, Biplob Mondal: Design and Simulation of a W-band FMCW Radar for Cloud Profiling Application, International Conference on Communications, Signal Processing and VLSI (IC2SV2019), October, 26-27, Warangal, India.

Souma Guha Mallick, **G. Arun Kumar**, Sayan Chatterjee, Bijit Biswas, and D. R. Poddar: Transitions from SIW to Various Transmission Lines for Substrate Integrated Circuits, 2019 URSI-Asia Pacific Radio Science Conference, March, 09-15, New Delhi, India.

Anoop Dugyala and **Gopi Ram**: Design of Broadband and Optimum Gain Aperture Coupled Micro-strip Antenna, International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks, 22-24 May 2019, Nit Trichy, India.

Avishek Chakraborty, D. Mandal, **Gopi Ram**: Beam Steering and Null Placement in a Time Modulated Linear Antenna Array Using NPSOWM, International Conference on Communications, Signal Processing and VLSI (IC2SV2019), Proc. IEEE, National Institute of Technology Warangal, Warangal, Telangana, India.

Avishek Chakraborty, D. Mandal, **Gopi Ram**: Beam steering in a Time Switched Antenna Array with reduced Side Lobe Level using Evolutionary Optimization Technique, 2nd Indian Conference on Antennas & Propagation (InCAP2019) December 19-22, 2019 | Ahmedabad, India.

VishnuTeja Reddy Vantukala, Dhyanchand Thumma, Vamsi Krishna Galla, **Satish Maheshwaram:** Virtual Mouse Control Using Colored Finger Tips and Hand Gesture
Recognition, IEEE HYDCON 2020, 11 - 12 September 2020, Hyderabad, India.

Sahil Babu, B. Shiva Pragathi, Udaykiran Chinthala, **Satish Maheshwaram:** Subject Tracking with Camera Movement Using Single Board Computer, IEEE HYDCON 2020, 11 - 12 September 2020, Hyderabad, India.

Funded Research Projects/SPARC projects (2019-20)

(Completed Projects)

Prof. L. Anjaneyulu: Virtual Reality based Simulator for Electric Winder, MOIL Limited (Ministry of Mines), Nagpur, Rs. 18.63 Lakhs.

Dr. J. Ravi Kumar and Dr. Maheshwaram Satish: Short Term Training Programme on Machine Learning and Deep Learning for Real time Applications, DST/ICPS/Training/ ST/2019-AIDST/ICPS/SCST/2019/55 Dated:31/03/2019,RS-987-GoI-DST-Dr.RKJ- ECE, Rs. 9.00 Lakhs

(Ongoing Projects)

Prof. L. Anjaneyulu (Mentor) : Candidate : Prof T.Anil Kumar, CMRIT, Hyderabad, Study and implementation of Channel Estimation Techniques for 5G Wireless Communication Systems, Sanctioned (No. TAR/2018/000899), Rs. 18.3 Lakhs.

Dr. P. Sreehari Rao and **Dr. P Muralidhar:** Advanced CMOS clock recovery circuits for mobile applications, SPARC, Rs. 45 lakhs

Dr. V. V. Mani, and **Dr. Rahul J. Pandya, et. al.:** VLC-Based Vehicular Communication for enhancing Road Safety in Smart Cities, SPARC, Rs. 69 Lakhs.

Dr. V. V. Mani and Dr. V. Vasu, Indigenous test bed for Industry 4.0 using Visible Light Communication with Industrial Internet of Things, ASEAN-India Science, Technology& Innovation Cooperation (AISTIC), Rs. 70.00 lakhs.

Dr. J. Ravi Kumar: Design and implementation of fractional order PID controller for industrial applications using IoT, DST/ICPS/CPS-Individual/ 20181433(C) and 18-12-2018, Rs. 35 Lakhs.

Dr. Gande Arun Kumar: Design and Development of a W-band Front-end for Imaging Applications using Silicon-Germanium Technology, ECR/2018/ 002390 dated 14/03/2019, Rs. 37.5 Lakhs.

Dr. Kalpana Naidu: Reduction of Computational complexity for resource allocation in 5G networks, Dean(R&C) /2018/722/1 dated 31/07/2019, Rs. 5 Lakhs

Dr. Gande Arun Kumar: Feasibility study of a dual band (Ku & Ka band) communication front end, Dean(R&C) /2018/722/4 dated 31/07/2018, Rs. 5 Lakhs.

Dr. Vadthiya Narendar: Analytical Modeling, Simulation and Performance Enhancement of Engineered MOSFETs. Dean(R&C)/2018/722/1 dated 31/07/2018, Rs. 5 Lakhs

Dr. Gopi Ram: Design and Development of Harmonic Phenomenon in Time-Modulated Antenna Arrays, Dean(R&C)/2018/722/1 dated 31/07/2018, Rs. 5 Lakhs.

Dr.B.K.N.Srinivasarao: Jacquard Design Automation for handlooms using advanced Microcontrollers, Dean(R&C) /2018/722/1 dated 31/07/2018, Rs. 4 Lakhs.

Dr. Maheshwaram Satish: *Radiation Hardened Vertical Nanowire FET Memory Design,* Dean(R&C)/2018/722 /1 dated 31/07/2018, Rs. 5 Lakhs.

Dr. Prakash Kodali: Design and Development of Flexible Microfluidic Device with Frontend Electronics, NITW/AC-7/RSM-Bdgt/2018-19/P1038, Rs. 5 Lakhs

Patents Filed/Granted

Prakash Kodali: Transdermal Drug Delivery Device, 201941049162 - 39460/CHE/2019

Prakash Kodali: Block chain-Based Drug Preservation and Monitoring System, 39457/CHE/2019

Prakash Kodali: Flexible Smart Display Tags, 39454/CHE/2019

Shaik Noor E Karishma, **B K N Srinivasarao,** Indrajit Chakrabarti, Chandra Prakash: Onboard Operational Compression System for Space Applications, 201831000646

Books and Book Chapters

Implementation of Best Hybrid Adaptive and Intelligent MIMO Detector on Reconfigurable Architecture for 5G LTE/IoT Environment, Pages 49-56, Chapter 25, Springer Book Series, Smart Trends in Computing and Communications: Proceedings of SmartCom 2020, ISBN 978-981-15-5224-3, **DOI** 10.1007/978-981-15-5224-3, ©2021 (Prof L. Anjaneyulu, TV Anil Kumar)

Conferences/ Workshops/GIAN courses/FDPs Conducted

FDP on Trends in SoC Design & Its Applications organized by Department of ECE, Vasavi College of Engineering, Hyderabad (VCE,HYD) in association with NIT Warangal Under E & ICT Academy. Coordinators: **Dr. P. Muralidhar** & G.R. Padmini 9th- 14th, December,2019

SPARC Project Activities

Prof. Mathini Sellaturai, Heriot –Watt University, Edinburg ,UK visited the institute during 25th Nov 2019 to 10th Jan 2020 and conducted 3 weeks regular classes on Advanced Wireless Communication for M.Tech ACS 2nd Semester students.

Dr. Navaneet Garg, Post Doctrol Fellow, University of Edinburg visited NIT Warangal for about 2 weeks from 1st Dec 2019 to 15th Dec 2019.

Organized one week national workshop on Advanced Signal Processing and Machine Learning Techniques for Wireless/Optical Communications during 2nd Dec -7th Dec 2019.

Guest talks/ Webinars delivered

Dr. A Prakasa Rao, Information theory and coding techniques, Guru Nanak Dev Engineering College, Bidar, Karnataka.

Dr. A Prakasa Rao, Antenna Parameters, Advances in practical RF Antenna Design, Sri Vidya niketan Tirupathi.

Dr. A Prakasa Rao, Antenna Design Optimization Techniques , Aditya Institute of Technology and Management, Tekkali in association With National Institute Of Technology, Warangal under Electronics & ICT Academy.

Dr. A Prakasa Rao, Smart Antennas for 5G Networks 5-day Continuing Education & Training Programme on 5G Technologies in NIT-Warangal.

Dr. A Prakasa Rao, Advanced Antenna Pattern Synthesis and Beamforming with Computational Intelligence, FDP-NIT Warangal-E&ICT.

Dr. P. Muralidhar, Recent Advances in VLSI Design and Embedded Systems – 2020 (RAVDES-2020), Faculty Development Program (FDP) organized by the Department of ECE, K L E F, Vaddeswaram, Guntur, A.P., India.

Dr. P. Muralidhar, Resent Trends in VLSI, One-week online FDP organized by the Department of ECE, Gokaraju Rangaraju Institute of Engineering and technology, Hyderabad June ,2020.

Dr. P. Muralidhar, Webinar on Digital System Design Using VHDL, Department of Electronics and Communication Engineering Mother Theresa Institute of Engineering and Technology,Palamaner,A.P.June,2020.

Dr D Vakula, Antenna Parameters, Advances in practical RF Antenna Design, Sri Vidya niketan Tirupathi.

Dr D Vakula, Communication Applications of Deep Learning Deep learning in Engineering Applications, KITS, Warangal 6-10 Jan2020.

Dr. J. Ravi Kumar, AI and Machine learning for Real-time Applications, IIIT Sreekakulam

Dr. J. Ravi Kumar, Introduction to Research methodologies and MatLab programming for optimization techniques, CBIT, Hyderabad

Dr. J. Ravi Kumar, Deep Learning for Engineering Applications, KITS, Warangal

Dr. Kalpana Naidu, Seamless data transfer over Heterogeneous Networks 5-day Continuing Education & Training Programme on 5G Technologies in NIT-Warangal.

Dr. Kalpana Naidu, Digital signal processing latest applications Guest lecture to 6th Semester's trainees of INA (Indian Naval Academy), Kerala through National Knowledge Network (NKN) facility

Dr. Kalpana Naidu, SDR (Software Defined Radio), Lendi Institute, Visakhapatnam.

Dr. Kalpana Naidu, SDR and HetNets, Matrusri Engg. College, Hyderabad.

Dr. Kalpana Naidu, 5G modulations and demodulations FDP on 5G wireless communication in NIT-Warangal.

Dr. Kalpana Naidu, Resource allocation in Hetnets FDP sponsored by E & ICT of NIT-Warangal in VNR-VJIET, Bachupally, Hyderabad.

Dr. Kalpana Naidu, 'Cognitive Radio' and 'SDR' topics AICTE Sponsored One Week Online STTP on Recent Advances in Wireless Communications & Future Challenges, in Vardhaman College of Engineering (A), Hyderabad.

Dr. Gande Arun Kumar, Millimeterwave Communications, Millimeterwave Channel Modelling, Demonstration of NYUSIM 5G Channel Simulator, LENDI Institute of Engg. & Tech., Vizianagaram

Dr. Gande Arun Kumar , Metamaterial Circuit Applications, NIT Warangal

Dr. Gande Arun Kumar , Metamaterial Filter Design and Applications, Metamaterial Coupler Design and Applications, NIT Warangal

Dr. Vadthiya Narendar, Nanoscale Device Design, SECAB Institute of Engineering and Technology, Vijayapura, Karnataka 586101.

Dr. Vadthiya Narendar , Nanoscale Devices and Circuits-Short Channel Effects, FinFET FDP-NIT Warangal-E&ICT.

Dr. Gopi Ram, Guest speaker on Research scholar day 2019, Dept. of Electronics and communication Engineering, NIT Durgapur

Dr. Gopi Ram, Delivered two days special class on Waveguides and waveguide Component, Chaibasa Engineering College, Chaibasa Jharkhand

Dr. Gopi Ram, Invited Speaker for 6 Day short term training on Practical RF Antenna Design , Aditya Institute of Technology and Management, Tekkali in association With National Institute Of Technology, Warangal under Electronics & ICT Academy

Dr. Gopi Ram, Invited Speaker in Faculty Development Programme (FDP) on Bio-inspired Algorithms for Intelligent Signal processing, Vardhaman College of Engineering (Autonomous), Shamshabad, Hyderabad in association With National Institute Of Technology, Warangal under Electronics & ICT Academy .

Dr. Gopi Ram, Invited Speaker in Faculty Development Programme (FDP) on Meta-heuristic Algorithms for Engineering Optimization, CMR College of Engineering and Technology, Hyderabad in association With National Institute Of Technology, Warangal under Electronics & ICT Academy

Dr. Gopi Ram, Invited Speaker on topic Cat Swarm Optimization for FDP on Metamaterial Applications and Evolutionary Techniques, Organized by NIT Warangal

Dr. Gopi Ram, Invited Speaker in six days Faculty Development Programme (FDP) on Soft Computing Techniques and Applications, Vignan's Nirula Institute of Technology and Science for Women, Guntur in association With National Institute Of Technology, Warangal under Electronics & ICT Academy on

Dr. Gopi Ram, Invited talk on Antenna Array Design and its Pattern Synthesis: MATLAB & CST Approach, department of ECE, QISCET, Ongole

Dr.B.K.N.Srinivasarao, Compressed Sensing based Scalable Video Coding using 3-D Wavelets, NEC Narasaraopet

Dr.B.K.N.Srinivasarao, Applications and Design aspects of Microprocessors and Microcontrollers, Vasavi engg. College, Hyderabad

Dr.B.K.N.Srinivasarao, Advances in Microprocessors and Microcontrollers, JNTUK, Kakinada

Dr.B.K.N.Srinivasarao, Hardware implementation of Image processing applications, Vijaya institute of engineering and technology for women, Vijayawada

Dr.B.K.N.Srinivasarao, Embedded System Design using Advanced Microcontrollers, KITS, Warangal

Dr. Maheshwaram Satish, Embedded Systems, Smart sensors for IoT applications, KL University, Vaddeswaram

Dr. Maheshwaram Satish, Implementation of IoT using RPi Board in National level seminar on Sensor Networks, Internet of Things and Internet of Everything, Vidya Jyothi Institute of Technology, Hyderbad

Dr. Maheshwaram Satish, Basics of MOS Scaling and Nanoscale Devices during FDP on Recent trends in VLSI and Embedded Auto Industry, CMR Technical Campus, Hyderabad

Dr. Maheshwaram Satish, Future Nano Electronic Devices and Circuits , MGIT, Hyderabad.

Dr. Maheshwaram Satish, Recent Trends in Nanoelectronic Devices, Anurag University, Hyderabad.

Dr. Maheshwaram Satish, VLSI Design Tools, Techniques and Applications EICT, NIT Warangal & Vishnu Institute of Technology, Bhimavaram.

Dr. Maheshwaram Satish, Learning Management System (LMS) with MOODLE Teaching Learning Centre (TLC), NIT Warangal.

New Labs Established

(Equipment/Software)

Establishment of 'RF Engineering Lab' with Departmental funding of 7.5 Lakhs under M. Tech Curiculum, the lab is used for simulation of RF passive/active circuits with NI-AWR EM simulation software for M. Tech students, initiated by **Dr. Gande Arun Kumar**

Awards/Recognitions/Achievement

Dr. J. Ravi Kumar, Best paper award in AISCC-2020.

Dr. J. Ravi Kumar, JNTU Nominee for Faculty Recruitment at Malla Reddy Engineering College for Women Hyderabad, 2019-2020

Dr. J. Ravi Kumar , Associate Editor "MECS International Journal of Image, Graphics and Signal Processing (IJIGSP)" Hongkong ISSN: 2074-9074

Dr. J. Ravi Kumar, Associate Editor international Journal of VLSI Design Tools & Technology (JoVDTT), India

Dr. Gande Arun Kumar, DST- Early Career Research Award 2019-2022

Research Guidance (Completed in 2019-20)

Arun Kumar, Implementation of underwater instrumentation system for unmanned underwater Missile launching platform, **Prof L. Anjaneyulu**, 2019.

P. Prithvi, Development of multilingual translation system (MLTS) for Telugu, Hindi, Engish Lingos, **Prof. T. Kishore Kumar,** 2020.

R Shashank, Signal Integrity analysis of On-chip interconnects using MRTD, **Prof. N. Bheema Rao,** 2019.

D. Pavan Kumar Sharma, Some Investigations on high speed serial input output circuit stratergies for backplane channels, **Dr. P. Srihari Rao**, 2020.

M A Mushaahhid Majeed, Automated design of CMOS analog integrated circuits using metaheuristic algorithms, **Dr. P. Srihari Rao,** 2020.

Ratikanta Sahoo, Investigations on performance enhancement of cylindrical conformal antennas for GPS, Wi-Fi and WiMAX applications, **Dr. D. Vakula**, 2020.

K. Shri Ramtej, Investigation on peak average power ratio reduction techniques for SC-FDMA systems, **Dr. S. Anuradha**, 2020.

Hathiram Nenavath, Object Tracking Using New Hybrid Evolutionary Algorithms, **Dr. J. Ravi Kumar**, 2019.

International Visits of the Faculty Members/ students

Dr. J. Ravi Kumar, Presentation of paper at Modeling, Simulation & Intelligent Computing (MoSICom-2020) International Conference Dubai BITS Pilani, Dubai, 28 Jan - 02 Feb, 2020.

Dr D. Vakula, Paper presentation 41st photon ICs and Electromagnetics research Symposium(PIERS), Italy, Spanzia University, 15-21 June 2019

Dr. Prakash kodali, Paper presentation at Indiana Summit 2019, USA Indiana University - Purdue University, Indianapolis, USA, 03-05 Oct 2019

Students Achievements

The placement percentage of B. Tech students is 85.48% with an average salary of 14.1 Lakhs.

The placement percentage of M. Tech students is 50.7% with an average salary of 14.1 Lakhs.

Technical Association Activities

ECE Association conducted fresher's event, placement and internship talk in collaboration with CCPD, know your branch.

Guest lecture on "T he power of artificial intelligence and electromagnetic signals"

ECE association also conducted Hardware workshops on Verilog (hardware description language), Internet of things, Image processing,

Conducted software workshops on backend development series (GIT, DJANGO), APP development series (FRONT END and BACK END), Photoshop, Video Editing.

Various sessions were conducted on Graduate Records Examination (GRE), ASSEMBLY Language Programming (ALP), Complementary MOSFET- PART 1, Timing Analysis, summer utilisation for first years, Mock Internship drive with CCPD

Intern Talk (Hardware), Online Test, Mock Group Discussion, Technical Interviews, HR.

Intern Talk, Online Coding Test, Group Flyer, Technical Interviews, HR

Online series were conducted on COGNIZANCE, Placement and internship series, ECE decoded, ALUMINCATE, Hardware Self Analysis, CODEQUEST, Online QUIZ.

As part of social responsibility, students visited Orphanage, Old Age Home.

Sports activities were conducted during the SPORTS WEEK among students and faculty.

Webinar by University of Texas Dallas

Fun Events: Beg Borrow Steal, Vocatronics, New Year Surprise, Bhoomerang.

Call for Makers in Association with Innovation Garage, Apprenticeship Program, Mock Gate

Online video lecture series in colloaboration with discuss cloud computing

Events during Youth Fest 2020: TECH DEBATE, TECHXCELLENCE, ALGOQUIZ, CASE STUDY

General Events: CIPHER DECIPHER, CODE DEBUGGING, ELECTRONOVA, T-DESIGN CONTEST, LOGO DESIGN CONTEST, HOLI POSTER DESIGN CONTEST.

Newsletter: SIPHON, Odd Sem. Edition

Distinguished Guests visiting the Department/Delivering Expert Lecture/Keynote Address

Guest Lecture by Prof. Mathini Sellaturai, Heriot –Watt University, Edinburg, UK under ECE association activities held on 09/01/2020.

Guest Lecture on Computer Network by Mr. Venkat Pullela (Ex-Director CISCO, and NITW Alumni) held on 28/01/2020.

Outreach Programmes

Dr. J. Ravi Kumar, BOS member, Srinidhi Institute of Technology and Sciences, Hyderabad, 2019-2020

Dr. J. Ravi Kumar, BOS Member, MREC, Hyderabad, 2019-2020

Dr. J. Ravi Kumar, BOS Member, VBIT, Ghatkesar, Hyderabad , 2019-2020

Dr. Gande Arun Kumar, Member project review committee for 2X2 Probe Die (DRDO, Hyderabad), 2018-2021

Dr. Gande Arun Kumar, Member project review committee for Packaging and supply of W-band LNA (DRDO, Hyderabad), 2018-2021

Dr.B.K.N.Srinivasarao, BOS member, "Kakatiya University" Warangal, 2018 -2020

METALLURGICAL AND MATERIALS ENGINEERING

The Metallurgical Engineering Department of NIT, Warangal was found in the year 1965. The third and final year students (5 each) of B. Tech program are supported by Ministry of Steel Scholarship. In the last academic year, the IV B. Tech students have got placement opportunities in core companies such as Reliance Industries Limited, Vedanta, Essar Steel India Ltd., JCB etc. along with software and finance management companies. Ms. Vidisha secured First Rank in GATE 2020 and in fact, every year 5 to 10 students qualify in GATE with ranks less than 300. In case of M. Tech students, few got campus placements and few others got off-campus job offers along with PhD admissions in IITs. About 39 research scholars are currently pursuing their PhD in the department. The department has been part of National Mission Project on developing Advanced Ultra Supercritical (AUSC) technology for the country. Currently about Rs. 26.5 crores worth of research projects are being carried out in the department. Some of the major research funding organisations are DAE-BRNS, DST-SERB, UGC-DAE-CSR, ARDB, NTPC-NETRA, AUSC, ISRO, and DRDO.

The thrust research areas of the department are shown in the schematic.

Department of Metallurgical and Materials Engineering

METALLURGICAL AND MATERIALS ENGINEERING

Details of Faculty Members

Dr. Asit Kumar Khanra
Assoc. Professor & Head

Powder Metallurgy, Processing of Advanced Ceramics, Biomaterials

Dr. G. V. S. Nageswara Rao, Professor

Powder metallurgy, Surface Engineering, Materials Testing and Characterization

Dr. N. Narasaiah
Professor

Mechanical Behaviour of Materials, Fatigue, Fracture Mechanics, Failure Analysis

Dr. C. Vanitha
Associate Professor

3D printing, Crystallographic Texture, Welding, Materials Characterization

Dr. T. Mahesh Kumar
Associate Professor

Metal Joining, Additive Manufacturing, High Temperature Materials

Dr. N. Kishore Babu
Associate Professor

Metal Joining, Additive manufacturing, nanocomposites

Dr. V. Rangadhara Chary, Asst. Professor

High Performance Structural Ceramics, High Entropy Alloys Phase Transformations

Dr. Brahma Raju Golla
Asst. Professor

Ultra High Temperature Ceramics, Advanced Materials Processing, Tribology

Dr. B. Srinivasa Rao
Asst. Professor

Process- Microstructure-Property Relationship, Nanocrystalline Materials

METALLURGICAL AND MATERIALS ENGINEERING

Dr. Ajoy Kumar Pandey
Asst. Professor

Mechanical Metallurgy, Bio-Ceramics, Powder Metallurgy

Dr. R. Arockia Kumar
Asst. Professor

Shape Memory Alloys, Friction Stir Processing, Physical Metallurgy, Severe Plastic Deformation

Dr. Uma Maheswara Rao S
Asst. Professor

Non-equilibrium Processing of Materials, Advanced Characterization, Magnetic Materials

Dr. V. Sreedevi
Asst. Professor

Synthesis and Characterization of Bulk Nanocrystalline Materials

Dr. Y. Raghupathy
Asst. Professor

Applied Nanomaterials and Coatings, Corrosion Engineering

Dr. Sukla Mondol
Asst. Professor

Alloy development, light alloys, Microstrutural characterization, TEM

Dr. Avishkar B. Rathod
Asst. Professor

Wear, Particulate Technology, Steel Making

Publications (in peer reviewed journals): 31 Nos

Sanjib Majumdar, Pankaj Kumar Singh, **Ajoy Kumar Pandey**, and **G.V.S. Nageswara Rao,** Kinetics of oxide scale growth on a $(Ti, Mo)_5Si_3$ based oxidation resistant Mo-Ti-Si alloy at 900-1300°C, High Temp. Mater. Proc., 38 (2019):533–540.

Neelam Naga Sruthi, S. Banumathy, A. Bhattacharjee, **G.V.S. Nageswara Rao**, Md. Zafir Alum, Comparison of the isothermal and cyclic oxidation behavior of Cr and Mo containing g-TiAlNb alloys, Corrosion Science, Available online 22 (2019), 108300.

P. Shruti, T. Sakthivel, **G.V.S. Nageswara Rao**, K. Laha, and T. Srinivasa Rao, The role of thermo-mechanical processing in creep deformation behavior of modified 9Cr-1Mo steel, Metallurgical and Materials Transactions A, Volume 50a, (2019), pp. 4582-4593.

P. Prakash, J. Vanaja, G.V. Prasad Reddy, K. Laha, **G.V.S. Nageswara Rao,** On the effect of thermo-mechanical treatment on creep deformation and rupture behaviour of a reduced activation ferritic-martensitic steel, Journal of Nuclear Materials, 520 (2019) 65-77.

P. Prakash, J. Vanaja, D.P. Rao Palaparti, G.V. Prasad Reddy, K. Laha, **G.V.S. Nageswara Rao,** Tensile flow and work hardening behavior of reduced activation ferritic martensitic steel subjected to thermo-mechanical treatment, Journal of Nuclear Materials 520 (2019) 19-26.

Neelam Naga Sruthi, S. Banumathy, **G.V.S. Nageswara Rao**, A. Bhattacharjee, A.K. Singh, Solidification behavior of γ-aluminide Ti-46.5Al-xNb-yCr-zMo-0.3B alloys, Vacuum 163 (2019) 352-359.

Abhinav Kumar Karnati, AritraSarkar, A. Nagesha, P. Parameswaran, R.Sandhya, **N. Narasaiah**, Evaluation of high cycle fatigue behaviour of alloy 617M at 973 K: Haigh diagram and associated mechanisms, International Journal of Pressure vessels and piping, Vol. 172, (2019) 304-312.

Balaji Padya, **N. Narasaiah**, P.K. Jain, T.N. Rao, A facile co-solvent strategy for preparation of graphene nanoplatelet powder: An industrially viable innovative approach, Ceramics International, Vol. 45, (2019) pp. 13409 – 13413.

Y. Madhavia, L. Rama Krishnaa, **N. Narasaiah,** Influence of micro arc oxidation coating thickness and prior shot peening on the fatigue behavior of 6061-T6 Al alloy, International Journal of Fatigue, Vol. 126, (2019) pp. 297-305.

M. Ananda Rao, Veerapuram Yerriswamy, M. V. Pavan Kumar, **N. Narasaiah,** A comparative study on the rheological properties of two coal water slurries with sodium tripolyphosphate as dispersant, International Journal of Coal Preparation and Utilization, (2019) https://doi.org/10.1080/19392699.2019.1621300.

Balaji Padya, N. Ravikiran, Ravi Kali, **N. Narasaiah**, P.K. Jain, T.N. Rao, Multifunctional surface-modified ultrathin graphene flakes for thermal and electrochemical energy storage application, Materials Today: Proceedings, Volume 26, Part 1, (2020), Pages 52-57 https://doi.org/10.1016/j.matpr.2019.03.234.

Balaji Padya, P.K. Enaganti, Ravi Kali, N. Ravikiran, **N. Narasaiah**, P.K. Jain, A controlled process of atomic-scale material design via temperature-mediated grain refinement of $NiCo_2O_4$ rods for capacitive energy storage, Journal of Science: Advanced Materials and Devices (2020) https://doi.org/10.1016/j.jsamd.2020.05.002.

Katti Bharath, **Asit Kumar Khanra**, **M.J. Davidson**, Effect of Temperature and Densification behavior on Semi-solid Extruded Al-Cu-Mg Powder Metallurgy Alloys, Transaction of Indian Institute of Metals 72, (2019), 1063–1074.

Vemoori Raju, G. Ushashree and **Asit Kumar Khanra,** Fabrication and Properties Evaluation of Alumina based Open cell Foams, Transaction of Indian Institute of Metals 72, (2019), 1679–1682.

Rajendran Senthil Kuma, Sravan Erkulla, **Asit Kumar Khanra** and Roy Johnson, Aqueous sol–gel processing of precursors and synthesis of aluminum oxynitride powder therefrom, Journal of Sol-Gel Science and Technology 93, (2020), 100-110.

V Raju, V P Bogu, R Johnson, **A K Khanra**, Effect of nickel coating on the mechanical behaviour of polymer replicated Al_2O_3 foams, Ceramic International 5, (2020), 6871-6877.

KNB Kumar, **C. Vanitha,** Investigation on the Microstructure and Mechanical Properties of AZ91D Magnesium Alloy Plates Joined by Friction Stir Welding, Advances in Applied Mechanical Engineering (2020) pp 1021-1030.

KNB Kumar, **C. Vanitha,** Effects of weld speeds on the microstructural and mechanical properties of AZ91D Mg alloy by friction stir welding, International journal of structural Integrity, (2020) https://doi.org/10.1108/IJSI-12-2019-0131

A.Sai Deepak Kumar, Mohammad FayazAnwar, E.Vara Prasad, P.Bharath Sreevatsava, **C. Vanitha**, Effect of temperature and load during hot impression creep of Cu-Zn-Al alloy, Materials Today: Proceedings, (2020) https://doi.org/10.1016/j.matpr.2020.04.366.

Marc Leparoux, Lauri Kollo, Hansang Kwon, Kaspar Kallip, **Nagumothu Kishore Babu**, Khaled AlOgab, and **Mahesh Kumar Talari,** Solid State Processing of Aluminum Matrix Composites Reinforced with Nanoparticulate Materials, Advanced Engineering Materials https://doi.org/10.1002/adem.201800401.

Ahmad Lutfi Anis, **Mahesh Kumar Talari**, **N. Kishore Babu**, Muhammad Hussain Ismail, G.D. Janaki Ram, Izzul Adli Mohd Arif, Grain refinement of Ti-15V-3Cr-3Sn-3Al metastable β titanium alloy welds using boron-modified fillers, Journal of Alloys and Compounds, Volume 749, (2018) Pages 320-328.

V.Jaya Prasad, **K. Narasimha Rao**, **N.Kishore Babu,** Mechanical and tribological characterization of aluminum metal matrix composite reinforced with micro ceramic particles (TiB_2/SiC), Materials Today: Proceedings, Volume 23, Part 3, (2020) Pages 637-641.

Mahammad Ali Shaik and **Brahma Raju Golla,** Mechanical, tribological and electrical properties of ZrB_2 reinforced Cu processed via milling and high-pressure hot pressing, Ceramics International (2020) https://doi.org/10.1016/j.ceramint.2020.05.104.

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Brahma Raju Golla, Amartya Mukhopadhyay, Bikramjit Basu and Sravan Kumar Thimmappa, Review on Ultra High Temperature Boride Ceramics, Progress in Materials Science 111 (2020) 100651. https://doi.org/10.1016/j.pmatsci.2020.100651.

Shivkumar Khaple, Ujjwal Prakash, **Brahma Raju Golla** and V. V. Satya Prasad, Effect of Niobium Addition on Microstructure and Mechanical Properties of Fe-7Al-0.35C Low-density Steel, Metallography, Microstructure, and Analysis (2020) https://doi.org/10.1007/s13632-020-00622-9.

Karthik M.R. and **Brahma Raju Golla,** Processing and characterization of super strong and wear resistant Al-5Cu-(0-20vol.%) ZrB_2 composites, Journal of Alloys and Compounds 814 (2020) 152323.

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Shiva Bejugama, Narendra Kumar Gadwal, **Ajoy Kumar Pandey,** Two-step sintering of Sm_2O_3 doped ceria stabilized zirconia, Ceramics International, Volume 45, Issue 8, (2019) Pages 10348-10355.

Harish Kumar Adigilli, Balaji Padya, L Venkatesh, VSK Chakravadhanula, **AK Pandey**, Joydip Joardar, Oxidation of 2D-WS 2 nanosheets for generation of 2D-WS_2/WO_3 heterostructure and 2D and nanospherical WO_3, Physical Chemistry Chemical Physics, Volume 21, Issue 45, (2019) Pages 25139-25147.

S Patibanda, **S Varam**, S Gollapudi, KBS Rao, KV Rajulapati, On the Hardness and Strain Rate Sensitivity of Electrodeposited Nanocrystalline Ni–18 wt% Co Alloy Studied by Nanoindentation, Transactions of the Indian Institute of Metals 73 (2) (2020) 457-464.

Publications (in peer reviewed conferences): 11 Nos

P. Prakash, J. Vanaja, G. V. Prasad Reddy, K. Laha and **G. V. S. Nageswara Rao,** Influence of Thermomechanical Treatment in Austenitic and Ferritic Fields on Tensile Properties of Reduced Activation Ferritic–Martensitic Steel, Second International Conference on Structural Integrity (ICONS2018), R. V. Prakash et al. (eds.), Structural Integrity Assessment, Lecture Notes in Mechanical Engineering, pp. 115-127, https://doi.org/10.1007/978-981-13-8767-8_9, © Springer Nature Singapore Pte Ltd. 2020

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A. Sai Deepak Kumar, Mohammad Fayaz Anwar, E. Vara Prasad, P. Bharath Sreevatsava, **C. Vanitha,** Effect of temperature and load during hot impression creep of Cu-Zn-Al alloy, International Conference on Recent Trends in Metallurgy, Materials Science and Manufacturing (IMME19), Dec27-28, NIT Tiruchirappalli.

C. Vanitha and Deepak K. Pattanayak, Effect of heat treatment temperatures on microstructure and mechanical properties of 3 D printed Ti6Al4V alloy, PM-20 Mumbai, 19-21Feb2020.

Sravan Kumar Thimmappa, **Brahma Raju Golla** and V V Bhanu Prasad, Highly Oxidation Resistant ZrB2-20SiC-2.5Si3N4 Composites, International Conference on Advances in Minerals, Metals, Materials, Manufacturing and Modelling (ICAM5-2019) NIT Warangal, India, September 25-27 2019.

K. Geethasree, Md Zafir Alam, **G. Brahma Raju** and V.V.Satya Prasad, Microstructure and mechanical properties of near eutectic Nb-18.7Si alloy with Ti, Zr additionsMicrostructure and mechanical properties of near eutectic Nb-18.7Si alloy with Ti, Zr additions, International Conference on Advances in Minerals, Metals, Materials, Manufacturing and Modelling (ICAM5-2019) NIT Warangal, India, September 25-27 2019.

Sk. Mahammad Ali and **G. Brahma Raju**, Processing and Characterization of High Strength Cu-Al Alloys Fabricated through High Pressure Hot Press,

International Conference on Advances in Minerals, Metals, Materials, Manufacturing and Modelling (ICAM5-2019) NIT Warangal, India, September 25-27 2019.

Sk. Mahammad Ali and **G. Brahma Raju,** Abrasive wear behaviour of Cu-Al alloys processed via powder metallurgy, NMD-ATM-2019, Kerala.

Sravan Kumar Thimmappa, **Brahma Raju Golla** and V V Bhanu Prasad, Microstructure and high temperature oxidation behavior of ZrB2-20vol.% SiC with Si3N4 and Tantalum additives, NMD-ATM-2019, Kerala.

Uma Maheswara Rao Seelam and C. Suryanarayana, Rapid Formation of the Sigma Phase in Sputter-Deposited Austenitic Stainless Steel (SS304) Coatings, 26th International Symposium on Metastable, Amorphous and Nanostructured Materials (ISMANAM-2019), IIT Madras, Raintree Hotel, Annasalai, Chennai, India (July 8-12, 2019).

Pavan Kumar Rai and **Uma Maheswara Rao Seelam,** Martensite in Copper Matrix by Powder Metallurgy Route, International Conference on Advances in Minerals, Metals, Materials, Manufacturing and Modelling (ICAM5-2019) NIT Warangal, India, September 25-27 2019.

Funded Research Projects/SPARC projects (2019-20): No

(Completed Projects): 03 Nos

R. Arokia Kumar, Ajoy Kumar Panday and N. Narasaiah, In Situ hydrogen damage evaluation of boiler water wall tubes using NDT, NTPC, Ref.No. NETRA/PROJ/NITW/Hyd/16/1, Dated: 24 June 2016, Rs. 10.00 Lakhs.

B. Srinivasa Rao, Development of high strength and creep resistant Mg-Li alloys for automotive and aerospace applications, DST-YSS, YSS/2015/001609, dated 11th March 2016, Rs. 20.00 Lakhs.

G. Brahma Raju, Development of ZrB2-SiC-Si3N4 ceramic composites for high temperature applications, DST-YSS, No. SB/FTP/ETA-0089/2014 Dated: 8th July 2015, Rs. 27.6 Lakhs.

(Ongoing Projects): 09 Nos

Prof. G. V. S. Nageswara Rao, Generation of Creep Data of wrought Alloys of 617M and 304HCu, Mission Directorate, AUSC, AUSC: I-KPK-T-MDG-008/WO Date: 13/02/2018, Rs. 620.9 Lakhs.

Prof. G. V. S. Nageswara Rao, Evaluation of Creep-Fatigue interaction properties of Alloy 617M forging, Mission Directorate, AUSC, AUSC: I-KPK-T-MDG-007/WO Date: 14/05/2018, Rs. 348.89 Lakhs.

Prof. G. V. S. Nageswara Rao, Evaluation of Creep-Fatigue interaction properties of Alloy 625 Casting, Mission Directorate, AUSC, AUSC:I-KPK-T-MDG-033/WO Date: 14/05/2018, Rs. 348.89 Lakhs.

Prof. G. V. S. Nageswara Rao, Influence of Thermo-Mechanical Processing on Creep deformation and rupture behaviour of INRAFM steel, UGC-DAE-CSR, CSR-KN/CRS-93/2016-17/1134, Dated 01.02.2017, Rs. 12.50 Lakhs.

N. Narasaiah, R. Arockia Kumar, Dr.G.V.S. Nageswara Rao, Ajoy K. Pandey, B. Srinivasa Rao, Evaluation of creep-fatigue crack growth (CFCG) for Alloy 625 Cast material, Mission Directorate, AUSC, AUSC: I-KPK-T-MDG-035, dated: 16-05-2018, Rs. 490.56 Lakhs.

Ajoy K. Pandey, B. Srinivasa Rao, Asit K. Khanra, G. Brahma Raju, N. Narasaiah, Evaluation of Creep – Fatigue Crack Growth (CFCG) for Alloy 617 forging material, Mission Directorate, AUSC, AUSC: I-KPK-T-MDG-034, dated: 16-05-2018, Rs. 481.0 Lakhs.

Dr. N. Narasaiah, Dr. G. V. S Nageswara Rao, Dr. C. Vanitha, Dr. Ajoy Kumar Pandey, Dr. G. Brahma Raju, Dr. B. Srinviasa Rao, Oxide dispersion strengthened (ODS) iron-based alloys for Advanced Utra Super Critical (AUSC) Technology, DST, TMD/CER/CleanCoal/2017/036 (ARCI) (C) and (G) dated 24-08-2018, Rs. 90.812 Lakhs.

Ajoy Kumar Pandey, Development of Alumina-Zirconia-Titania Based Ceramic Composite for Biomedical Applications, SERB, FILE NO. EEQ/2016/000801, Dated: 31-Jan-2017 Rs. 37.9 Lakhs.

Dr. Sreedevi Varam, Hydrogen Production through Water Splitting by Novel Nanocrystalline Al-based Alloys (with Added Few Layered Graphene), SERB-Core Research Grant, File No. SERB/F/10375/2019-20 dated 18/02/2020, Rs. 34.2 Lakhs.

Conferences/ Workshops/GIAN courses/FDPs Conducted: 03 Nos

International Conference on Advances in Minerals, Metals, Materials, Manufacturing and Modelling (ICAM5 -2019), 25th -27th September 2019. **Chairman**: Dr. C. Vanitha, **Conveners**: Prof. G. V. S. Nageswara Rao Prof. N. Narasaiah, **Coordinators**: Dr. Mahesh Kumar Talari, Dr. G. Brahma Raju, Dr. Avishkar Bhaurao Rathod, Dr. Varam Sreedevi.

One day workshop on Metal joining and Additive Manufacturing, 29th February 2020. **Coordinators**: Dr. C. Vanitha, Dr. T.Mahesh Kumar, Dr. N.Kishore babu and Dr. R. Arokia Kumar.

Quiz and metallography contest, 8th March 2020, **Coordinators**: Dr. C. Vanitha, and Dr. Y. Raghupathy.

Guest talks/ Webinars delivered:

04 Nos

N. Narasaiah, Evaluation of Mechanical Properites of Materials and Related Standards, NIT Warangal, 14 February 2020.

N. Kishore Babu, Development of $AlMg_5$-Al_2O_3 nanocomposites, Institute of Engineers, Hyderabad, 15th July 2018.

N. Kishore Babu, Frcition stir welding of $AlMg_5$-Al_2O_3 nanocomposites, Department of Mechanical Engineering, University College of Engineering Kakinada, JNTU Kakinada, 29th Oct- 3rd Nov 2018.

Uma M. Rao Seelam, Instructional Methods of Scanning Electron Microscopy, Department of Chemistry, NIT Warangal, 5th March 2020.

C.Vanitha, Effect Of Annealing Temperature On Microstructure And Mechanical Properties Of Selective Laser Melted Ti-6Al-4V ALLOY on 15.12.2020 at Dr.N.G.P. Institute of Technology, Coimbatore , TN

New Labs Established

(Equipment/Software)

Establishment of "**Welding Laboratory**" has been supported with a funding of 14 Lakhs under NITW-Plan Grant and Research Seed Grant.

Expansion of "**Fatigue and Fracture Laboratory**" has been done with a funding support of 30 Lakhs from DST.

Awards/Recognitions/Achievements

Uma Maheswara Rao Seelam: Reviewer Excellence and Appreciation Certificate, Transactions of IIM (Journal), 17 Jan 2020.

Research Guidance (Completed in 2019-20): 03 Nos

Vibhuti Roshan, Development of process for utilization of iron ore slime of Bailadila region through hybrid pellet sintering, under the guidance of **Prof. G. V. S. Nageswara Rao** & Dr. Kamlesh Kumar.

U. Ravi Kiran, Effect of processing and alloy chemistry on microstructure and mechanical properties of tungsten heavy alloys, under the guidance of **Prof. G. V. S. Nageswara Rao** & Dr. T. K. Nandy.

M. Ananda Rao, Study of Rheological properties of the Hydrophobic mineral suspensions, under the guidance of **Prof. N. Narasaiah**, Dr. S. Subba Rao.

International Visits of the Faculty Members/ students

Sarthak Kapoor, 3rd B. Tech student underwent 12-week summer internship (MITACS) at a Canadian University from 20th May 2019 to 12th August 2019.

Students Achievements

Ms. Ch. Vidisha secured 1st rank in GATE-2020.

Mr. Sai Deepak (IV B. Tech) awarded AVRR gold medal 2020 for his all-round skills.

Ms. Shaili Reddy Maram held 1st position in quiz conducted by metallurgical and materials engineering association NITW

Ms. Koukuntla Vyshnavi (IV B. Tech) secured second prize in Quiz competition at IGCAR,kalpakkam,Chennai.

Mr. Anand Ajabe (IV B. Tech) secured AIR 4 in case study competition at IIM Indore.

Mr. Sarthak Kapoor and Mr. Karthikeya Sivaram Marepallii (IV B. Tech) received IIM award by IIM Hyderabad chapter.

Raja Supreet Reddy (IV B. Tech):

(1) National Winner of Paper Presentation event at IRSC, India's largest road safety campaign organised at IIT-Delhi

(2) Conferred the Second-Best outgoing student of Metallurgical and Materials Engineering – NIT Warangal

(3)Runner-Up of Case Study competition at the International Conference for Road Safety organised by IRSC at IIT-Delhi

(4) National Winner of the Paper Presentation competition at Elan & nVision (Annual Technical fest of IIT-Hyderabad)

(5) Stood First for presenting futuristic ideas in the National Level Technical Symposium organised by JNTU-Hyderabad

(6) Stood First in the National level Paper Presentation at Technozion (the Annual Technical fest of NIT-Warangal)

(7) One out of the Two undergraduate teams of the State to be shortlisted to the National Technical Meet - IIM Paloncha

Winners in Metallography and Quiz competition on the eve of **Women's Day** (8th March 2020):

a. **Mr. Sunil Kumar** (B.Tech. IV Year, MMED), 1st prize, Metallography contest,

b. **Mr. Kartikeya Sivaram** (B.Tech. IV Year, MMED), 1st Prize, Materials Quiz

c. **Ms. U. L. Sirichandana** (M.Tech. I Year, MMED), 2nd prize, Metallography contest,

d. **Mr. Gaurav Mittal** (B.Tech. IV Year, MMED), 2nd Prize, Materials Quiz

Technical Association Activities: 03

METALLURGICAL AND MATERIALS ENGINEERING

The Metallurgical and Materials Engineering Association organised a quiz program on 14th November 2019 to celebrate National Metallurgist Day.

The Metallurgical and Materials Engineering Association organised a one-day Workshop on Additive Manufacturing on 29th February 2020. The experts were Dr. Y. Ravi Kumar (NITW), Prof. G. D. Janakiram (IITH), Dr. T. Gururaj (ARCI) and Dr. Divya (ARCI).

Distinguished Guests visiting the Department/Delivering Expert Lecture/Keynote Address: 04 Nos

The MME association organised an expert talk 3D Printing for Bio-medical Applications delivered by Dr. Deepak Pattanayak, Scientist, CSIR-CECRI, Karaikudi on 25th November 2019.

The MME association organised an expert talk Fatigue of materials delivered by Sri. Kannan, Scientist, IGACR on 26th November 2019.

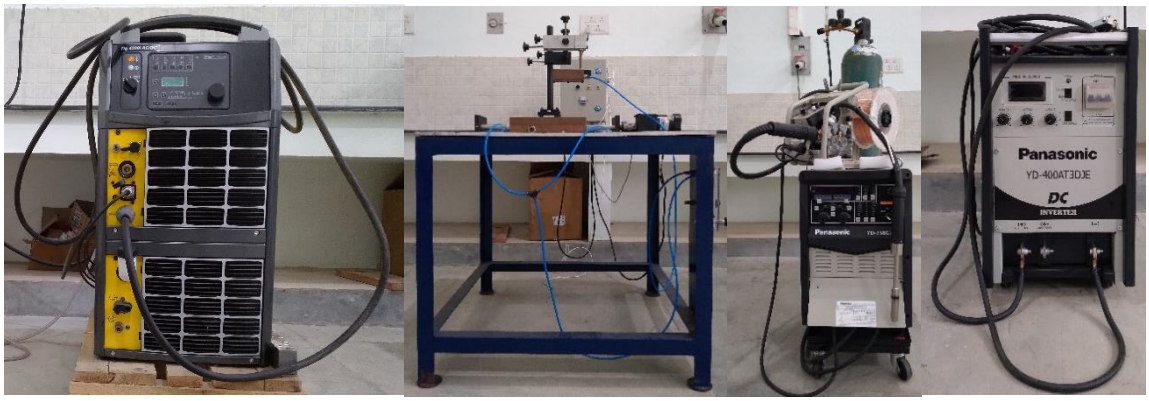
The MME association organised an expert talk X-ray diffraction delivered by Dr. A. K. Singh Sri. Kannan, Scientist, DRDO-DMRL IGACR on 9th December 2019.

Prof. V. V. Kutumbarao, former Director, Jawaharlal Nehru Aluminium R&D Centre, Nagpur; Head of Metallurgical Engineering Department, IT BHU delivered an Expert Lecture on "Metals & Metallurgy- An Inspirational Story" on 25th January 2020.

Outreach Programmes: -

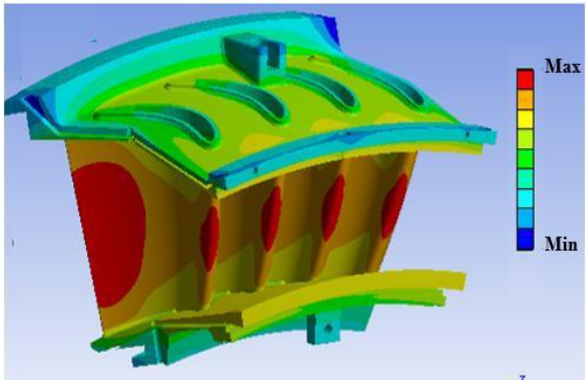
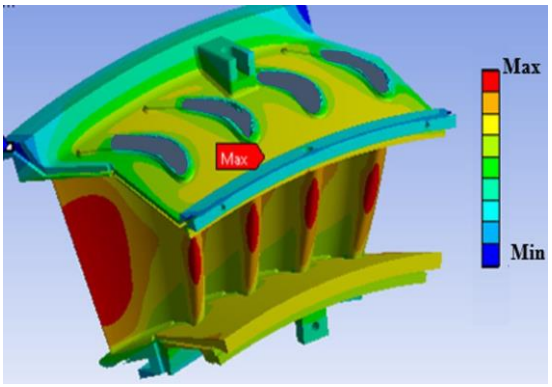
Sophisticated equipment of the department/Research highlights etc.

Fatigue & Fracture laboratory (Vacuum Tubular Furnaces, Microscopes, Precision cutting machine, Auto-clave)



Welding Laboratory (Tungsten Inert Gas welding, Linear Seam Welding, Metal Inert Gas Welding, Arc Welding)

	
Spex Mill – 8000M: for producing nanocrystalline and amorphous materials	Macro and Micro Vickers Hardness Testing Machine

	
Conventional Nozzle	3D printable Nozzle

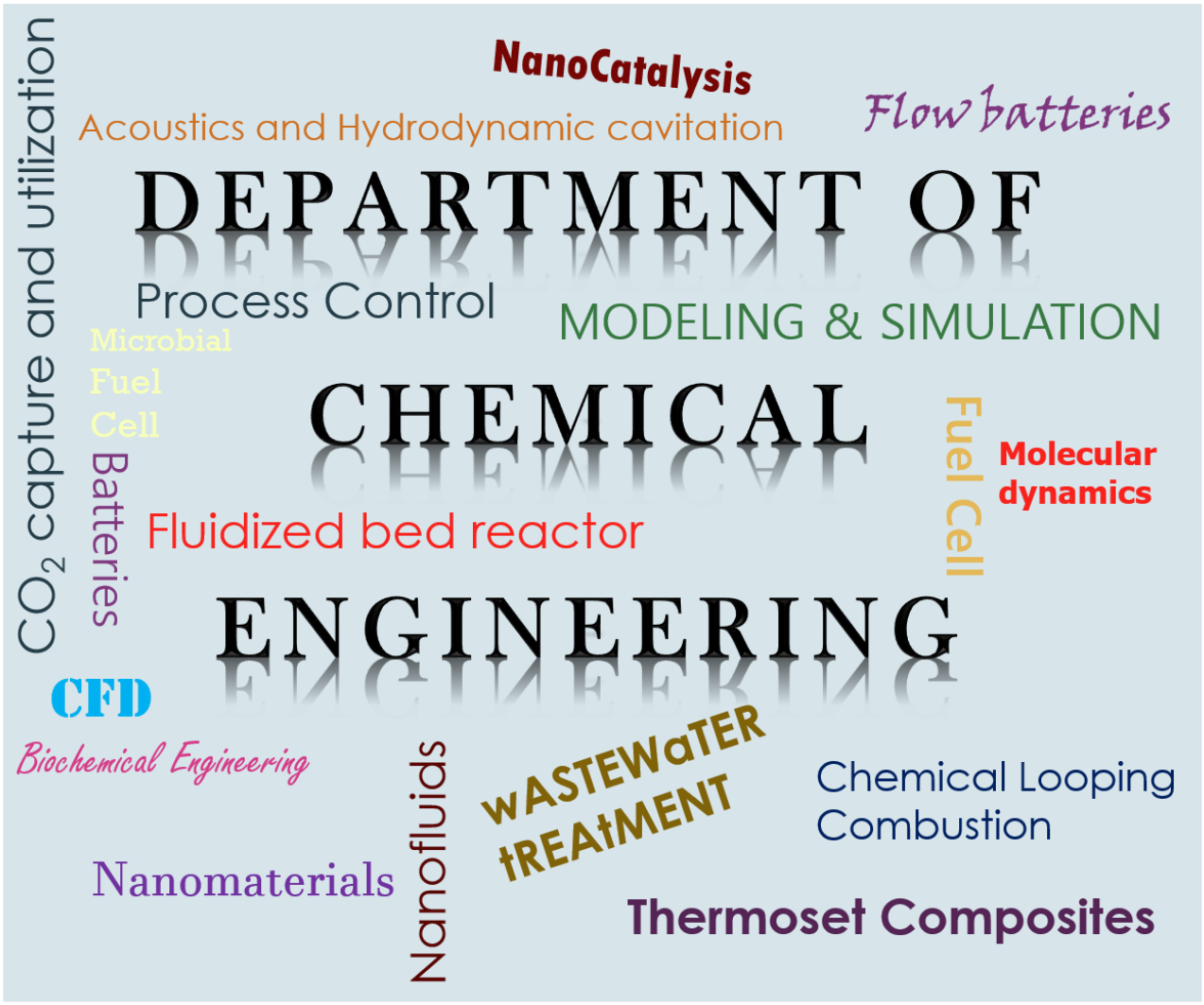
Research Highlights: Novel 3D printable gas turbine nozzle design with 30% weight reduction! Despite the low weight of the nozzle, temperature profiles are nearly the same!

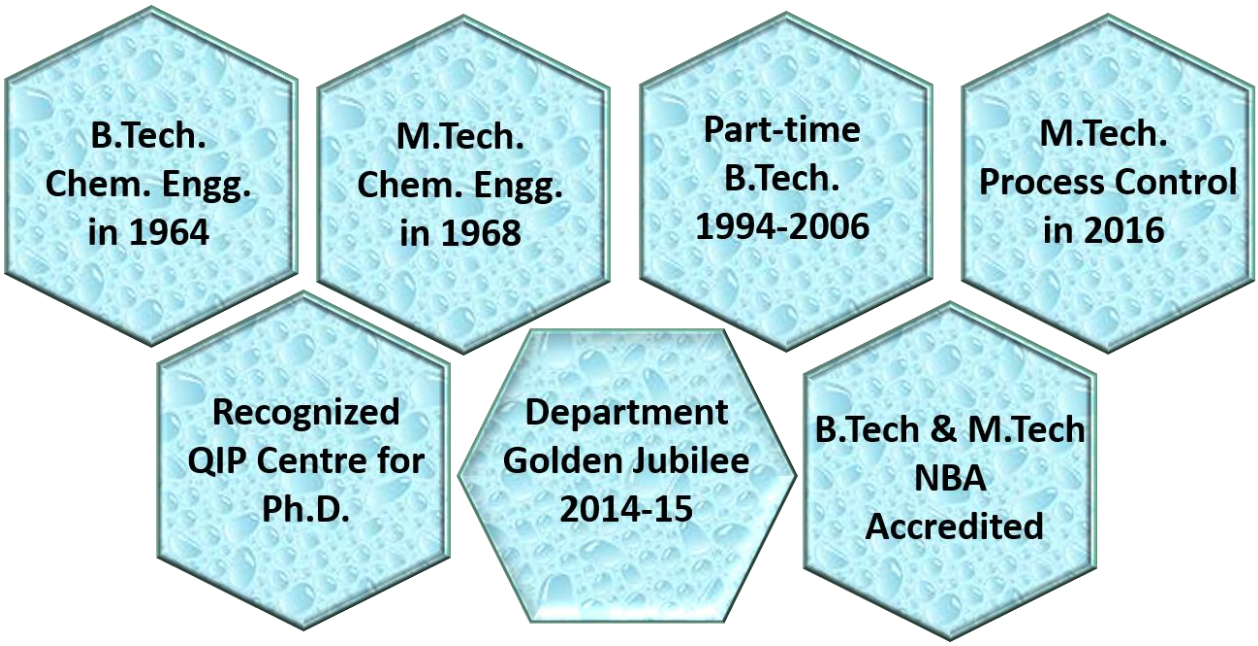
Progress in Materials Science publishes authoritative and critical reviews of recent advances in the science of materials and their exploitation in engineering and other applications.

Cite Score: 47.1

Impact Factor: 31.560

Research Highlights: **Brahma Raju Golla**, Amartya Mukhopadhyay, Bikramjit Basu and Sravan Kumar Thimmappa, "Review on Ultra High Temperature Boride Ceramics," **Progress in Materials Science** 111 100651 (2020).


NanoCatalysis
Acoustics and Hydrodynamic cavitation
Flow batteries
DEPARTMENT OF
Process Control
MODELING & SIMULATION
Microbial Fuel Cell
CHEMICAL
Fuel Cell
Molecular dynamics
CO_2 capture and utilization
Batteries
Fluidized bed reactor
ENGINEERING
CFD
Biochemical Engineering
Nanofluids
wASTEWaTER tREAtMENT
Chemical Looping Combustion
Nanomaterials
Thermoset Composites


B.Tech. Chem. Engg. in 1964
M.Tech. Chem. Engg. in 1968
Part-time B.Tech. 1994-2006
M.Tech. Process Control in 2016
Recognized QIP Centre for Ph.D.
Department Golden Jubilee 2014-15
B.Tech & M.Tech NBA Accredited

CHEMICAL ENGINEERING

Faculty

Prof.Y. Pydi Setty
Professor

Fluidized beds, Biochemical Engg., Microbial fuel cells

Prof. Shirish H. Sonawane
Professor and Head

Fluidized beds, Biochemical Engg., Microbial fuel cells

Prof. A. Venu Vinod
Professor

Fluidized beds, Bioreactors, Heat transfer, Nanofluids

Prof. Sarath Babu Anne
Professor

Modelling and Simulation, Reaction Engg. , CO_2 Capture and Utilization

Prof. Anand Kishore. K
Professor

Biochemical Engg., Modelling and Simulation

Dr. K. Srivani
Associate Professor

Biochemical Engineering

Dr. S. Srinath
Associate Professor

Fluidized bed combustion, Modelling and Simulation

Dr. A. Seshagiri Rao
Associate Professor

Process Control
Wastewater treatment

Dr. P.V. Suresh
Associate Professor

Fuel Cells, CO_2 Capture and Utilization, CFD, Chemical Combustion.

CHEMICAL ENGINEERING

Dr. S. Vidyasagar
Associate Professor

Sustainable Energy Technologies, Modelling and Simulation

Dr. S. Murali Mohan
Assistant Professor

Flow Batteries, Fuel cells and Membrane Separations

Dr. G. Uday Bhaskar Babu
Assistant Professor

Modelling and Simulation, Energy Integration

Dr. V. Ram Sagar
Assistant Professor

Process Scheduling, Chemical Loop Combustion

Dr. Raghu Raja Pandiyan
Assistant Professor

Thermoset Composites, Process Modelling and Simulation

Dr. K.S. Rajmohan
Assistant Professor

Nanocatalysis, Fuel cells and Batteries, Biorefineries

Dr. Manohar Kakunuri
Assistant Professor

Synthesis of carbon Nanomaterials, Li-ion batteries

Dr. Praveen K. Bommineni
Assistant Professor

Molecular Dynamics and Simulations

Dr. Ramya Araga
Assistant Professor

Synthesis of Nanomaterials, Wastewater Treatment

CHEMICAL ENGINEERING

Dr. Anjana PA
Assistant Professor

Catalysis, Energy and Environmental Applications

Dr. P. Sampath Kumar
Assistant Professor

Energy Storage and Conversion Devices, Scale up of Nanomaterials

Dr. Naresh Thota
Assistant Professor

Molecular Dynamics and Simulation for Energy, Environmental and Healthcare Applications

Dr. Kishant Kumar
Assistant Professor

Molecular Dynamics, Monte Carlo Simulation

Emeritus/Visiting Professors

Prof.M.Chidambaram
Visiting Professor

Process Control

Prof. P.M. S. Sai
Visiting Professor

Separation Sciences

Prof. D.V.R Murthy
Visiting Professor

Fluid Particle Systems

Prof. G. V. Reddy
Visiting Professor

Modelling and Simulation

Publications (in peer reviewed journals)

Sushmitha Devadasu, Saurabh M Joshi, Parag R Gogate, **Shirish H Sonawane, Srinath Suranani** "Intensification of delignification of Tectona grandis saw dust as sustainable biomass using acoustic cavitational devices" Ultrasonics Sonochemistry, 63(2020), 104914.

Sayali P Deshmukh, Devyani P Kale, Shashwati Kar, Sachin R Shirsath, Bharat A Bhanvase, Virendra Kumar Saharan, **Shirish H Sonawane** "Ultrasound assisted preparation of rGO/TiO2 nanocomposite for effective photocatalytic degradation of methylene blue under sunlight" Nano-Structures & Nano-Objects, 21(2020) 100407.

P. Narsimha, **Shirish H. Sonawane**, K. Anad Kishore, Pramod H. Borse b, Swapnil B. Ambade, Sripadh Guptha, Muthupandian Ashokkumar "Electrochemical Performance of Starch-Polyaniline Nanocomposites Synthesized by Sonochemical Process Intensification" Journal of Renewable Materials, 7(2019) 1279-1293.

Rohit D. Sangolkar, Dilip K. Kawadkar, Bharat A. Bhanvase, **Shirish H. Sonawane** "Ultrasound assisted encapsulation of peppermint flavor in gum Arabic: Study of process parameters" Journal of Food Processing Engineering 42(2019),7.

Sneha Korpe, Bhaskar Bethi, **Shirish H. Sonawane**, K.V. Jayakumar "Tannery wastewater treatment by cavitation combined with advanced oxidation process (AOP)" Ultrasonics Sonochemistry, 59(2019) 104723.

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Sruthi R. Pillai, **Shirish H. Sonawane**, Sarang P. Gumfekar, Prashant L. Suryawanshi, Muthupandian Ashokkumar,Irina Potoroko "Continuous flow synthesis of nanostructured bimetallic Pt-Mo/C catalystsin milli-channel reactor for PEM fuel cell application" Materials Chemistry and Physics 237 (2019) 121854.

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Uday D Bagale, **Shirish H Sonawane** Synthesis of nanocapsules using safflower oil for self-healing material Nanomaterials and Energy 8 (2019) 1-10.

R.N. Radkar, B.A. Bhanvase, D.P. Barai, **S.H. Sonawane** "Intensified convective heat transfer using ZnO nanofluids in heat exchanger with helical coiled geometry at constant wall temperature Materials Science for Energy Technologies, 2(2019) 161-170 .

K.M. Yashawantha, **A. Venu Vinod, "**ANN Modelling and Experimental Investigation on Effective Thermal Conductivity of Ethylene Glycol: Water Nanofluids", Journal of Thermal Analysis and Calorimetry (2020). https://doi.org/10.1007/s10973-020-09756-y.

K. Keerthi Sanghamitra, A. Yamini, **A. Venu Vinod** and Neha Hebalkar, Thermographic Studies of Aerogel Composites, Chemical Product and Process Modeling, DOI: https://doi.org/10.1515/cppm-2019-0074.

B. Anil Kumar Naik and **A. Venu Vinod**, Natural Convection Heat Transfer in a Shell and Helical Coil Heat Exchanger Using non-Newtonian Nanofluids, Chemical Product and Process Modeling,15(2020), 20190058.

Ramakant Gadhewal, Sunil Kumar Thamida & **Venu Vinod Ananthula**, Optimum supply and utilization of pure oxygen along with nitrogen on the cathode side for thermal stability of a proton exchange membrane fuel cell, International Journal of Modelling and simulation, DOI:10.1080/02286203.2019.167466.

B. Anil Kumar Naik and **A. Venu Vinod**, "Energy Savings and Effectiveness in a Compact Heat Exchanger Employing Non-Newtonian Nanofluids", Journal of Nanofluids 8(2019), 1535–1543.

Harshal Patil, Ajey Kumar Patel, Harish J. Pant & **A. Venu Vinod**, "Numerical Modelling of stirred tank and its validation by Radioactive Particle Tracking (RPT) technique", ISH Journal of Hydraulic Engineering, (Accepted).

Surywanshi Gajanan Dattarao, B. Basant Kumar Pillai, **Venkata Suresh Patnaikuni**, **Ramsagar Vooradi**, **Sarath Babu Anne** "4-E Analyses of Chemical Looping Combustion based Subcritical, Supercritical and Ultra-Supercritical Coal-Fired Power Plants" Energy Conversion and Management" 200(2019) 112050.

Surywanshi Gajanan Dattarao, B. Basant Kumar Pillai, **Venkata Suresh Patnaikuni**, **Ramsagar Vooradi**, **Sarath Babu Anne** "Formic Acid Synthesis – A Case Study of CO2 Utilization from Coal Direct Chemical Looping Combustion Power Plant" Energy Sources, Part A: Recovery, Utilization, and Environmental Effects . (2019)https://doi.org/10.1080/15567036.2019.1649325.

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Chandrasai PD, Madhuri Pola, Satish Babu R & **Anand Kishore Kola** "Insights into Potent Therapeutical Antileukemic Agent L-Glutaminase Enzyme under Solid State Fermentation: A Review" Current Drug Metabolism 21(2020):3, 211-220.

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H. Upender and **K. Anand Kishore** "Effect of materials on hydrodynamics of cone-shaped inverse fluidized bed by experimental and CFD simulations" Materials Today proceedings 21(2020), 1502-1512.

D. Naresh Yadav, **K. Anand Kishore** & Devendra Saroj, "A Study on removal of Methylene Blue dye by photo catalysis integrated with nanofiltration using statistical and experimental approaches" Environmental Technology (2020) DOI: 10.1080/09593330.2020.1720303.

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Upender, H., **Kishore, K.A.** "Effect of temperature and apparent liquid viscosity on the hydrodynamics of liquid–solid tapered inverse fluidized bed: experimental studies compared with empirical models" SN Applied Sciences 2(2020) 622.https://doi.org/10.1007/s42452-020-2365-4.

Satish Babu Rajulapati, **Anand Kishore Kola**, Madhuri Pola and Chandra sai Potla Durthi, "Screening, Optimization of Culture Conditions and Scale-Up for Production of the L-Glutaminase by Novel Isolated Bacillus sp. Mutant Endophyte using Response Surface Methodology", Journal of Biocatalysis and Agricultural Biotechnology, 18 (2019):6, 101.

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Aarti Tallam, Sai Rohith Bairy, raju Kalakuntala, Naga Prapurna P.V, **Srinath Suranani** " Kinetic Modeling of Citrullus Lantus (Watermelon) Peel Using Thermo Gravimetric Analysis" Chemical Product and Process Modelling 76 (2020) 1-8.

Arunagiri A, Perumalsamy M, Sivasankar T, Sivashanmugam P, **Srinath S** " Advances and Challenges for Sustainable ecosystems" Environmental Science and Pollution Research (2020) 1-3.

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Ranganayakulu R, **Seshagiri Rao A, and Uday Bhaskar Babu G** "Analytical Design of fractional IMC filter - PID control strategy for performance enhancement of Cascade control systems" International Journal of Systems Science 51(2020) 1699-1713.

Shubhanshu Sharma and **G.Uday Bhaskar Babu** "A New Control Strategy for a Higher Order Proton Exchange Membrane Fuel Cell System" International Journal of Hydrogen Energy, In Press, 2020.

Vikas S. Hakke, Uday D. Bagale, Sami Boufi, **G. Uday Bhaskar Babu** and **Shirish H. Sonawane** "Ultrasound Assisted Synthesis of Starch Nanocrystals and It's Applications with Polyurethane for Packaging Film" Journal of Renewable Materials ,(2020) 239-250.

Shivanky Jaiswal, Suresh Chiluka, **Murali Mohan seepana, A. Seshagiri Rao and G.Uday Bhaskar Babu** "Design of fractional order PID Controller using Genetic Algorithm optimization technique for nonlinear system" Chemical Product and Process Modeling, 15(2020) 20190072.

Rayalla Ranganayakulu, **A. Seshagiri Rao, G. Uday Bhaskar Babu** "An improved Fractional filter IMC-PID controller design for control of non-integer order systems with time delay" European Journal Electrical Engineering, 21 (2019) 139-147.

E. S. S. Tejaswini, **G. Uday Bhaskar Babu and A. Seshagiri Rao** "Effect of Temperature on Effluent Quality in a Biological Wastewater Treatment Process" Chemical Product and Process Modeling, 15(2020), 1.

Anil Bhaskaran and **A. Seshagiri Rao** "Predictive control of unstable time delay series cascade processes with measurement noise", ISA Transactions, 99(2020), 403-416.

K. Ghousiya Begum, **A. Seshagiri Rao** and T. K. Radhakrishnan "Novel IMC filter design based PID controller design for Systems with One Right Half Plane (RHP) Pole and Dead-time" International Journal of Automation and Control, 14(2020) , 423-444.

E. S. S. Tejaswini, Soniya Panjwani and **A. Seshagiri Rao**, Design of Hierarchical Control Strategies for Biological Wastewater Treatment Plants to Reduce Operational Costs, Chemical Engineering Research and Design, 161, 197-205, 2020.

K. Ghousiya Begum, T. K. Radhakrishnan and **A. Seshagiri Rao** "Assessment of Proportional Integral Derivative control loops for large dominant time processes" Chemical Product and Process Modeling, 15(2020):1, 20190024.

Chandramohan Goud Ediga and **A. Seshagiri Rao** "Design of noise filters for integrating time delay processes" Chemical Product and Process Modeling, 15 (2019): 2, 20190056.

G. Maruthi Prasad and **A. Seshagiri Rao** "Evaluation of Gap metric based multi model controller schemes for non-linear systems: An experimental study" ISA Transactions, 94(2020), 246-254.

Suresh Chiluka, **Murali Mohan seepana, A. Seshagiri Rao, G.Uday Bhaskar Babu** "Design of VRFT based feedback-feedforward controllers for enhancing disturbance rejection on non-minimum phase systems" Chemical Product and Process Modeling 15(2020) 20190069.

Sheik Abdul Gaffar, M.VS Raghu Kumar, **Murali Mohan Seepana, A. Seshagiri Rao** "Design of Control Strategies for Nutrient Removal in a Biological Wastewater Treatment Process" Environmental Science and Pollution Research.https://doi.org/10.1007/s11356-020-09347-2.(2020)

Aruna Pagidi, **Murali Mohan Seepana** "Synthesis of (Si-PWA)-PVA/PTFE high-temperature proton-conducting composite membrane for DMFC" International Journal of Hydrogen Energy (2020) IN Press.

Aruna Pagidi, G. Arthanareeswaran, **Murali Mohan Seepana** "Synthesis of highly stable PTFE-ZrP-PVA composite membrane for high-temperature direct methanol fuel cell" International Journal of Hydrogen Energy, 45 (2020), 7829-7837.

A Zade, **RRP Kuppusamy** "Mould fill time sensitivity analysis using isothermal mould filling simulations for applications in liquid composite moulding processes" Materials Today: Proceedings, 27(2020) :1,167-171.

RRP Kuppusamy "Debonding characteristics of adhesively bonded carbon-epoxy composite laminates" Materials Today: Proceedings, 19(2019):2, 269-272.

A Zade, **RRP Kuppusamy** "A review on numerical optimization in liquid composite moulding processes" Materials Today: Proceedings, 19(2019):2,329-332.

Shreya Anand, **RRP Kuppusamy**, Padmini P "An insight into the kinetically and thermodynamically controlled biosynthesis of silver nanoparticles" IET Nanobiotechnology (Accepted for publication)

RRP Kuppusamy "Time-Temperature-Cure Process Window of Epoxy-Vinyl Ester Resin for Applications in Liquid Composite Moulding Processes" Materials Today: Proceedings (2020) In Press.

KS Rajmohan, C Ramya, MR Viswanathan, S Varjani "Plastic pollutants: effective waste management for pollution control and abatement "Current12(2019), 72-84.

KS Rajmohan, Chandrasekaran R & Varjani S "A Review on Occurrence of Pesticides in Environment and Current Technologies for Their Remediation and Management". Indian Journal of Microbiology 60(2020), 125–138.

MM Gaikwad, **M Kakunuri**, C S Sharma, "Enhanced catalytic graphitization of resorcinol formaldehyde derived carbon xerogel to improve its anodic performance for lithium ion battery" Materials Today Communications, 20(2019) 100569.

Publications (in peer reviewed conferences)

Sushmitha D, Anjani M, Akaknksha M, P.V. Nagaprapurna, **Srinath Suranani** "Investigation of a controlled release rate studies on Benzotriazole Loaded Electrospun Cellulose hallow Nano Fibers" Proceedings of the ASEAO 2019 International Conference Singapore-, May 23 – 24, 2019.

Funded Research Projects/SPARC projects (2019-20)

(Completed Projects)

Dr. A. Seshagiri Rao Advanced control of wastewater treatment plants for improved effluent quality, cost reduction and effluent violations removal, SERB-Extra Mural Research Funding, 2017-2020, Rs. 40.4 Lakhs.

Dr. A. Seshagiri Rao Nonlinear model predictive control of wastewater treatment plants Indian National Science Academy (INSA)-German Research Foundation (DFG) 5250 Euros.

Dr Shirish Sonawane Sonocrystallization of active pharmaceutical Ingredients, Neulands Laboratories Hyderabad, 2018-19, 1 Lakh.

Dr Shirish Sonawane & Dr Uday Bhaskar Babu Development of starch based PU coatings Indo Tunisia 2018-2020.

(Ongoing Projects)

Dr Shirish Sonawane Process Development for the production of Janus Nanoparticles for selected catalytic reactions 2018-21 SERB department of Science and Technology GOI. 20.87 Lacs.

Dr Shirish Sonawane Ultrasonic encapsulation of bioactive compounds to deliver in the food matrix 2018-20 Indo-Russia DST-RFBR 16 Lacs.

Dr Shirish Sonawane Cavitation based dispersion of Boron nanoparticles into JP10 Fuel 2019-21 GTRE DRDO -GoI 9.95 Lacs

Dr Shirish Sonawane Development and Demonstration of Pilot-scale Hybrid Wastewater Treatment System with Hydrodynamic Cavitation and Biosurfactant for Recycling of Textile Effluent 2019-22, IMPRINT SERB, 41.42 Lacs

Dr. A. Venu Vinod Heat Transfer Enhancement in Plate-Fin Exchanger using Nanorefrigerants, Sponsored by Aeronautics Research & Development Board (ARDB), 2017, Rs. 31 lacs.

Dr. Manohar Kakunuri Activated Graphene/Carbon composite nanofibers as high performance anode material for sodium ion battery No. SB/OS/PDF-040/2016-17, Dt. 15/02/2018 SERB 25.6 lakhs.

Dr. G Uday Bhaskar Babu Identification and Control strategies for improvement of Proton Exchange

Membrane (PEM) Fuel Cell EEQ/2018/000993 dated 26-02-2019 SERB,DST 17,10,000/-

Dr. Raghu Raja Pandiyan Kuppusamy Development of One-Shot Integrated Thick Sectioned Composite Parts using Semi-Cured Composite Laminates SERB/F/4360/2017-2018 dated- 04/08/2017 EMR Scheme, SERB, DST 27.84 lakhs.

Dr. S. Murali Mohan Development and Demonstration of Hydrogen Redox Flow Battery using Non-Precious Electrocatalysts SPARC 2019-2021 Scheme for Promotion of Academic and Research Collaboration (SPARC) 43,17,813.00/-

Dr. A. Seshagiri Rao Low cost innovative technology for water quality monitoring and water resources management for urban and rural water systems in India (LOTUS) Indo-European Horizon 2020 project.

Dr. A. Seshagiri Rao, Duo-India grant to visit The Autonomous University of Barcelona (UAB), Spain and work on Machine learning based control for wastewater treatment plants, Euro 3000, 2020.

Dr. Nagasrinivasulu, **Dr. P. V. Suresh**, Dr. S. Sreenivasarao Design and Development of Passive Direct Methanol Fuel Cell integrated with Liquid Electrolyte for Portable Power Applications EMR/2016/003015 dated 24-03-2017 SERB Rs. 19.46 lakhs

Dr. Soumya Lipsa Rath, **Dr. Kishant Kumar** 4/15/2020 https://covid19-hpc-consortium.org/projects Department of Energy, Lawrence Berkeley National Laboratory, USA

Patents Filed/Granted

Examination Report Received on 24th Jan for the Patent filed by Yadagiri Maralla, **Shirish Sonawane** "Particle Size Reduction of Pharmaceutical Material/Drugs Using Innovative Crystallization Process" Indian Patent Application No/ 201841033163.

Books and Book Chapters

A book "Encapsulation of Active Molecules and Their Delivery System" was edited by **Shirish Hari Sonawane** , Bharat A. Bhanvase and, Manickam Sivakumar. Published by Elsevier Science Publishing Co Inc, ISBN: 9780128193631,

E. Chandra Mohan Goud, **A. Seshagiri Rao** and M. Chidambaram, Simple PID controller design for Non-minimum Phase FOPTD and SOPTD processes, "Intelligent Algorithms for Analysis and Control of Dynamical Systems" chapter in the book "Algorithms for Intelligent Systems", Springer, 2020.

Thulasya Naik B, Ravi Kumar J and **Seshagiri Rao Ambati**, "Real-time implementation of PID controller for cylindrical tank system using short-range wireless communication", chapter in the book Modeling, Simulation and Intelligent Computing (Edited by Goel et al.), Springer Nature, 2020.

Govind Anil, M Siva, **Srinath S**, **G Uday Bhaskar Babu.,** "Designing of Fractional Order PI/PID controller by Meta-heuristic Algorithm using PSO for PEM Fuel Cell, Intelligent Algorithms for Analysis and Control of Dynamical Systems", "Algorithms for Intelligent Systems, springer (2020).

Devadasu Sushmitha, **Srinath Suranai** "Thermal Modeling of a High Pressure Autoclave Reactor for Hydrothermal Carbonization" Lecture Notes in Mechanical Engineering part of Numerical Heat Transfer and Fluid Flow, 547-553.

Devadasu Sushmitha, **Srinath Suranani** "An Intensified and Integrated Biorefinery Approach for Biofuel Production." Biochemical and Environmental Bioprocessing", chapter 5, Taylor and franscis Group, CRC publication, July 2019, 88-103.

B.Sairohith, Naga Prapurna, Kuldeep B, Kamble, Rajmohan K.S and **S.Srinath** " Hydrothermal Carbonisation for valorisation of rice husk" Chapter 6, Taylor & Francis Book : Biochemical and Environmental Bio processing : Challenges and Developments, July 2019, 105-122.

Conferences/ Workshops/GIAN courses/FDPs Conducted

Dr. Sarath Babu Anne, Venugopal Anne & IAK Reddy conducted Online FDP on Outcome based education from 21/05/2020 to 23/05/2020 to Faculty (400+), sponsored by LIET, Vizianagaram .

SPARC Project Activities

Dr. Ravi Kumar from Newcastle University, UK, and delivered a Guest lecture and Hands Training to the scholars from 24th December 2019 to 27th December 2019. Around 40 members participated.

Guest talks/ Webinars delivered

Dr. Sarath Babu Anne delivered Keynote Address at RVR &JCCE, Guntur, Feb 2020.

Dr. A. Seshagiri Rao delivered an invited expert talk titled "Modeling and control of bioprocesses' at a short term course organized by Kalasalingam University, Tamilnadu, June 2020.

Dr. A. Seshagiri Rao delivered an invited expert talk titled "Digital water" at a short term course organized by Saranathan College of Engineering, Tiruchirappalli, Tamilnadu, July 18 2020.

Dr. Venkata Suresh Patnaikuni delivered Expert lecture on "CO2 Capture and Management for Sustainable Thermal Power Production" in STTP on CCS-2019 NIT Rourkela, Jul 2019.

Dr. Venkata Suresh Patnaikuni delivered Keynote lecture on "Application of CFD in the design of Flow fields for PEM fuel cells" in AICTE FDPGVPCE, Visakhapatnam, Oct 2019.

Dr. Venkata Suresh Patnaikuni delivered Expert lecture on CFD in AICTE sponsored STTP RVRJCE, Guntur, Nov 2019.

Dr. Venkata Suresh Patnaikuni delivered Invited talk on "Application of Computational Fluid Dynamics in the Design of Flow Fields for PEM fuel cells" in FDP GEC, Thrissur, Dec 2019.

Dr. Venkata Suresh Patnaikuni delivered Expert Lectures on CFD in workshop BVRIT, Hyderabad, Dec 2019.

Dr. S. Murali Mohan delivered an invited talk at Indo-UK Researcher links workshop, IISER Pune, Jan 2020.

Dr. S. Murali Mohan delivered an invited talk at one-week AICTE-ISTE sponsored refresher program, RSM College of Engg. and Tech. Nandyal, July 2019.

Dr. Raghu Raja Pandiyan Kuppusamy delivered Debonding characteristics of adhesively bonded carbon-epoxy composite laminates Expert lecture on CFD in AICTE sponsored STTP, Aug 2019.

Dr. Manohar Kakunuri delivered an invited talk on Carbon based anode materials for lithium-ion batteries TEQIP workshop, JNTU Anantapur, Jul 2019.

New Labs Established

Software (Power World Simulator Pro Full Version) worth 6.5 lakhs for simulation purpose is purchased in 2019, funded by SERB-DST-MHRD.

Awards/Recognitions/Achievements

Dr. Shirish Sonawane was awarded Alexander Humboldt India Connect Grant 2020 to do research work in Germany.

Dr. Shirish Sonawane become elected NASI member.

Dr. K. Anand Kishore-Associate Fellow of Telangana Academy of Sciences (TAS), Hyderabad, Telangana

Dr. Uday Bhaskar Babu was awarded Best Presentation Award at the Sixth International conference on Automatic Control and Dynamic Optimization Society 2020.

Dr. PV Suresh and Dr. Ramsagar were Guest Editor for Special Issue in International Journal of Hydrogen Energy May 2019 to June 2020.

Dr. Raghu Raja Pandiyan Kuppusamy was awarded with Best paper award in both oral and Poster presentation in IMME19 Dec-19.

Dr. A. Venu Vinod and Dr. Murali Mohan - Guest Editors, Chemical Product and Process Modelling, Special Issue of INCEEE-2019.

Dr. Anand Kishore K, Editorial Board Member of Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP).

Dr. Anand Kishore K, Editorial Board Member of an International Chemical Engineering Open Access Open Journal of SOAOJ publishing.

Dr. Anand Kishore K, Editorial Board Member of International journal of General Engineering and Technology.

Dr. Anand Kishore K, Editorial Board Member of International Journal of Chemical Sciences and Applications, a BioIT international journal.

Dr. Anand Kishore K, Editorial Board Member of International Journal of Chemical and Molecular Engineering.

Research Guidance (Completed in 2019-20)

Mr. Yadagiri Maralla has awarded PhD degree under the supervision of **Dr. Shirish Sonawane** for thesis titled **"**Process Intensification of Selected Chemical Reactions by Continuous Flow" in March 2020.
Mr. Srinivas Rao Divi has awarded PhD degree under the supervision of **Dr. Shirish Sonawane** for thesis titled **"**Design of Controllers and Analysis of PEM Fuel Cell System " in June 2020.
Mr. Rayalla Ranganayakulu has awarded PhD degree under the supervision of **Dr. G Uday Bhaskar Babu** for thesis titled **"**Design and Analysis of Novel Fractional Controllers for Integer and Non-integer Order System" in Nov 2019.
Mr. Jagesh Ranjan has awarded PhD degree under the supervision of Prof. Sudipta Goswami **and Dr. Raghu Raja Pandiyan Kuppusamy** for thesis titled **"**Development of Bio composites based on Interpenetrating Polymer Networks" in Oct 2019.
Mr. D. Kishore has awarded PhD degree under the supervision of **Dr. Anand Kishore** for thesis titled **"**Identification and Control of a Process Using Relay Feedback and Subspace Approach" in Nov 2019.
Mr. Purushottama Rao Dasari has awarded PhD degree under the supervision of **Dr.A.Seshagiri Rao** for thesis titled **"**Analytical design of control strategies for unstable time delay systems" in Oct 2019.

International Visits of the Faculty Members/ students

Dr. Sarath Babu Anne presented a paper on "Energetic and Exergetic Analysis of Chemical Looping Combustion Integrated Coal-Fired Power Plant using Different Oxygen Carriers" International Conference on Sustainable Energy and Green Technology 2019 (SEGT 2019),**Bangkok, Thailand**, Dec 11-14, 2019.

Dr. Anand Kishore K, Renowned Speaker in "World Summit on Advanced Materials and Engineering" - New materials and new technologies, June 20-21, 2019, **Singapore**.

Dr. Manohar Kakunuri presented a paper on "Interaction between Coal-Ash and Iron-Ore in Chemical Looping Combustion" International Conference on Sustainable Energy and Green Technology 2019 (SEGT 2019), **Bangkok, Thailand**, Dec 11-14, 2019.

Dr. A. Seshagiri Rao Visited the Process Dynamics and Operations Group lead by Prof. Engell Sebastian, **Technical University of Dortmund Germany** in May-June 2019.

Mr. Sripadh Guptha. Y., IV year B.Tech Student undergone Internship from 16th May 2019 to 12th August 2019 at **University of Montreal, Canada** under the guidance of Prof. Gaelle Roullin, Title: "Chitosan based nanogels for anti-cancer therapy" Funded by MITACS Globallink fellowship.

Mr. Apurva Bhardwaj, IV year B.Tech Student undergone Internship from 17th May 2019 to 2nd August 2019 at **University of Calgary, Canada** under the guidance of, Prof. Giovanniantonio Natale

Title:"Simulations using Dissipative Particle Dynamics" Funded by MITACS Globallink fellowship.

Mr. Ujwal Kishor Zore, IV year B.Tech Student undergone Internship from 1st May 2019 to 31st July 2019 at **Kagoshima University**, **Japan** under the guidance of Prof. Susumu Nii, Dept. of Chemical Engineering) Topic- "Facile extraction of valuable components from green tea leaves using ultrasound technique and study of its chemical kinetics using MATLAB".

Ms. Alekhya Vutukuri, IV year B.Tech student undergone Internship from 1st May 2019 to 31st July 2019 at Tandon School of Engineering, **Newyork University, USA**. "Optimizing Silver Selenide for use in Infrared Detectors through cation and ligand exchange and fabrication of high-performance solution-processable Silver Selenide thin films".

P. Narsimha, PhD Student presented a paper entitled "Ultrasound assisted synthesis of Cellulose Nanocrystals (CNC) from cotton and its Characterization and Morphological studies" International Conference on **Asia Oceania Sonochemical Society (AOSS4- 2019) China**, Sept 19-21, 2019.

Technical Association Activities

ChEA and IICHE conducted the inaugural ceremony on 14th September, 2019. The inaugural was graced by the Director – N. V. Ramana rao, Prof. K V Jayakumar and all the professors of the chemical engineering department.

As part of Technozion from Nov 1st – Nov 3rd. ChEA and IICHE conducted the chemical events CHEMIVISON, CHEM-E-TEMPORE, CHEM-E-CAR.

ChEA Conducted a Talk on "Insight into the Chemical Engineering world" on 22nd August 2019 hosted **Vadiraj Kulkarni** the Chief Operating officer of ITC Bhadrachalam, an alumni of NITW and now heading the operations part of ITC.

ChEA and IIChe Organized an interaction session to Chemical Engineering students with **Mr. Hamza Kapadia**, Alumni of NITW of Batch 2013-17, currently working in Thorogood Associates as a data analyst, shared his work experience.

As part of the **National Youth Festival celebrations** at NITW, ChEA and IIChE conducted an essay writing competition on **'Youth for Climate Change'**, Group Discussion competition on '**Responsibility of Present Generations to Save Resources for Future Generations'** on 7th and 8th January 2020 at our department respectively. And Cash prizes was awarded to the winners.

ChEA in collaboration with **Azeotropy, IIT Bombay** conducted the zonals of ChemOphilia, the biggest national level chemical engineering quiz. This event was hosted by Vivek Sastry and Sindhuja, the Campus Ambassadors of NITW for Azeotropy 2020.

ChEA and IIChE organized a four day "**Workshop on DWSIM** (Chemical Process Simulator)", with an aim to hone important and relevant industrial skills among our budding engineers. It was taken by **Dr. A. Sarath Babu**, Professor, and Chemical Engineering Department. The workshop attracted participation of over 50 students.

ChEA and IIChE in collaboration with IOCL, as part of the energy conservation and sustainability week, **CONSERVECKA**, Organized events from 4th Feb to 25th Feb to promote energy conservation awareness amongst the masses. The Events are "Rally to promote awareness regarding energy conservation and sustainability", The rally started at 8 AM on 2nd February from New chemical engineering building, NITW to collectorate office. More than 80 students actively participated in the rally and bought informative placards and banners which are theme-friendly. Conducted the Elocution, Essay writing, Blog writing contest, Energy Quiz, Poster making, graffiti art completion with the theme on Energy and The events has seen an appreciable participation, with teams getting creative and jetting out their ideas and at the prizes were distributed to the winners. IIChE team also ventured out into the Government schools of Warangal to conduct an informational session on 'The Role of Renewable Energy Resources in Sustainable Development' on 25th February.

Distinguished Guests visiting the Department/Delivering Expert Lecture/Keynote Address

Prof Sami from University Safax visited the Chemical Engineering Department for one week in Feb 2020 as a part of the Indo Tunisia project.

Prof. Engell Sebastian, Technical University of Dortmund, Germany visited the Chemical Engineering Department on November 29, 2019 and delivered a guest lecture.

Outreach Programmes

Dr. K. Anand Kishore is serving as the member of Technical Committee on "Consent for Establishment (CFE)" of industries in Telangana State by Telangana State Pollution Control Board (TSPCB), Telangana, Hyderabad since February, 2018.

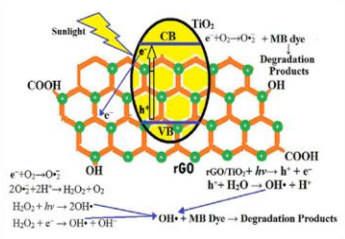
Dr. K. Anand Kishore is serving as the member of Technical Committee on "Consent For Establishment (CFE) – Change of Product Mix (CPM)" of Telangana State Pollution Control Board (TSPCB), Telangana, Hyderabad since February, 2017.

Dr. Anand Kishore K, Serving as a member of "Academic Council", University College of Technology, Osmania University, Hyderabad for a period of three years wef. 4th July, 2019.

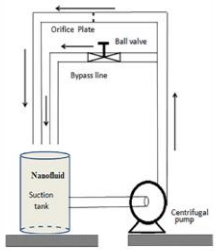
Dr. PV Suresh is a Member of Board of Studies for Chemical Engineering Department of GMRIT Rajam 2015 to till date.

Dr. A. Seshagiri Rao is serving as Executive Committee Member of Automatic Control & Dynamic Optimization Society (ACDOS) which is Indian National Member Organization of International Federation of Automatic Control (IFAC).

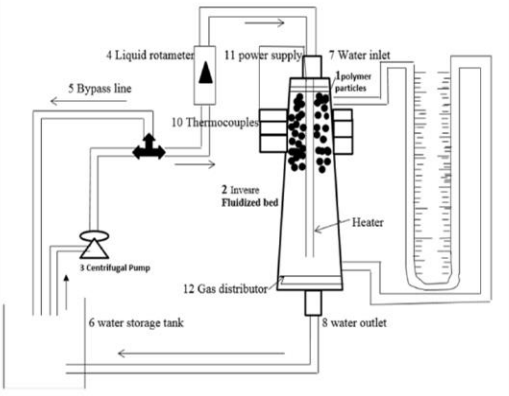
RESEARCH HIGHLIGHTS



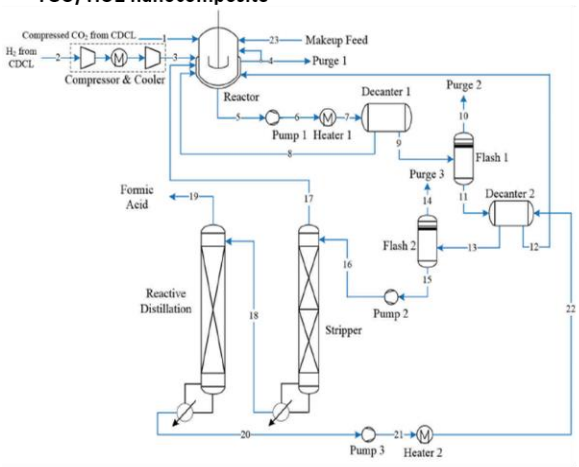
Photocatalytic degradation of MB dye and electron transfer mechanism in presence of ultrasonically prepared rGO/TiO2 nanocomposite



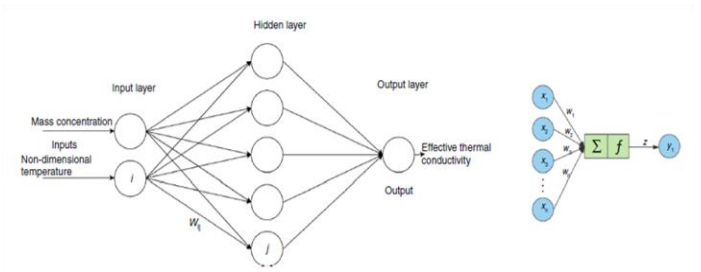
Hydrodynamic Cavitation setup line diagram using for the preparation of nanofluids.



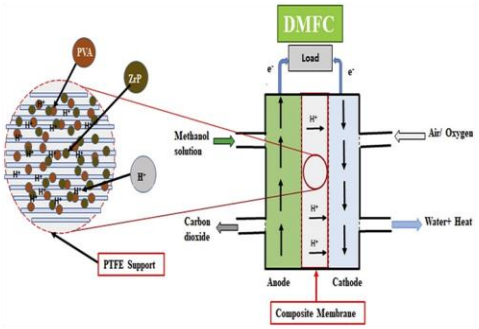
Schematic diagram of tapered inverse fluidized bed



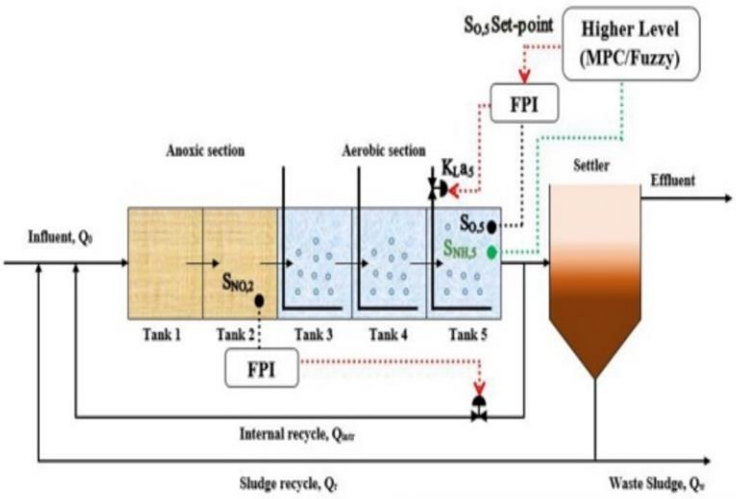
Process flow diagram for the formic acid synthesis from CO_2 and H_2 by using Aspen Plus



ANN topology for the modelling of effective thermal conductivity



PTFE-ZrP-PVA composite membrane for high-temperature direct methanol fuel cell



Design of hierarchical control strategies for biological wastewater treatment plants to reduce operational costs

COMPUTER SCIENCE AND ENGINEERING

About the Department

Department of Computer Science & Engineering is the most sought by students in India and abroad for admissions in to all its programmes. Popularity is gained for its innovative teaching of courses in ever updated curriculum so that top software industries prefer our students. Alumni have spread over the world across MNCs enjoying their positions in top brass and running their own industries. Department was established in 1991 and currently offering B.Tech.(CSE), M.Tech.(CSE), M.Tech.(CSIS), MCA and Ph.D by following pedagogical and technological methods to address the ever advancing courses.

Department has its associated centre of excellence in Big Data, High Performance Computing Cluster Lab, resource centre under ISEA project of MeitY and E&ICT academy of MeitY offering FDPs to the nation both in direct teaching and also through National Knowledge Network. High profile ethics, culture and values are imparted to drive individuals towards exploring themselves in their field of interest. It offers a global exposure to the students enabling them to collaborate with other institutes and expand their horizons. World class facilities, collaborative faculty and Centre of excellences offer vast scope for the students towards lifelong learning

Focused areas of teaching are from general problem-solving techniques to algorithm design; covering all the core courses that enable students to comprehend the functionalities of system software, application software, design of databases, design of compilers and software, communication protocols and computational strategies, convolutional methods of advanced learning; offering thrust courses as electives from time to time with practices on mod-ern tools on state-of-art computing platforms and infrastructure.

Annual Yields:

Laureates have emerged with immense achievements Start-ups are another major sector taken up by the students that forms a platform for the implementation of new ideas through young minds. Around 95% of students endure into careers in renowned industry and academia in India and abroad.

Vision	Mission
Attaining global recognition in Computer Science & Engineering education, research and training to meet the growing needs of the industry and society.	• Imparting quality education through well-designed curriculum in tune with the challenging software needs of the industry. • Providing state-of-art research facilities to gener-ate knowledge and develop technologies in the thrust areas of Computer Science and Engineer-ing. • Developing linkages with world class.

Department of Computer Science and Engineering

Faculty

Dr. P Radha Krishna
Professor and Head

Areas of Interest: Data Mining, Machine Learning, Big Data, Databases and workflow Systems

Dr. DVLN Somayajulu
Professor (HAG)

Areas of Interest: Databases, Information Extraction, Query Processing, Big Data and Privacy

Dr. B. B. Amberker
Professor

Areas of Interest: Cryptosystems and Signature schemes, Pairing Based Cryptography, Game Theory, Secure Multiparty Computations

Dr S G Sanjeevi
Professor

Areas of Interest: Machine Learning and Soft Computing; Artificial Intelligence, Software Engg

Dr. R.B.V. Subramaanyam
Professor

Areas of Interest: Data Mining, Big Data Analytics, Fuzzy Data Mining, Graph Databases; Machine Learning.

Dr. K. Ramesh
Associate Professor

Areas of Interest: Architectures and Coding infrastructures in Computer Networks, Service-oriented, Distributed, Secured, Cluster and Cloud Computing

Dr. Ch. Sudhakar
Associate Professor

Areas of Interest: Cloud Computing, Distributed Systems, High Performance Computing, Operating Systems

Dr. S. Ravi Chandra
Associate Professor

Areas of Interest: Software Engineering, Design Patterns, Software Architecture, , Service Oriented Architecture, Cloud Computing, Privacy Preserving

Dr. R. Padmavathy
Associate Professor

Areas of Interest: Cryptanalysis and Network Security

Dr. Rashmi Ranjan Rout
Associate Professor

Areas of Interest: Computer Networks, Mobile Computing; Wireless Ad-hoc and Sensor Networks; Internet of Things, Network Security

COMPUTER SCIENCE AND ENGINEERING

Dr. T. Ramakrishnudu
Assistant Professor
Areas of Interest: Association Rule Mining; Distributed Data Mining; Big Data; Web Mining; Databases; Web Technologies;

Dr. Raju Bhukya
Assistant Professor
Areas of Interest: Software Engineering, Bioinformatics, Computer Organization

Dr.U.S.N. Raju
Assistant Professor
Areas of Interest: Computer Vision and Image Processing

Dr. K.V. Kadambari
Assistant Professor
Areas of Interest: Computational Neuroscience, Modeling and simulation, ML, AI, Neuro Imaging.

Dr. P. Venkata Subba Reddy
Assistant Professor
Areas of Interest: Algorithms and Graph Theory

Dr. Manjubala Bisi
Assistant Professor
Areas of Interest: Software Reliability Modeling and Prediction, Machine Learning, Soft Computing

Dr. Earnest Paul Ijjina
Assistant Professor
Areas of Interest: Computer Vision, Machine Learning, Soft Computing, Video Content Analysis, Deep Learning

Dr. Sushil Kumar
Assistant Professor
Areas of Interest: Soft Computing, Metaheuristics, Image Processing, Nature Inspired Algorithms

Dr. E Suresh Babu
Assistant Professor
Areas of Interest: Wireless Networks, Internet of Things, Security, Cryptography, Blockchain Technology

Dr. M Sandhya
Assistant Professor
Areas of Interest: Bio-metrics, Image Processing, Pattern Recognition

COMPUTER SCIENCE AND ENGINEERING

Dr. M Srinivas
Assistant Professor

Areas of Interest: Medical Imaging, Machine Learning, Computer Vision, Deep Learning

Dr. Iiaiah Kavati
Assistant Professor

Areas of Interest: Bio-metrics, Image Processing, Machine Learning, Internet of Things

Dr. Sujit Das
Assistant Professor

Areas of Interest: Fuzzy Set, Evolutionary Computation, Robust and Optimal Decision using Soft Computing

Dr. Sanjaya Kumar Panda
Assistant Professor

Areas of Interest: cloud computing, grid computing, Recommender Systems

Dr. Balaprakasa Rao Killi
Assistant Professor

Areas of Interest: Network Optimization, Reliable Network Design

Dr. Venkateswara Rao Kagita
Assistant Professor

Areas of Interest: Recommender Systems, Machine Learning, Data Mining

Dr. Ramalingaswamy Cheruku
Assistant Professor

Areas of Interest: Soft Computing, Optimization, Deep Learning, ANNs, Machine Learning, Bio & nature inspired algorithms for WSNs, Data Mining, Fuzzy logic

Dr. Sangharatna Godboley
Assistant Professor

Areas of Interest: Program Analysis and Software Testing

Peer-Reviewed International Journal Publications

- J. Pavan Kumar , P. Venkata Subba Reddy and S. Arumugam, Algorithmic Complexity of Secure Connected Domination in Graphs, AKCE International Journal of Graphs and Combinatorics,2020 pp. 1-4, Taylor & Francis.
- J. Pavan Kumar and P. Venkata Subba Reddy Algorithmic Aspects of Secure Connected Domination in Graph Discussiones Mathematicae Graph Theory, 2019, PP.1-19, https://doi.org/10.7151/dmgt.2260
- J. Pavan Kumar and P. Venkata Subba Reddy Algorithmic Aspects of Some Variants of Domination in Graphs Analele Stiintifice ale Universitatii Ovidius Constanta, Seria Matematica (Accepted)
- Surabhi Vijh,Deepak Gaur, Sushil Kumar An intelligent lung tumor diagnosis system using whale optimization algorithm and support vector machine International Journal of System Assurance Engineering and Management volume 11, pages374–384(2020)
- Sai Krishna Mothku, Rashmi Ranjan Rout, Markov Decision Process and Network Coding for Reliable Data Transmission in Wireless Sensor and Actor Networks Pervasive and Mobile Computing (Elsevier), May 2019, Vol 56, Pages 29-44.
- Greeshma Lingam, Rashmi Ranjan Rout, D. V. L. N. Somayajulu Adaptive deep Q-learning model for detecting social bots and influential users in online social networks Applied Intelligence (Springer), Nov 2019, Vol 49, Issue 11, Pages 3947-3964.
- Satish Vemireddy, Rashmi Ranjan Rout, Clustering based energy efficient multi-relay scheduling in green vehicular infrastructure, Vehicular Communications (Elsevier), 2020, Vol 25.
- Mekala Srinivasa Rao, Erukala Suresh Babu, P. Siva Naga Raju , Ilaiah Kavati, SmartAgriculture: Automated Controlled Monitoring System using Internet of Things International Journal of Recent Technology and Engineering, 2019.
- E Suresh Babu, C Nagaraju, MHMK Prasad, IPHDBCM: Inspired Pseudo Hybrid DNA Based Cryptographic Mechanism to Prevent against Collaborative Black Hole Attack in Wireless Ad hoc Networks Cryptography: Breakthroughs in Research and Practice
- T Chandrasekhara Reddy, Ilaiah Kavati, Pinnap Pranathi, A Mallikarjun Reddy, G Vishnu Murthy, Biometric template security using convex hulls features Journal of Computational and Theoretical Nanoscience, 2019, 16 (5-6), 1947-1950
- Sanjaya Kumar Panda, Sourav Kumar Bhoi and Munesh Singh, A Collaborative Filtering Recommendation Algorithm Based on Normalization Approach Journal of Ambient Intelligence and Humanized Computing, 2020, 1-23
- Sohan Kumar Pande, Sanjaya Kumar Panda and Satyabrata Das. Dynamic Service Migration and Resource Management for Vehicular Clouds, Journal of Ambient Intelligence and Humanized Computing, 2020, 1-21
- Sunkuru Gopal Krishna Patro, Brojo Kishore Mishra, Sanjaya Kumar Panda, Raghvendra Kumar, Hoang Viet Long, David Taniar and Ishanni Priyadarshini A Hybrid Action-Related K-Nearest Neighbour (HAR-KNN) Approach for Recommendation Systems IEEE Access, 2020, 8, 90978-90991
- Sourav Kumar Bhoi, Sanjaya Kumar Panda, Kalyan Kumar Jena, Chittaranjan Mallick and Akhtar Khan A Fuzzy Approach to Identify Fish Red Spot Disease Grey Systems: Theory and Application, 2020, 10(3), 249-263
- Sunkuru Gopal Krishna Patro, Brojo Kishore Mishra, Sanjaya Kumar Panda, Raghvendra Kumar and Hoang Viet Long Knowledge-Based Preference Learning Model for Recommender System Using Adaptive Neuro-Fuzzy Inference System, Journal of Intelligent and Fuzzy Systems, 2020, 1-15
- Chittaranjan Mallick, Sourav Kumar Bhoi, Sanjaya Kumar Panda and Kalyan Kumar Jena, An Efficient Learning Algorithm for Periodic Perceptron to Test XOR Function and Parity Problem SN Applied Sciences, 2020, 1-6
- Thakkalapally Preethi, B. B. Amberker, Lattice-based group signature scheme without random oracle. Inf. Secur. J. A Glob. Perspect. 29(6): 366-381 (2020)
- Sujit Das, Bikash Koli Roy, Mohuya B Kar, Samarjit Kar, Dragan Pamučar Neutrosophic fuzzy set and its application in decision making, Journal of Ambient Intelligence and Humanized Computing, 2020, DOI: https://doi.org/10.1007/s12652-020-01808-3
- Jagannath Roy, Sujit Das, Samarjit Kar, and Dragan Pamučar An Extension of the CODAS Approach Using Interval-Valued Intuitionistic Fuzzy Set for Sustainable Material Selection in Construction Projects with Incomplete Weight Information Symmetry 2019, 11, 393; DOI:10.3390/sym11030393
- Amalendu Si, Sujit Das, and Samarjit Kar, An approach to rank picture fuzzy numbers for decision making problems, Decision Making: Applications in Management and Engineering, 2019,DOI: https://doi.org/10.31181/dmame1902049s
- Avijit De, Pradip Kundu, Sujit Das, Samarjit Kar, A ranking method based on interval type-2 fuzzy sets for multiple attribute group decision making Soft Computing, 2019, DOI: https://doi.org/10.1007/s00500-019-04285-9
- Avijit De, Sujit Das, Samarjit Kar Multiple attribute decision making based on probabilistic interval-valued intuitionistic hesitant fuzzy set and extended TOPSIS method, Journal of Intelligent & Fuzzy Systems, 2019, DOI: 10.3233/JIFS-190205
- Sumalatha Saleti, R.B.V.Subramanyam, Distributed mining of high utility time interval sequential patterns using MapReduce approach Expert Systems with Applications, Elsevier, 141:1-24, 2019 DOI: 10.1016/j.eswa.2019.112967
- Sumalatha Saleti, R.B.V.Subramanyam, A MapReduce solution for incremental mining of

sequential patterns from big data, Expert Systems with Applications, Elsevier, 133:109-125, 2019

- Nagesh Bhattu Sristy, Avinash Potluri, Prashanth Kadari, R.B.V. Subramanyam, Generalized Communication cost Efficient Multi-Way Spatial Join: Revisiting the Curse of the Last Reducer, GeoInformatica – Springer, ISSN: 1384-6175, 2020
- Shubham D, Damodar, Annushree B, Ramalingaswamy Cheruku Lie detection using extreme learning machine: A concealed information test based on short-time Fourier transform and binary bat optimization using a novel fitness function Computational Intelligence 36(2): 637-658, 2020
- D. Himaja, T. M. Padmaja and P. Radha Krishna, A Study on Class Imbalancing Feature selection and Ensembles on Software Reliability Prediction, International Journal of Open Source Software and Processes (IJOSSP), IGI Global, Vol. 10, No. 4, pp. 20-43, 2019. manuscript #050719-054843
- Shubham Varshney, C Pankaj , R.Padmavathy and S.K. Pal Relation Collection using Pollard special−q sieving to solve Integer Factorization and Discrete Logarithm Problem Jounal of Supercomputing, DOI: 10.1007/s11227-020-03351-6, published online 02-07-2020
- Spoorthi K S, R. Padmavathy, S K Pal and S. Ravi Chandra Linear Algebra on Parallel Structures using Wiedmann Algorithm to solve Discrete Logarithm Problem IETE Journal of Research, Published online 2019, DOI: 10.1080/03772063.2019.1703832
- Vinod Mahor , R.Padmavathiy, Santanu Chatterjee, Sanshray Kumar Dewangan , Manish Kumar, A secure three factor fully anonymous user authentication protocol for multi-server environment, International journal of Adhoc and Ubiquitous Computing,pp 45-60,v34(1), 2020
- Yadav, Milind, Murukessan Perumal, and M. Srinivas Analysis on novel coronavirus (COVID-19) using machine learning methods Chaos, Solitons & Fractals, Elsevier
- R. Ramu Naidu, M. Srinivas and C.S. Sastry, Ternary matrices compliant with Restricted Isometry Property: Construction and Application to image retrieval Journal of Combinatorics, Information and System Sciences
- CM Dasari, R Bhukya, InterSSPP: Investigating patterns through interpretable deep neural networks for accurate splice signal prediction Chemometrics and Intelligent Laboratory Systems, 104144
- CM Dasari, R Bhukya, Comparative analysis of protein synthesis rate in COVID-19 with other human coronaviruses Infection, Genetics and Evolution 85, 104432
- Santhosh Amilpur, Raju Bhukya, EDeepSSP: Explainable deep neural networks for exact splice sites prediction, Journal of Bioinformatics and Computational BiologyVol. 18, No. 04, 2050024 (2020).
- Rashmi Ranjan Rout, Greeshma Lingam, DVLN Somayajulu, Detection of Malicious Social Bots Using Learning Automata With URL Features in Twitter Network, IEEE Transactions on Computational Social Systems, Vol 7, Issue 4, 2020, Date of pub. 14th May 2020
- Rashmi Ranjan Rout, Satish Vemireddy, Sanjib Kumar Raul, DVLN Somayajulu, Fuzzy Logic-based Emergency Vehicle Routing: An IoT System Development for Smart City Applications, Computers and Electrical Engineering (Elsevier), 2020 (Accepted).
- A Sudarshan Chakravarthy, Ch Sudhakar, T Ramesh, Intermediate Node Selection for Scatter-Gather VM Migration in Cloud Data Center, Journal of Engineering Science and Technology, 2020.
- Mallikarjun Reddy Dorsala, V.N. Sastry, Sudhakar Chapram, Fair Payments for Verifiable Cloud Services Using Smart Contracts Journal of Computers & Security, vol. 90 - 101712, 2020.
- A Sudarshan Chakravarthy, Ch Sudhakar, T Ramesh, Energy Efficient VM Scheduling and Routing in Multi-Tenant Cloud Data Center, Journal of Sustainable Computing: Informatics and Systems, vol. 22, 139-151, 2019.
- Paleti Lakshmikanth, J V R Murthy, P. Radha Krishna, Approaching the Cold-Start problem using Community Detection based Alternating Least Square Factorization in Recommendation Systems, Evolutionary Intelligence, Springer 2020 (Accepted - EVIN-D-20-00088R1).
- P.Lalitha Kumari, S.G.Sanjeevi, T.V.Madhusudhana Rao, Towards efficient mining of periodic high utility itemsets in large databases, International Journal of Recent Technology and Engineering (IJRTE.), Dec 2019.
- Balaprakasa Rao Killi, Seela Veerabhadreswara Rao, Poly-stable matching based scalable controller placement with balancing constraints in SDN, Elsevier Computer Communications, Feb 2020.

Peer-Reviewed International

- J. Pavan Kumar and P. Venkata Subba Reddy, Algorithmic Complexity of Isolate Secure Domination in Graphs, International Conference on Graph Theory and its Applications (ICGTA-2019), Chennai, November 20-21, 2019.
- Surbhi Vijh ; Deepak Gaur ; Sushil Kumar, Diet Recommendation for Hypertension Patient on basis of Nutrient using AHP and Entropy , CONFLUENCE-2020
- Lingam Greeshma, Rashmi Ranjan Rout, DVLN Somayajulu, Deep Q-Learning and Particle Swarm Optimization for Bot Detection in Online Social Networks, 10th International Conference on Computing, Communication and Networking

Technologies (10th ICCCNT 2019). IIT - Kanpur, India. July 6-8, 2019.

- Earnest Paul Ijjina, Dhananjai Chand, Savyasachi Gupta and Goutham K, Computer Vision-based Accident Detection in Traffic Surveillance, IEEE International Conference on Computing, Communication and Networking Technologies (ICCCNT 2019), IIT Kanpur, 6-8 July 2019
- Earnest Paul Ijjina and Sanjay Kumar Sharma, Accident detection from dashboard camera video, IEEE International Conference on Computing, Communication and Networking Technologies (ICCCNT 2019), IIT Kanpur, 6-8 July 2019
- Mulagala Sandhya, Mulagala Dileep, Akurathi Narayana Murthy, Md. Misbahuddin, Fingerprint Cryptosystem Using Variable Selection of Minutiae Points, In: Proceedings of International Conference on Data Engineering and Communication Technology, Advances in Intelligent Systems and Computing Series, Springer, pp. 359-369, 2019.
- Sanjib Kumar Nayak, Sanjaya Kumar Panda, Satyabrata Das and Sohan Kumar Pande, A Renewable Energy-Based Task Consolidation Algorithm for Cloud Computing, Electric Power and Renewable Energy Conference, LNEE, NIT Jamshedpur, 29th and 30th May 2020
- Sanjib Kumar Nayak, Sanjaya Kumar Panda and Satyabrata Das, Renewable Energy-Based Resource Management in Cloud Computing: A Review, First International Conference on Advances in Distributed Computing and Machine Learning, VIT Vellore, 30-31st January 2020
- Santosh Kumar Sahu, Durga Prasad Mohapatra and Sanjaya Kumar Panda, A Self-Trained Support Vector Machine Approach for Intrusion Detection, First International Conference on Advances in Distributed Computing and Machine Learning, VIT Vellore, 30th and 31st January 2020
- Sunkuru Gopal Krishna Patro, Brojo Kishore Mishra, Sanjaya Kumar Panda, Raghvendra Kumar and Atithee Apoorva, Hybrid Social Recommender Systems for Electronic Commerce: A Review, International Conference on Computer Science, Engineering and Applications, GIET, Gunupur, 13th and 14th March 2020
- Aditya Narayan Singh, Jose Mrudula, Ritik Pandey, Sujit Das, A Comparative Study of Four Genetic Algorithm based Crossover Operators for Solving Travelling Salesman Problem, Proceedings of International Conference on Advances in Systems, Control and Computing (AISCC), Jaipur, February 27-28, 2020, To be published in Springer Proceedings.
- Amalendu Si, Sujit Das, Samarjit Kar, Extension of TOPSIS and VIKOR method for decision making problems with picture fuzzy number, Proceedings of the Global AI Congress (GAIC), Kolkata, September 12–14, 2019, Advances in Intelligent Systems and Computing, vol 1112. Springer, pp 563-577
- Manjubala Bisi and Shubham Patel, A BPSO-ANN model for Trust Prediction of Cloud Services, IEEE Global Conference for Advancement in Technology (GCAT) , Bangalore, OCT 18-20 2019
- Avinash Potluri, S. Nagesh Bhattu, N. V. Narendra Kumar, and R. B. V. Subramanyam, Design Strategies for Handling Data Skew in MapReduce Framework, ICICIT 2019, LNNS 98, pp. 240–247, 2020, Springer Lecture Notes in Networks and Systems 2020
- Avinash Potluri, S. Nagesh Bhattu, N. V. Narendra Kumar, and R. B. V. Subramanyam, Digital Crop: Maximizing the Utility using Geo-Spatial Query Processing Systems and more, 34th Indian Engineering Congress, 2019,
- Chaitanya Kanchibhotla, Pruthvi Raj Venkatesh, DVLN Somayajulu, and P Radha Krishna, An Efficient Cloud-Based Framework for Digital Media Knowledge Extraction, IEEE International Conference on Big Data (IEEE Big Data 2019) (Industry Paper), Los Angeles, CA, USA, December 9-12, 2019.
- Syed Juned Ali, P. Radha Krishna and Kamalakar Karlapalem, A Data Logistics System for Internet of Things, Doctoral symposium, IEEE World Congress on Services (IEEE SERVICES 2019), Milan, Italy, July 8-13, 2019.
- D. Himaja, T. Maruthi Padmaja and P. Radha Krishna, An Unsupervised Drift Detector for Online Imbalanced Evolving Streams, 8th International Conference on Data Science, Technology and Applications (DATA 2019), Czech Republic, July 26-28, 2019.

Funded Research Projects

- Dr Raju Bhukya, Science & Engineering Research Board, Department of Science and Technology, India - 30,50,140/-
- Dr Sudhakar, Dr. S Ravichandra & Dr Rashmi Ranjan Rout, A courseware development (Advanced OS Design), ISEA Project phase II, 147000/-

FDPs/ Worskhop/ Seminar Conducted

The Deparment has conducted 50+ Faculty Depevelopment Programme, 5+ National Knowledge Network Programme through E&ICT Academcy and TEQIP-III and 5+ ATAL programmes.

COMPUTER SCIENCE AND ENGINEERING

Achievements / Awards /Innovations

- CSE students won the National level Smart India Hackathon 2020 held at SAGE University, Indore.

We keep our hands on

Five laboratories are meant for curriculum based laboratory courses. Cognos, Clementine, Oracle, NS3 simulator, MATLAB, Rational Rose, IBM test suit, QualNet are a few to list here among several software available besides open source used in the labs. Several Computational Infrastructure are 8+1 node HPC cluster, High-end servers each worth Rs.40 lakhs are meant for students to do their projects. Department has its exclusive research lab spaces for research in Data Mining, Big Data, Cloud Computing, Internet of Things, Image Processing, Deep Learning. It is well supported by experienced trained technical staff by maintaining servers supporting Microsoft Windows, Linux and VM Ware based servers. Department has uninterrupted power, internet access and servers are accessible from Hostels too. The department's major Academic laboratories are:

- Computing Laboratory
- Data Engineering Laboratory
- Open Source Development Laboratory
- Software Engineering Laboratory
- Wireless and Security Laboratory
- Mini Centre of Excellence - Centre for Big Data with 1 crore fund

Experiential Learning: 80% of our courses are associated with laboratory works and students are trained to learn-by-practice. Students enjoy their projects at Institute Garage with work - play –innovate. They outperform others in hackathon like code-fun-do ++ and get easily well paid interns.

Highlights of the Department

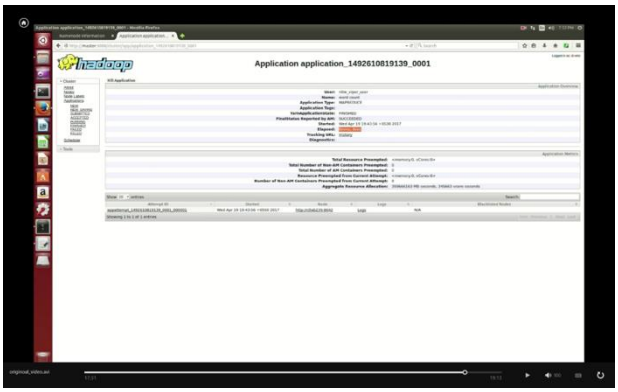
- Top 1200 rankers in JEE have chance to join our UG programme
- 560 students are on rolls.
- 96% of students place in reputed MNCs
- 50+ research scholars in the department
- 10% graduate students are pursuing their Master's degree or Ph.D. degrees at later stage.
- 28 Doctorate faculty members teach innovatively with research expertise.
- Receive up to 1 Crore p.a. fund for research
- MoUs in live help department to grow
- Alumni are Vice-Presidents, CEOs, Eminent Professors, and Entrepreneurs.

ACM Student Activities and MOU

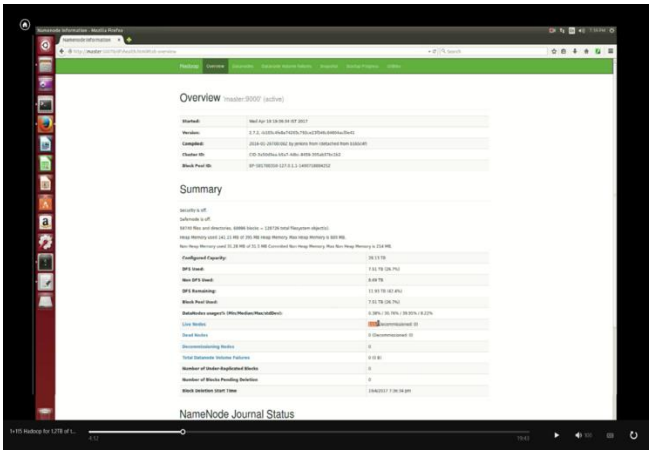
Research Highlights

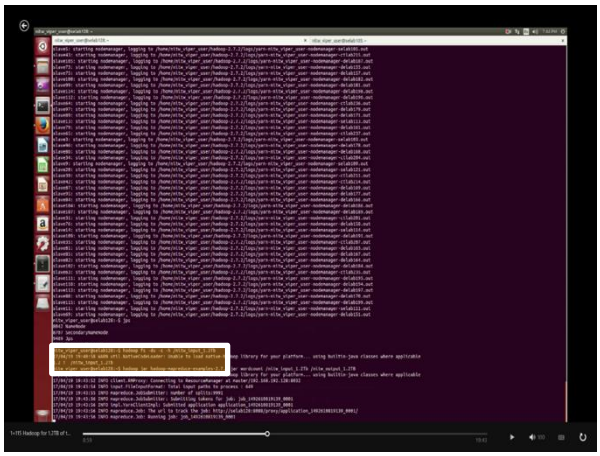
By using **commodity hardware**, a Hadoop cluster with **116 Systems** is configured.

- With this, a total of 28.13 TB of HDFS (Hadoop Distributed File System) is generated.
- Replication factor of 10 is used for data.
- With this cluster, by using Map Reduce paradigm, 1.2 TB of text data is processed in **8 mins 8 secs.**



Node Type	Ram Size	Processor	CPU Cores	Processor Speed	Operating System	Hadoop Version	Location
Master	8GB	Intel i7-4790	8	3.60GHz	Ubuntu (14.04)-64	2.7.2	S.E. Lab
Slave1-Slave30	8GB	Intel i7-4790	8	3.60GHz	Ubuntu (14.04)-64	2.7.2	S.E. Lab
Slave31-Slave68	4GB	Intel i7-4770	8	3.40GHz	Ubuntu (14.04)-64	2.7.2	C.T. Lab
Slave69-Slave115	4GB	Intel i7-4770	8	3.40GHz	Ubuntu (14.04)-64	2.7.2	D.E. Lab





Department of Biotechnology

The Department of Biotechnology was established in the year 2006 with B.Tech program in Biotechnology with the sanctioned intake of 87 students. It also offers Doctoral program in Biotechnology. Recently, the department has started M.Tech Biotechnology with intake of 20 students from academic year 2020-21. At present there are 20 faculty members including 04 experienced Associate Professors and 16 young and dynamic assistant professors with diverse areas of research. At present 24 PhD scholars are carrying out their research work under the guidance of faculty in the department. The department has sophisticated instruments such as RT-PCR, HPLC, GC etc. The department has already executed research projects and at present it has 10 research projects to the tune of 3.5 crores funded by DBT/DST/ICMR/CSIR, Govt. of India.

The faculty of the department has research interest in diversified areas of Biotechnology. The department has proposed two centres of excellence (Centre for Cellular & Omics Research and Centre for Bioenergy & Environmental Research) based on the expertise of the faculty under HEFA.

BIOTECHNOLOGY

Faculty Profile:

Dr.R.Satish Babu
Associate Professor & Head

Areas of Research:
Bioprocess Engineering,
Modelling & Simulation

Dr. Parcha Sreenivasa Rao
Associate Professor

Areas of Research:
Stem Cell Engineering,
Metabolic Engineering.

Dr. P Onkara Perumal
Associate Professor

Areas of Research:
Bioinformatics & Computational Biology

Dr.Korrapati Narasimhulu
Associate Professor

Areas of Research:
Environmental Biotechnology,
Modelling & Simulation

Dr. Amitava Bandhu
Assistant Professor

Areas of Research:
Studies on gene regulation in Mycobacteria

Dr. B Rama Raju
Assistant Professor

Areas of Research:
Metabolic Engineering, Bio fuels and Biomaterials

BIOTECHNOLOGY

Dr. V. Kohila
Assistant Professor

Areas of Research:
Cancer gene therapy, Marine biotechnology, Bioinformatics

Dr. Asim Bikas Das
Assistant Professor

Areas of Research:
Network system biology; Signaling pathways in cancer

Dr. Urmila Saxena
Assistant Professor

Areas of Research:
Nanobiotechnology and Medical Biosensors

Dr. Prakash Saudagar
Assistant Professor

Areas of Research:
Molecular and Biochemical parasitology

Dr. P Shyam
Assistant Professor

Areas of Research:
Bioinformatics, Systems biology, Next Generation Sequencing,

Dr. M Jerold
Assistant Professor

Areas of Research:
Biofuels; Biosorption; Wastewater Treatment.

Dr. P Anbumathi
Assistant Professor

Areas of Research:
Systems Biology; Mathematical Modeling and Simulation

Dr. D Rathnaprabha
Assistant Professor

Areas of Research:
Plant Biotechnology and Molecular biology,

Dr. Soumya Lipsa Rath
Assistant Professor

Areas of Research:
Computational Biophysics

BIOTECHNOLOGY

Dr. Surajbhan Sevda
Assistant Professor

Areas of Research:

Bioelectrochemical System
Biological Wastewater Treatment

Dr.Priya P
Assistant Professor

Areas of Research:

Cell Biology, Epigenetics

Dr. Thyageshwar Chandran
Assistant Professor

Areas of Research:

Structural Biology

Dr. Chockalingam. S
Assistant Professor

Areas of Research:

Cell Signaling, Cancer Biology

Dr. Ashish A Prabhu
Assistant Professor

Areas of Research:

Metabolic Engineering; Bioprocess Engineering; Biomass and Biorefinery; Therapeutic

Publications: (in peer reviewed journals)

Durthi, Chandrasai P.,R.Satish Babu, "Versatile and Valuable Utilization of Amidohydrolase L-glutaminase in Pharma and Food industries: A Review." *Current Drug Metabolism* 21.1 (2020): 11-24. (Impact factor: 2.5)

Birru, Bhaskar, et al. "Stem Cells in Tumour Microenvironment Aid in Prolonged Survival Rate of Cancer Cells and Developed Drug Resistance: Major Challenge in Osteosarcoma Treatment." Current Drug Metabolism 21.1 (2020): 44-52. (Impact factor: 2.5)

Nadeem Siddiqui, Sanjay Madala, **Sreenivasa Rao Parcha** and Sarada Prasanna Mallick "Osteogenic differentiation ability of human mesenchymal stem cells on Chitosan/Poly (Caprolactone)/nano beta Tricalcium Phosphate composite scaffolds" Biomed. Phys. Eng. Express 6 2020

Bhaskar, B., N. Mekala, and **Sreenivasa Rao Parcha** "Mechanistic role of perfusion culture on bone regeneration". Journal of Biosciences, 2019

Pola, Madhuri, Chandrasai Potla Durthi, and Satish Babu Rajulapati, "Modeling and Optimization of L-Asparaginase production from novel Bacillus stratosphericus by soft computing techniques." Current Trends in Biotechnology and Pharmacy 13.4 (2019): 438-447.

BIOTECHNOLOGY

Pola, Madhuri, et al. "Multi Gene Genetic Program Modelling on L-Asparaginase Activity of Bacillus Stratosphericus." Chemical Product and Process Modeling (2019).

B. Sumithra, Urmila Saxena, Asim Bikas Das. A comprehensive study on genome-wide coexpression network of KHDRBS1/Sam68 reveals its cancer and patient-specific association. Scientific Reports, 2019, 9, 11083. SCI (IF: 4.011)

VSPK Sankara Aditya Jayanthi, Asim Bikas Das, Urmila Saxena. Grade-specific diagnostic and prognostic biomarkers in breast cancer. Genomics, 2020, 112,388-396. SCI (IF: 3.16)

Asim Bikas Das*. Disease association of human tumor suppressor genes. Molecular Genetics and Genomics, 2019, 294, 931-940. SCI (IF: 2.879) Aug2019

Qiankun Niu , Wei Wang , Zhe Wei , Boseon Byeon , Asim Bikas Das , Bo-Shiun Chen , Wei-Hua Wu. Role of the ATP-dependent chromatin remodeling enzyme Fun30/Smarcad1 in the regulation of mRNA splicing. Biochem Biophys Res Commun, 2020 May 28; 526(2):453-458.SCI. (IF: 2.705) may 2020

Shweta Raj, Santanu Sasidharan, S. N. Balaji, V.K. Dubey and Prakash Saudagar, Review on natural products as an alternative to contemporary anti-leishmanial therapeutics. Journal of Proteins and Proteomics.2020. SCOPUS. 2020. SCI. (IF: 2.931)

Santanu Sasidharan and Prakash Saudagar, Concerted motion of structure and active site charge is required for tyrosine aminotransferase activity in Leishmania parasite. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy.2020 SCI. (IF: 2.931)

Bohra Nitin, Santanu Sasidharan, Shweta Raj, S. N. Balaji, and Prakash Saudagar. Utilising capsid proteins of poliovirus to design a multi-epitope based subunit vaccine by immunoinformatics approach. Molecular Simulation. 2020. SCI. (IF: 1.782)

Mittal Ayushi, Santanu Sasidharan, Shweta Raj, S. N. Balaji, and Prakash Saudagar, Exploring the Zika Genome to Design a Potential Multiepitope Vaccine Using an Immunoinformatics Approach. International Journal of Peptide Research and Therapeutics. 2020. SCI. (IF:1.2.19)

Bharath, B., Sasidharan, S., S. K. Bhamidipati, and Prakash Saudagar. Green-Synthesized FeSO4 Nanoparticles Exhibit Antibacterial and Cytotoxic Activity by DNA Degradation. Current pharmaceutical biotechnology. 2020. SCI. (IF:1.516)

Raj, S., G. Saha, Santanu Sasidharan, V.K. Dubey, and Prakash Saudagar, Biochemical characterization and chemical validation of Leishmania MAP Kinase-3 as a potential drug target. Scientific Reports. 2020. SCI. (IF: 4.525)

Santanu Sasidharan and Prakash Saudagar, Biochemical and structural characterization of tyrosine aminotransferase suggests broad substrate specificity and a two state folding mechanism in Leishmania donovani. FEBS open bio. 2019. SCI. (IF: 2.021)

Raj, Shweta, Santanu Sasidharan, Vikash Kumar Dubey, and Prakash Saudagar. Identification of lead molecules against potential drug target protein MAPK4 from L. donovani: An in-silico approach using docking, molecular dynamics and binding free energy calculation. PloS one. 2019. SCI. (IF: 2.875)

Ramakanth Pagadala, Venkatesan Kasi, Shyam Perugu, Iodine-catalyzed ultrasound-assisted construction of pyridines and their glutamine synthetase molecular docking. Journal of the Chinese Chemical Society. DOI.10.1002.2019. 00389. 2020. SCI. (IF: 1.5)

Santhoshi Rani Nanchari, Shyam Perugu, Vijayalakshmi Venkatesan, Molecular Docking Studies to Understand the Potential Role of Ginger Compounds (6-Gingeroland 6-Shogaol) on Anti-Angiogenic and Anti-Lymphangiogenic Mechanisms. International Journal of Chemistry, 12, 1, 2020. SCI. (IF: 1)

R. Matta, B. Shankar, P. Jalapathi, Shyam Perugu, Synthesis, Antibacterial Activity, and Cytotoxicity of Newly Synthesized N-Substituted 5, 6-Dimethoxy-1H-indole Derivatives. Russian Journal of General Chemistry, 89, 7, 1496–1501. 2019. SCI. (IF: 1.8)

Surajbhan Sevda,Vijay Kumar Garlapati, Sunandan Naha, Mohita Sharma, Sreemoyee Ghosh Ray, T R Sreekrishnan, Pranab Goswami, Biosensing

capabilities of bioelectrochemical systems towards sustainable water streams: Technological implications and future prospects. Journal of Biosciences and Bioengineering, 2020, 121 (6), 647-656.

Shiv Prasad , Anoop Singh , Nicholas E. Korres , Dheeraj Rathore , Surajbhan Sevda, Deepak Pant. Sustainable utilization of crop residues for energy generation: A life cycle assessment (LCA) perspective. Bioresource Technology, 2020, 303, 122964.

Sunandan Naha, Chetan Joshi, B Chandrashekhar, T R Sreekrishnan, PranabGoswami & Surajbhan Sevda, A short review on bioelectrosynthesis of organic and inorganic chemicals in bioelectrochemical system. ASCE's Journal of Hazardous, Toxic, and Radioactive Waste, 2020. 24(2)

Bhaskar Birru, ChandraSai Potla Durthi, Santhosh Kacham, Madhuri Pola, Satish Babu Rajulapati, **Sreenivasa Rao Parcha**, Mohammad Amjad Kamal "Stem Cells in Tumour Microenvironment Aids for Prolonged Survival Rate of Cancer Cells and Developed Drug Resistance: Major Challenge in Osteosarcoma Treatment´ Current Drug Metabolism, February, 2020

Nadeem Siddiqui, Sanjay Madala, **Sreenivasa Rao Parcha** and Sarada Prasanna Mallick "Osteogenic differentiation ability of human mesenchymal stem cells on Chitosan/Poly (Caprolactone)/nano beta Tricalcium Phosphate composite scaffolds" Biomed. Phys. Eng. Express 6 (2020) 015018

Bhaskar, B., N. Mekala, and **Sreenivasa Rao Parcha** "Mechanistic role of perfusion culture on bone regeneration". Journal of Biosciences, 2019

Saroj, P., Manasa, P., & N**arasimhulu, K**. (2020). Optimization of xylanase production using ragi (Eleusine coracana) husk as a substrate by Aspergillus fumigatus JCM 10253 through response surface methodology. ***Biomass Conversion and Biorefinery***, 1-11.

Karnati VK, Munaga T, Gonavaram KK, **Bandhu A.** (2020) Study on strength and leaching behavior of biogeochemical cemented sand. Geomicrobiology J. 37, 670-681.

Conference Papers (International):

Surajbhan Sevda, Bioelectroremediation of perchlorate contaminated water. In "Upscaling and field scale application of bio-electrochemical systems for wastewater treatment and bioenergy recovery" SPARCH workshop held at IIT Kharagpur from 26th to 27th February 2020.

Reddy VK, Rajeswari B, Venkatesh N, Kumar GK and Bandhu A. (2019) Estimation of shear strength properties of bio-treated sand. Indian Geotechnical Conference IGC-2019. December 19-21, 2019, https://www.igc2019.com/IGC2019/.

K. Narasimhulu, "Integration of Fourth dimension with 3D bioprinting the damaged tissues in patients to promote regeneration: A comprehensive review"."International Conference on Advances and Scientific merits in Biotechnology and Health Care" organized by Endling Scientific Merits during 18th – 20th November, 2019 at Dubai (UAE).

Funded research Projects (2019-20)

V. Kohila. Cytotoxic and tumor suppressor role of a novel fusion suicide gene bCDF186W-hPFN1 on rheumatoid arthritis. DST-SERB, 2018-2021, Rs. 39.21 lakhs.

V. Kohila. Anti-inflammatory effect of a novel fusion suicide gene bCDS126R-hGST on rheumatoid arthritis. ICMR, 2017-2020, Sanctioned.

Dr. Soumya Lipsa Rath and Dr. Kishant Kumar. Dependence of Structure and Dynamics of Novel SARS-CoV-2 on Temperature and Humidity in the Atmosphere, XSEDE (National Energy Research Scientific Computing Center (Under Lawrence Berkeley National Laboratory) U.S.A.), 5,000,000 NERSC Computing Hours (equivalent to US $55,000 or ~Rs 41 lakhs).

Dr Perugu Shyam (Co-PI). Hunt for Panacea Pan-CoV for the Coronaviruses of the past, present and future. May 2020. DBT. Rs. 90 Lakhs. Duration: 2 years.

Dr. Prakash Saudagar (PI)**, Project Title: "**Characterization and validation of tyrosine aminotransferase from *Leishmania donovani* as a potential drug target**".**, Funding Agency: **SERB** (DST, Govt. of India) Period of Support: **2019-2022**, (**Rs. 49.14 Lakhs)**

Studies on the transcriptional regulation of LipF promoter of *Mycobacterium tuberculosis*, (26.96 Lakhs) CSIR EMR-II Project, Govt. of India, 2017-20. PI: **Dr. Amitava Bandhu**

A project has been sanctioned under TERA (2019) to Dr.Murali Krishna, Chaitanya Degree and PG College, Kishanpura, Hanmakonda under the guidance of **Dr.K.Narasimhulu**. (Area: Plant Biotechnology).

Dr.Rathnaprabha.Dharavath. Invitro micro propagation and enhancement of potent anticancer drug (camptothecin) using elicitors and hairy root culture in Nothapodytes feotida (wright slumer -A threatened medicinal Plant. Sanction amount: 49.67 Lakhs. Sanctioned by Science and Engineering Research Board (SERB) for duration of 3 years.

Dr. Thyageshwar Chandran, Dr. Surya KantaGhosh, Computational structure-based drug design: Identifying antivirals from natural products targeting SARS-CoV-2, HPC Consortium Project: MCB200128, XSEDE, USA"

Books and Book Chapters

Surajbhan Sevda and Anoop Singh (Eds) *Mathematical and Statistical Applications in the Food Engineering*, CRC Press, Taylor & Francis, USA, pp.1-443. (**ISBN:** 9781138347670). https://doi.org/10.1201/9780429436963

Sasidharan S., Tuladhar P., Raj S., **Prakash Saudagar** (**2020**) Understanding Its Role Bioengineered *Trichoderma* in Managing Soil-Borne Plant Diseases and Its Other Benefits. In: Hesham AL., Upadhyay R., Sharma G., Manoharachary C., Gupta V. (eds) Fungal Biotechnology and Bioengineering. Fungal Biology. **Springer**, Cham. https://doi.org/10.1007/978-3-030-41870-0_18

Gundappa Saha, **Prakash Saudagar***, Vikash Kumar Dubey*, "Virus-like particles: nano-carriers in targeted therapeutics, in Encapsulation of Active Molecules and Their Delivery System, **Elsevier**, **2020,** Pages 197-210, https://doi.org/10.1016/B978-0-12-819363-1.00012-0.

Santanu Sasidharan, **Prakash Saudagar**, "Encapsulation and delivery of antiparasitic drugs: a review, in "Encapsulation of Active Molecules and Their Delivery System", Elsevier, 2020, Pages 323-342,https://doi.org/10.1016/B978-0-12-819363-1.00017-X.

Sasidharan S., **Prakash Saudagar**. (**2019**) Plant Metabolites as New Leads to Drug Discovery. In: Swamy M., Akhtar M. (eds) Natural Bio-active Compounds. **Springer, Singapore**. https://doi.org/10.1007/978-981-13-7205-6_12

Raj S., **Prakash Saudagar.** (**2019**) Plant Cell Culture as Alternatives to Produce Secondary Metabolites. In: Akhtar M., Swamy M. (eds) Natural Bio-active Compounds. **Springer, Singapore.** https://doi.org/10.1007/978-981-13-7438-8_11

Santanu Sasidharan, **Prakash Saudagar**, "An overview of protein/metabolite based advances in monitoring tools and biosensors: Benefits and application in environmental toxicology", Editor(s): Satinder Kaur Brar, Krishnamoorthy Hegde, Vinayak Laxman Pachapur. Tools, Techniques and Protocols for Monitoring Environmental Contaminants, Elsevier,2019, Pages 189-206, https://doi.org/10.1016/B978-0-12-814679-8.00009-1.

Santanu Sasidharan, Shweta Raj, Shirish Sonawane, Shriram Sonawane, Dipak Pinjari, A.B. Pandit, **Prakash Saudagar**, "Nanomaterial Synthesis: Chemical and Biological Route and Applications", In Micro and Nano

Technologies, Nanomaterials Synthesis, Elsevier, 2019, PPages 27-51, https://doi.org/10.1016/B978-0-12-815751-0.00002-X.

Sevda S, Garlapati VK, Sharma S, Bhattacharjee U, Pandey L, Sreekrishnan TR (2020) Oil and petrochemical industries wastewater treatment in bioelectrochemical systems.In: Integrated Microbial Fuel Cells for Wastewater Treatment (Abbassi R, Khan F, Yadav A and , Garaniya V, (Eds.). Elsevier, USA, pp. 157-173 (ISBN: 9780128174937)

Sevda S and Garlapati VK**,** Sharma S, Sreekrishnan TR (2020). **Potential of High Energy Compounds: Hythane Production.In:** Delivering Low-Carbon Biofuels with Bioproduct Recovery (Dr Lakhveer Singh & Dr. Durga Madhab Mahapatra, Eds), *Elsevier, USA (Accepted, In Press) (ISBN:* 9780128218419)

Garlapati VK, Naha S, Sharma S, Goswami P, **Sevda S** (2020). Electro-active biofilms (EAB): Role in a Bioelctrochemical System for waste water treatment and Bioelectricity generation. In: Microbial Biofilms: Properties and Applications in the Environment, Agriculture, and Medicine (Abdul Bakrudeen Ali Ahmed, Ed), Taylor and Francis, CRC Press, USA. pp.207-226 (ISBN: 9780367415068).

Bhaskar Birru, P. Shalini and **Sreenivasa Rao Parcha**, Bioactive molecule and/or cell encapsulation for controlled delivery in bone or cartilage tissue engineering. Encapsulation of Active Molecules and Their Delivery System, Elsever, 2020

Archika Yadav, K. Vineeth Reddy, Md. Muzzaffar Khan, G. Kalyan Kumar, Amitava Bandhu. Bio-treatment of fly ash in Advances in computer methods and geomechanics. Publisher: Springer Singapore.

M. Jerold, A. Santhiagu and V. Sivasubramanian, ***Bioprocess Engineering for Bioremediation Valorization and Management Techniques*****,** Springer Nature Switzerland, 2020. ISBN No: 978-3-030-57910-4.

M. Jerold and V. Sivasubramanian, ***Biochemical and Environmental Bioprocessing: Challenges and Developments,*** CRC Press, Boca Raton, United States (Taylor and Francis Group), 2019, ISBN No: 9780367187392

Murali Mohan Seepana, M. Jerold and K. S. Rajmohan, (2019) **Production of Biofuels from Algal Biomass**, Biochemical and Environmental Bioprocessing Challenges and Developments, CRC Press, Boca Raton. (ISBN 9780367187392).

Workshops/FDP/Conference organised

Dr.R.Satish Babu & Dr.Anbumathi.P conducted A five day FDP on "Modeling, Simulation and Optimization of Bioprocesses" during 10-14th Dec 2019

Organized a FACULTY DEVELOPMENT PROGRAMME (FDP) on Statistics and data analysis for engineers and researchers during 27th May – 1st June, 2019, Department of Biotechnology, National Institute of Technology Warangal. (Coordinators: Dr.Shyam Perugu and Dr.K.Narasimhulu)

Organized online FDP "Advances and Applications of Bioprocess Engineering Techniques" (24-08-2020 to 28-08-2020), Department of Biotechnology, National Institute of Technology Warangal (Coordinators: Dr,K.Narasimhulu and Dr.Shyam Perugu)

Organized Skill Development Course On "High-Performance Liquid Chromatography (HPLC), Gas Chromatography (GC) and FPLC" Department of Biotechnology, National Institute of Technology Warangal during 15th – 20th July 2019, (Coordinators: Dr. P. Sreenivasa Rao& Dr. Rama Raju.B)

BIOTECHNOLOGY

Guest talks and Webinars delivered

Dr. Perugu Shyam delivered an expert lecture entitled The role of Molecular DNA in Personalized and Forensic medicine in Two Days National seminar on Recent Innovations and Future Prospects in Animal Sciences

during 26th & 27th Sept'2019. Dept. of Zoology and Seri Culture Unit.

Dr. Perugu Shyam delivered an expert lecture entitled The role of Molecular DNA in Personalized and Future medicine India International Science Festival, 2019 at Kolkata.

Dr. Perugu Shyam delivered an expert lecture entitled Statistical Error / uncertainty analysis, making error bars in Five Day WORKSHOP on "Hands on Practice - Writing Technical Research Articles and Reports.

Dr. Perugu Shyam delivered an expert lecture entitled Molecular docking and simmulations for a Synthetic Drugs in Faculty Devolopment program on Frontiers in Engineering Chemistry, JANUARY 24 th - 25 th 2020, CVR College of Engineering.

Dr. Perugu Shyam was a keynote speaker and delivered talk on Current trends in research and developments: Health and Hygiene practices during and Post CoVID19 in Launch of online classes for Teachers (Webinar) SCERT, Govt of Telangana, 01st May 2020, Hyderabad, Telangana.

Dr. Perugu Shyam delivered an expert lecture entitled Immuno diagnostics - A tool for the diagnosis of Pandemic CoVID in Extension Lecture, Government City College(A), Hyderabad, 19th May 2020, Hyderabad, Telangana

Dr.K.Narasimhulu has delivered an expert talk lecture titled "Introduction to Integrated Bioprocess Engineering and applications" in online FDP "Advances and Applications of Bioprocess Engineering Techniques" (24-08-2020 to 28-08-2020), Department of Biotechnology, National Institute of Technology Warangal.

Dr.K.Narasimhulu has delivered an expert talk lecture titled "Role of Agitation in Bioreactors and Continuous sterilization of media" in online FDP "Advances and Applications of Bioprocess Engineering Techniques" (24-08-2020 to 28-08-2020), Department of Biotechnology, National Institute of Technology Warangal.

Dr.K.Narasimhulu has delivered an expert talk lecture titled "Effect of oxygen transfer methodology in Bioreactors" in online FDP "Advances and Applications of Bioprocess Engineering Techniques" (24-08-2020 to 28-08-2020), Department of Biotechnology, National Institute of Technology Warangal.

Dr.K.Narasimhulu has delivered an expert talk lecture titled "Role of Bioreactors in Tissue Engineering" in online FDP "Advances and Applications of Bioprocess Engineering Techniques" (24-08-2020 to 28-08-2020), Department of Biotechnology, National Institute of Technology Warangal

New Labs Established (Equipment/Software)

Procured Flurescent Microscope (Make: Nikon, Model: Ti2-U,Book value: 17.29) Year of Acquisition: 2019-2020, form funding agency :SERB.

Procured Electronic weighing balances (Make: Tarsons, Book value: 2.45) Year of Acquisition: 2019-2020, form Plan grant 2019-2020.

Procured Micropipettes (Make: Precise, Book value: 1.94) Year of Acquisition: 2019-2020, form Plan grant 2019-2020.

Procured Vortex mixtures (Qty: 04) (Make: B R Biochem Life Sciences, Taiwan, Book value: Rs. 1, 11,300/-, Year of purchase: 2019-2020 from the Plan Grant 2019-2020).

Procured Dry Baths (Qty: 04) (Make: B R Biochem Life Sciences, Taiwan, Book value: Rs. 1, 05,000/-, Year of purchase: 2019-2020 from the Plan Grant 2019-2020).

BIOTECHNOLOGY

Procured Gel Rockers (Qty: 04) (Make: D-Lab, Book value Rs. 1, 49,100/-, Year of purchase: 2019-2020 from the Plan Grant 2019-2020).

Procured Microwave Oven (Qty:2)(Make:Samsung, Book value Rs.25,000/- Tear of Purchase: 2019-2020 from the plan Grant 2019-2020)

Dr. M. Jerold Established Transport Phenomena in Bioprocess System Laboratory for B.Tech Biotechnology studen

Awards/Recognitions/Achievements:

Dr. S. Chockalingam is a Guest Associate Editor, Molecular Medicine Section, Frontiers in Cell and Developmental Biology (IF-5.2) since May 2020.

Dr. Perugu Shyam is a life member of Life member Bioclues since September 2019.

Dr. Priya was awarded as the best speaker in the category OMICS and computational biology in the international conference BioSangam 2020 organized by MNNIT Allahabad, Prayagraj 21-23 Feb 2020. Her talk was entitled "Function of the RSC chromatin remodeling complex in DNA damage repair and stress response in pathogenic fungus Candida albicans".

Dr. M. Jerold is a life member of Biotech Research Society of India (BRSI) since February 2019.

Outreach Programmes

Dr. R. Satish Babu is nominated as a BOS member for M.Tech Biotechnology, JNTUK, Kakinada, AP

International visits of the faculty members/students

Dr.R.satish Babu visited Greece to present a paper in HERAKLION 2019 7th International Conference on Sustainable Solid Waste Management during June 26-29, 2019.

Dr.K. Narasimhulu has visited Dubai to present a paper in "International Conference on Advances and Scientific merits in Biotechnology and Health Care" organized by Endling Scientific Merits during 18th – 20th November, 2019 at Dubai (UAE).paper title: "Integration of Fourth dimension with 3D bioprinting the damaged tissues in patients to promote regeneration: A comprehensive review".

Students achievements

Daksh Pamar Got AIR-12 in GATE 2020

Total 08 students qualified in GATE 2020

Total 04 Students admitted into various IIMs

Two students have selected for PhD program at IIT Delhi

Technical Association Activities/Events (TAB 2019-2020)

- Infodeets
  - Infodeets was a online series on mesmerizing facts, theories and technologies related to biotechnology.
- Genetastic

- A fun-filled event was conducted exclusively for the freshers in the beginning of academic year. This event consisted of three different rounds where students participated and put in all their efforts to bag the title of Mr & Ms. Biotech.

- Enigmus
  - Enigmus was a online riddle series related to biology & biotechnology that was conducted during the dusshera vacation.

- Internship Talk
  - An interactive session was held where 8 speakers who interned in various universities and complanies including IIT Guwahati , CRI Paris (France), IIT BHU, Zytex (Mumbai) and prestigious European Exchange Program spoke about the application processes and experiences.
- Workshop on Data Analysis Using Python
  - It is well known that python is an increasingly popular tool for performing data analysis in every field. Therefore this workshop focused on introducing the participants to field of data analysis along with certain applications.
- T-shirt design competition
  - Tshirt designing competition for Department of Biotechnology T-shirt.

- Placement Experience
  - Online weekly series with placement experience of final year students

- Eco Friendly Lantern Making Competition
  - The event focused on recycling old newspapers into beautiful lanterns. This event was held before Diwali.

- Tech.Docs
  - This event enlightened the participants on various important documents such as Statement of Purpose (SOP), Letter of Recommendation (LOR), Resume by showing examples of each kind.

- Creative Writing Contest
  - In this contest, five sci-fi prompts were given and students had to come up with their own short story related to the prompts.

- Four Pictures One word
  - Four pictures related to one biotechnology word were given and the students had to guess the right word (Online)
- Alumni Connecto
  - An interactive session with Mr.Krishna Gupta (currently pursuing Phd, TU Dresden) was held in the month of January.

- Ad – Selfie
  - Students were asked to pick any plant/animal based product found in their home/hostel and send a creative selfie with it. Students were also asked to a creative tagline to enhance the market of the product.

- Profile Building
  - Profile Building session was held and this session was given by the final year students. Often quite a lot of students are not aware of the importance of having a strong profile for Master/Mtech/Placements, therefore this session focused on guiding students on different projects/internships/extra curricular activities that a student should take up to enhance their profile.
- The Debate
  - In this event two set of students could debate against each other on a Bioethics topic that they choose.

- Ex: Are clinical trials on animals unjust?
  - Should abortion be illegal?

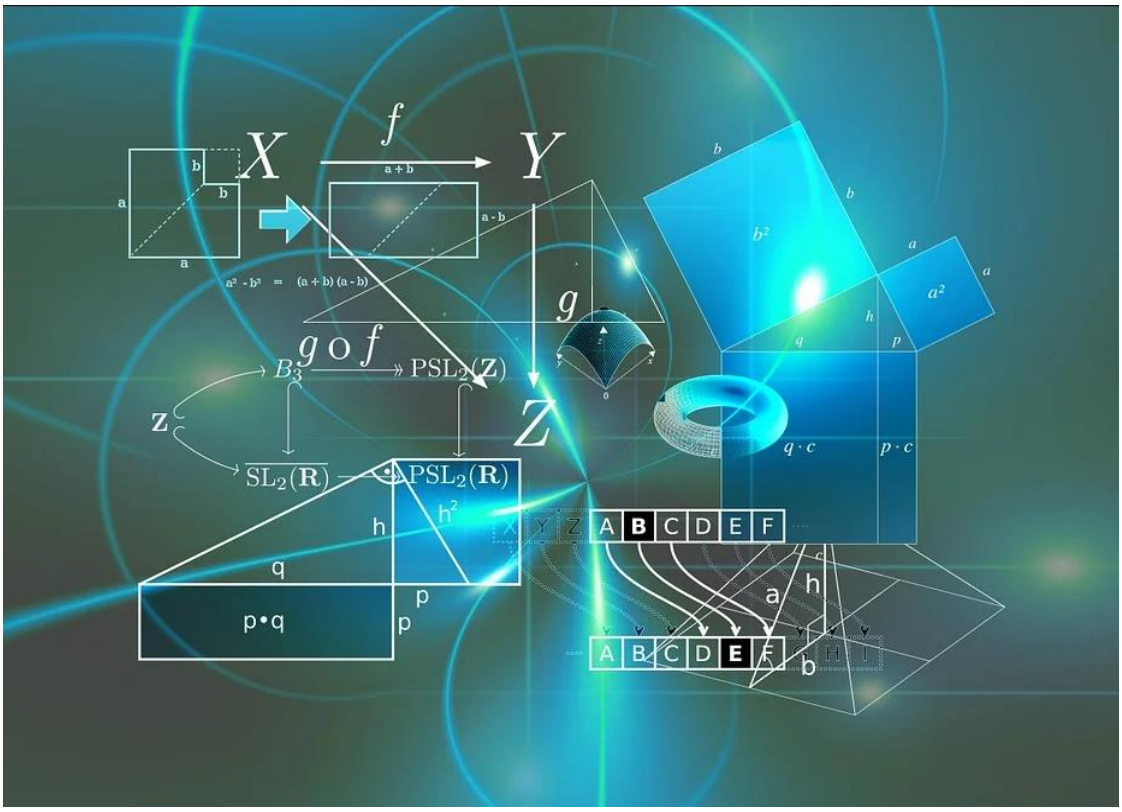
- Sports Week
  - Fun filled week where students and professors of department of biotechnology could play badmintion, carrom, chess, cricket, table tennis.
- Equip Quiz (focused on promoting the TAB Instagram Page)
  - Pictures of a certain equipment were posted on story from the Instagram Handle, along with a tagline for the each equipment.
  - Ex: Picture of Laminar hood
- Kanten Craft 2.0
  - Second edition of kanten craft, the competition where art done on agar plates was held in the month of February.

- Webinar on Introduction to computation biology
  - A webinar was given by Dr.Senthilkumar Kailasam, Bioinformatics Consultant at Canadian Centre for Computational Genomics was held over skype.

- Pen it down was an article writing competition where students could choose from a set of topics. Example of a topic :
  - To what extent does the green biotechnology promise to curb the muddles of conventional agriculture?
  - Webinar on biotech career after Btech by Simran Asawa
  - Interactive session with alumni , Ms.Simran Asawa (Researcher at New York based cancer centre) on biotech career after btech , fully funded masters abroad and the job scenario in biotech industry.

SUMMARY OF Biotechnology department

S.No.	Activity	Number
1	Publications (Peer Reviewed Journals/ conferences)(SCOPUS/SCI)	27
	Conference papers (international)	3
2	Funded Research Projects/SPARC projects (2019-20)	8
6	Books and Book Chapters	21
	Books/Book Chapters	16
7	Conferences/ Workshops/GIAN courses/FDPs Conducted	*4*
8	Guest talks/ Webinars delivered	*10*
9	New Labs Established (Equipment/Software Procured)	*Rs. 2,313,400 Lac*
10	Awards/Recognitions/Achievements	*4*
12	International Visits of the Faculty Members/ students	*2*
13	Students Achievements	4
14	Technical Association Activities	*22*
16	Outreach Programmes	*1*



Department of Mathematics

The Department of Mathematics is one of the highly reputed Departments in the Institute which functions with excellence as its motto. The Department was started in the year 1959 along with other Engineering and Science Departments and has established itself as a dynamic center for academic and research activities. The Department offers basic courses in Mathematics for B.Tech. At post-graduate level, the Department offers well-designed diverse courses for all programs of M.Tech., M.C.A, M.B.A and M.Sc. Tech (Engg. Physics) and also offers Open Electives for all UG, PG and Ph.D. programs.

The Department offers two (Four Semester) PG programs namely: M.Sc. (Applied Mathematics) and M.Sc. (Mathematics & Scientific Computing). The Department since its inception in 1959 is known to be an active research center in Mathematics. The Department offers Ph.D. program in Mathematics on regular basis and also under Quality Improvement Program (QIP) and the Department is the only QIP center for Mathematics in India. Number of Ph.D. awarded is 115.

The M.Sc. programs for both streams of Mathematics are designed with one laboratory course in each semester in addition to the regular rigorous theory courses. They inculcate a spirit of practical application of mathematical concept and also instill enthusiasm for research activity. Special emphasis is laid on promoting team spirit and improving the oral communication skills of the students, which enables all-round development of the students.

MATHEMATICS

Details of Faculty Members

Dr. P Muthu
Associate Professor & HOD

Research Areas: CFD, Bio Dynamics

Dr. Reddy Y N
Professor

Research Areas: Numerical Analysis

Dr. Viswanadham K N S K
Professor

Research Areas: Numerical Analysis, FEM

Dr. Ramana Murthy J V
Professor (HAG)

Research Areas: Fluid Mechanics

Dr. Debashis Dutta
Professor

Research Areas: Operations Research, Mathematical Modeling, Statistics

Dr. Srinivasacharya D
Professor

Research Areas: Fluid Mechanics, CFD

Dr. Rani H P
Associate Professor

Research Areas: Nonlinear Dynamics, CFD

Dr. Benerji Babu A
Associate Professor

Research Areas: Geophysical Fluid Dynamics

Dr. R S Selvaraj
Associate Professor

Research Areas: Algebraic Coding Theory

MATHEMATICS

Dr. Pranitha J
Assistant Professor

Research Areas: Fluid Dynamics, Heat Transfer, Porous Media

Dr. Ch Ramreddy
Assistant Professor

Research Areas: Fluid Dynamics, Convective Transport, Porous Media, Analytical and Computational Methods.

Dr. D Bhargavi
Assistant Professor

Research Areas: Fluid Dynamics, Numerical Heat Transfer

Dr. Satyanarayana E
Assistant Professor

Research Areas: Partial Differential Equations

Dr. Y Sreenivasa Rao
Assistant Professor

Research Areas: Cryptography, Cloud and Blockchain Security

Dr. K Kaladhar
Assistant Professor

Research Areas: Fluid Dynamics, Inventory Management

Dr. Tuhina Mukherjee
Assistant Professor

Research Areas: Analysis of Partial Differential Equations, Applied Functional Analysis

Dr. Deepika Neela
Assistant Professor

Research Areas: Hydrodynamic Stability

Dr. Triveni Prasad Shukla
Assistant Professor

Research Areas: Quasilinear Partial Differential Equations, Nonlinear Waves

MATHEMATICS

Dr. Srinivas Jangili
Assistant Professor

Research Areas: Heat Transfer Analysis, Analytical and Semi-analytical Methods

Dr. Jagannath Roy
Assistant Professor

Research Areas: Operations Research, Fuzzy Set and Systems

Publications (in peer reviewed journals)

International Journals (76)

M. Adilaxmi, **D. Bhargavi**, and **Y.N. Reddy**: An Initial Value Technique using Exponentially Fitted Non Standard Finite Difference Method for Singularly Perturbed Differential-Difference Equations. Applications and Applied Mathematics, An International Journal (AAM),Vol. 14 Issue 1, p245-269, 2019.

K.N.S.Kasi Viswanadham: Coupled System of Boundary Value Problems with cubic B-splines. E3S Web of Conferences, 2019, Vol. 128, 09008, 2019.

M. Pavankumar Reddy and **J. V. Ramana Murthy:** Heat Flow in a Rectangular Plate. Numerical Heat Transfer and Fluid Flow, Lecture Notes in Mechanical Engineering, 2019, pp 223 – 231. 2019.

P. Aparna, N. Pothanna and **J. V. Ramana Murthy:** Viscous Fluid Flow Past a Permeable Cylinder. NHTFF, 2019,pp 285- 293, 2019.

T. Govinda Rao, **J. V. Ramana Murthy** and G. S. Bhaskara Rao: Couple-Stress Fluid Flow Due to Rectilinear Oscillations of a Circular Cylinder: Case of Resonance; NHTFF, 2019, pp 567-574, 2019.

G. Nagaraju, J Srinivas, **J.V.Ramana Murthy**, O.A.Beg and Kadir: Second Law Analysis of Flow in a Circular Pipe With Uniform Suction and Magnetic Field Effects; Journal of Heat Transfer, JANUARY 2019, Vol. 141 / 012004-1, 2019.

T Govinda Rao, **J V Ramana Murthy** and G S Bhaskara Rao: Longitudinal oscillations of a circular cylinder in a micro-polar fluid:case of resonance; Sadhna, (2019) 44:66, pp 1 – 8, 2019.

Pavan Kumar Reddy M. and **Ramana Murthy J. V:** Entropy analysis for heat transfer in a rectangular channel with suction. Heat Transfer—Asian Res. 2019; 48: pp 2773-2798. 2019.

P.Aparna, N.Pothanna and **J.V.Ramana Murthy**: Rotary Oscillations of a Permeable sphere in an Incompressible Couple Stress Fluid. Accepted for publication in Lecture Notes in Mechanical Engineering through conference ICAFD, 2019.

P.Aparna, P.Padmaja, N.Pothanna and **J.V.Ramana Murthy**: Couple Stress Fluid Flow Due to Slow Steady Oscillations of a Permeable Sphe. Accepted in Nonlinear Engineering Modeling and Application on 9-6-2020, 2019.

Pavankumar Reddy.M and **J.V.Ramana Murthy**: Stokes flow and heat transfer past a circular cylinder in a square cavitywith suction/injection on opposite-side walls. SN Applied Sciences (2020) 2:496 | doi.org/10.1007/s42452-020-2250-1, 2019.

Pavankumar Reddy.M and **J.V.Ramana Murthy**: Stokes flow and heat transfer past a circularcylinder in a square cavity with suction/injection on sidewalls. Heat Transfer-Asian Research (Wiley)2020;pp 1–23. 2020.

Pavankumar Reddy.M and **J.V.Ramana Murthy**: Steady Flow of Couple Stress Fluid through a Rectangular Channel Under Transverse Magnetic Field, (IJATCA),Special Issue 1 (1), July - 2019, pp. 174-181, ISSN: 2395-3519, 2019.

Pavan Kumar and **D. Dutta.** A deteriorating Inventory model with uniformly distributed random demand. Advances in Intelligent Systems and Computing, 979, pp 213-224, 2020.

Srinivasacharya, D. and Jagadeeshwar, P.: Flow over an Exponentially Stretching Sheet with Double Dispersion and Convective Thermal Condition.

Mathematical Modelling of Engineering Problems, Vol 6, No 2, pp. 300 – 308, 2019.

Md. Shafeeurrahman and **Srinivasacharya, D:** Radiation effect on mixed convection flow of nanofluid between two concentric cylinders with Hall and Ion-slip effects. Applications and Applied Mathematics - An International Journal, Special Issue No. 4 pp. 82 – 96, 2019.

Ch.RamReddy, P. Naveen, **D. Srinivasacharya**: Effects of Nonlinear Convection and Cross-Diffusion in a Darcy-Forchheimer Porous Medium Saturated by Micropolar Fluid with Convective Boundary Condition. Computational Thermal Sciences: An International Journal, 2019, 11(3), 205–218, 2019.

D. Srinivasacharya, **Ch.RamReddy**, P. Naveen: Effects of nonlinear Boussinesq approximation and double dispersion on a micropolar fluid flow under convective thermal condition. Heat Transfer—Asian Res.2019, 48(1), 414-434, 2019.

Kaladhar, K., Madhusudhan Reddy, **K., Srinivasacharya, D:** Natural convection flow in a vertical channel with inclined magnetic field and Soret effects. **,** International Journal of Advanced Trends in Computer Applications (IJATCA), Special Issue 1, pp. 27-31, 2019.

Kaladhar, K., Madhusudhan Reddy, K. and **Srinivasacharya, D.:** Inclined Magnetic Field, Thermal Radiation, and Hall Current Effects on Mixed Convection Flow Between Vertical Parallel Plates. Journal of Heat Transfer, Vol. 141 (7), 102501-1-7, 2019.

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the Channel Partially Filled with a Porous Medium: Constant Wall Heat Flux. International Journal of Advanced Trends in Computer Applications, pp. 131-138, 2019.

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N. Deepika., P.V.S.N. Murthy., P.A.L. Narayana: The Effect of Magnetic Field on the Stability of Double-Diffusive Convection in a Porous Layer with Horizontal Mass Throughflow. Transport in Porous Media, 134, pages435–452(2020), 2020.

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J. Srinivas, S.O. Adesanya, O.A. Hammed, R.S. Lebelo: Couple Stress Fluid Flow with Variable Properties: A Second Law Analysis. Mathematical Methods in the Applied Sciences (Wiley), 42(13) (2019) 85–98, 2019.

J Roy, D Pamučar, S Kar: Evaluation and selection of third party logistics provider under sustainability perspectives: an interval valued fuzzy-rough approach. Annals of Operations Research, 2019.

Funded Research Projects/SPARC projects (2019-20)

Completed Projects (1)

J Pranitha: Numerical study of Convective transport in a viscous fluid saturated porous medium, EEQ/2016/000777, SERB, Rs. 17 Lakhs.

Ongoing Projects (1)

Satyanarayana Engu: On the solutions of inhomogeneous Burgers equations', 25(0302)/19 EMR-II Dt 16/05/2019, Council of Scientific and Industrial Research (CSIR), Rs. 20 Lakhs.

MATHEMATICS

Conferences/Workshops/GIAN courses/FDPs Conducted (6)

Prof. D. Srinivasacharya (Conference Chair); Prof. JV Ramanamurthy (Conference Coordinator); Dr. Ch. Ramreddy (Conference Secretary), Department of Mathematics, NIT Warangal, International Conference on Numerical Heat and Fluid Flow, from 17/01/2020 to 19/01/2020.

Prof Debashis Dutta, organized an International Conference on Numerical Optimization in Engineering and Sciences (NOIEAS-2019) during June 19-21, 2019 under TEQIP-3.

Dr. H. P. Rani Dr. K. Madhavi Dr. D. Bhargavi Dr. B. Spoorthi, NIT Warangal, A Two-Day International Conference on Women Empowerment: Innovative Methods and Strategies in Higher Education (WEIMSHE-2020) "An equal world is an enabled worl, sponsored by Teaching Learning Centre, from 06/03/2020 to 07/03/2020.

HP Rani, Hari Kumar, "Universal Human Values", sponsored by TEQIP III, NITW, from 12/04/2019 to 13/04/2019.

Dr. K. Madhavi and Dr. D. Bhargavi, A One-Week Faculty Development Programme for Women Faculty in Universities and Colleges of Higher Education Student-Centred Teaching Methods and Strategies in Higher Education (SCTMSHE-2019), sponsored by TLC, NITW, from 03-06-2019 to 08-06-2019.

Dr. K. Madhavi and Dr. D. Bhargavi, A One-Week Faculty Development Programme on Pedagogical Trends in Teaching Methods and Strategies in Higher Education (PTTMSHE-2020), sponsored by TLC NITW, from 24-02-2020 to 29-02-2020.

Guest talks/ Webinars delivered (29)

Prof. K.N.S.Kasi Viswanadham, delivered a lecture on Solution of higher order boundary value problems with B-splines, NIT Warangal, 19/01/2020.

Prof. K.N.S.Kasi Viswanadham, delivered a lecture on Finite Element Method with Cubic B-splines, CBIT, Proddatur, 28/02/2020.

Prof. K.N.S.Kasi Viswanadham, delivered a lecture on Optimization for a function of several variables, CMR Engineering College, Hyderabad, 27/05/2020.

Prof.J.V.Ramana Murthy, delivered a lecture on Mathematics for Graphs, Raastriya Avishakar Yojana for school children (RAA), at NITW, 28-May-19.

Prof.J.V.Ramana Murthy delivered a webinar on "Developing competency of Geometrical proofs among the students" for SCERT(State Councel for Educational Research and Training). Viewers are 9494, 6-5-2020.

Prof.J.V.Ramana Murthy delivered a webinar on "Convective Diffusion equations" at KPR Institute of Engineering and Technology, Coimbatore for about 2000 participants, 21-7-2020.

Prof.J.V.Ramana Murthy delivered a webinar on "Tensors and their Applications in Fluid Dynamics" at GITAM university for a 5day webinars on Fluid dynamics from Mathematicians view point for about 200 participants, 9-8-2020.

Prof.J.V.Ramana Murthy delivered a webinar on "Bi-harmonic equations and applications" at ICASMT 2020 at RGU Arunachalpradesh for about 170 participants, 2-9-2020.

Prof D Srinivasacharya, delivered a lecture on Adomian Decomposition method, KPR Institute of Engineering and Technology, Coimbatore, 24/07/2020.

Prof D Srinivasacharya, delivered a lecture on Entropy Analysis for MHD Micropolar Fluid between Porous Concentric Rotating Cylinders, International Conference on Mathematical Sciences and Applications, GITAM, Hyderabad, August 09-11, 2019.

Prof D Srinivasacharya, delivered a lecture on THE WONDERFUL WORLD OF DIFFERENTIAL EQUATIONS, Recent Trends in Applications of Differential Equations & Srinivasa Ramanujan Birthday Celebrations, DRG Governement Degree College Tadepallygudem, West Godavari, AP, Dec 20, 2019.

Prof D Srinivasacharya, delivered a lecture on Why to learn Mathematics, Department of Mathematics, kakatiya University, Sept 5, 2019.

Prof D Srinivasacharya, delivered a lecture on Applications of Mathematics, IIITDM Kurnool, October 28, 2020.

Dr. P. Muthu, delivered Lectures on "Universal Human Values" during 24 July - 4 August, 2019 and Mentoring I year B.Tech students.

Dr. Hari Ponnamma Rani, delivered a lecture on Challenges and Changes - (IM)MIGRANT, work force Case study - CANADA & India, International Webinar on Professional Development of Women Engineers in Post COVID ERA, MBITS Kerala, 21/07/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Applications of Finite Volume Methods in Engineering, KPR Institute of Engineering and Technology, Coimbatore, 24/07/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Finite Volume Methods & Its Real time Applications, Balaji

Institute of Technology and Science, Narsampet, Warangal, 25/07/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Preparing Minor and Major Research Projects, Telangana Tribal Welfare Residential Educational Institutions Society, 30/07/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Finite Volume Method - Science and Engineering, SRM Institute of Science and Technology, Tamil Nadu, 08/07/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Finite Volume Method - Real Time Applications, Sathyabama Institute of Science and Technology, 24/06/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Contribution of Women to Science - My experience, One-Day Mini-Symposium on 'Contribution of Women to Science', Central University of Karnataka., 28/02/2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Finite volume method and applications, National Conference on Mathematics and Computer Applications, Women's Christian College, Chennai, 28-29th Jan. 2020.

Dr. Hari Ponnamma Rani, delivered a lecture on Hydrodynamic Instability and Transition to Turbulencc, National Conference on Mathematics Techniques and Applications (NCMTA-2019), Department of Mathematics, Faculty of Engineering and Technology, SRM Institute of Science and Technology, Tamil Nadu, 11-12th Jan. 2019.

Dr. D. Bhargavi, delivered a lecture on Plickers – A Free On-line Formative Assessment Tool, FDP on Pedagogical Skills in Teaching Methods and Strategies in Higher Education (PSTMSHE-2020), Teaching Learning Centre of NIT Warangal, 14-03-2020.

Dr. Y. Sreenivasa Rao, delivered a lecture on Security Protocols in Blockchain Technology, TKR Engineering College, Hyderabad, 4-2-2020.

Dr. Y. Sreenivasa Rao, delivered a lecture on Security Protocols in Blockchain Technology, NIT Warangal, 12-12-2019.

Dr. Triveni Prasad Shukla, delivered a lecture on Evolution of Weakly Nonlinear Waves in the Regions Exhibiting Mixed Nonlinearity, SRTMUN, Nanded, 08/02/2020.

Dr. Srinivas Jangili, delivered a lecture on Applications of First Order Differential Equations, S.R.R. Govt Degree College, 13-05-2020.

Dr. Srinivas Jangili, delivered a lecture on Mathematical Modelling of Physical Phenomena, Jyothishmathi Group of Institutions, 20-05-2020.

Awards/Recognitions/Achievements(2)

Prof. K.N.S.Kasi Viswanadham has received "Bharata Ratna Indira Gandhi Gold Medal Award 2019".

Dr. D. Bhargavi, ICHTFM 2019 : XIII. International Conference on Heat Transfer and Fluid Mechanics hereby certifies that the below mentioned paper has been selected as the best paper "Effect of Viscous Dissipation and Axial Conduction in Thermally Developing Region of the Channel Partially Filled with a Porous Material Subjected to Constant Wall Heat Flux", 2019.

Research Guidance

Completed in 2019-20 (8)

J. Sharath Kumar Reddy has been awarded PhD degree under the guidance of **Dr. D. Bhargavi**, for thesis titled "Forced Convection Heat Transfer in Parallel Plate Channels Partially Filled with Porous Material" on 23-7-2019.

Vekamulla Narayana has been awarded PhD degree under the guidance of **Dr. Hari Ponnamma Rani**, for thesis titled "Numerical Visualisation of Natural and Mixed Convection Flows in Cavity enclosures" on 19-09-2019.

Padigepati Naveen has been awarded PhD degree under the guidance of **Dr. Ch. Ramreddy** for thesis titled "Nonlinear Convection over an Inclined Plate in Micropolar and Power-Law Fluids" on 23-10-2019.

S V Kiranmayi Ch has been awarded PhD degree under the guidance of **Prof. K.N.S. Kasi Viswanadham** for thesis titled "Solution of Higher Order Boundary Value Problems By Petrov-Galerkin Method With B-Splines" on 6-11-2019.

M. Adilaxmi has been awarded PhD degree under the guidance of **Dr. D. Bhargavi** for thesis titled "Quantitative approaches for solving differential difference equations having boundary layers" on 22-11-2019.

Itikela Sreenath has been awarded PhD degree under the guidance of **Prof. D. Srinivasacharya** for thesis titled "Bioconvection Flow of Polar Fluids in Channel" on 02-12-2019.

M.PavanKumar Reddy has been awarded PhD degree under the guidance of **Prof.J.V. Ramana Murthy** for thesis titled "Fluid Flow and Heat Transfer In A Rectangular Geometry with/ without Suction/Injection" on 13-12-2019.

Nilam Venkata Koteswararao has been awarded PhD degree under the guidance of **Dr A Benerji Babu** for thesis titled "Convective Instabilities In A Sparsely Packed Porous Medium With The Effect of Rotation And Magnetic Field" on 20 -12-2019.

MATHEMATICS

International Visits of the Faculty Members/ students (4)

Prof.K.N.S.Kasi Viswanadham, To present a research paper at XII International Conference on Computational Heat, Mass and Momemtum Transfer, Sapienza University of Roma, Italy.

Prof.J.V.Ramana Murthy, To present a research paper at XII International Conference on Computational Heat, Mass and Momemtum Transfer, Sapienza University of Roma, Italy, 3-6 September 2020.

Dr. Hari Ponnamma Rani, To present a research paper at XII International Conference on Computational Heat, Mass and Momemtum Transfer, Sapienza University of Roma, Italy, 3-6 September 2019.

D. D. Bhargavi, Presented a paper at ICHTFM 2019 : 21st International Conference on Heat Transfer and Fluid Mechanics , Dubai, December, 19-20, 2019 at Dubai, UAE.

Students Achievements

Daya Ram (Roll No. 184906) from MSc Applied Mathematics secured AIR 125 in GATE 2020.

Akash Mondal (Roll No. 184902) from MSc Applied Mathematics secured AIR 138 in GATE 2020.

Placement Details

Branch: **MSc (Mathematics & Scientific Computing)**

S. No	Roll NO	Name of the Student	Name Of Company	Package Details CTC(Per Annum)
1	184953	Praveen	NARAYANA GROUP OF INSTITUTIONS	4.56 L
2	184954	Archisman Bhowmick	TATA CONSULTANCY SERVICES(R&D)	11.5 L
3	184955	Arijit Ghosh	FRACTAL ANALYTICS	31 L Distributed Over 3 Years
4	184958	Harsh Agarwal	ORACLE FINANCIAL SERVICES SOFTWARE	9.5 L + Benefits of around 18 Lacs Per Year
5	184962	Kushal Sharma	ITI LIMITED(PSU)	6.77 L
6	184963	Paresh Jaiswal	ITI LIMITED(PSU)	6.77 L
7	184968	Sahil Aneja	FIITJEE LIMITED	9.0 L

Branch: **MSc (Applied Mathematics)**

S.No	Roll NO	Name of the Student	Name of Company / Organization	Package Details CTC(Per Annum)
1	184902	Akash Mondal	FIITJEE LIMITED	9.0 L
2	184904	Ankita Yadav	ITI LIMITED(PSU)	6.77 L
3	184806	Daya Ram	NARAYANA GROUP OF INSTITUTIONS	4.80 L
4	184910	Mahesh Agarwal	NARAYANA GROUP OF INSTITUTIONS	5.4 L

5	184915	Ravi Mahla	NARAYANA GROUP OF INSTITUTIONS	4.56 L
6	184921	Vishan Singh Choudhary	TIME EDUCATION PVT. LTD	6.0 L

Outreach Programmes (12)

Prof. K.N.S.Kasi Viswanadham, Member of BOS in NRI Institute of Technology, Vijayawada, 2019-2021.

Prof Debashis Dutta, Member of BOS in KLEF-Vijayawada, Since Jan 2019.

Prof Debashis Dutta, Member of DSC in VIT-Vellore, Since Nov 2019.

Prof Debashis Dutta, Member of BOS in Gitam University, Since Jan 2019.

Prof D Srinivasacharya, Member of BOS in Vasavi Collee of Engineering , Hyderabad, 2019.

Prof D Srinivasacharya, Member of BOS in IIITDM Kurnool, 2019 – 21.

Prof D Srinivasacharya, Member of BOS in Anurag Engineering College, Kodad, 2019-20.

Prof D Srinivasacharya, Member of BOS in Gudlavalleru Engineering College, Gudlavalleru, 2019- 21.

Dr. P. Muthu, worked as Member, Selection Committee on Japanese Government Scholarship (Embassy of Japan), to scrutinize the PhD/MS applications on Mathematical Sciences, during Summer 2019.

Dr. P. Muthu, taught special classes on topic "Applied Statistics" to Second Semester B.Tech. students of the Chaibasa Engineering College, Chaibasa, Jharkhand, under twinning activities of TEQIP-III, from 03-03-2020 to 06-03-2020.

Dr. P. Muthu, worked as Member, Selection Committee on Japanese Government Scholarship (Embassy of Japan), to scrutinize the PhD/MS applications on Mathematical Sciences, during Summer 2020.

Dr. R. S. Selvaraj, Member of BOS, Saveetha Engineering College, Chennai, Since Feb 2019.

Advanced Software Purchased During June 1st, 2019 to May 31st, 2020

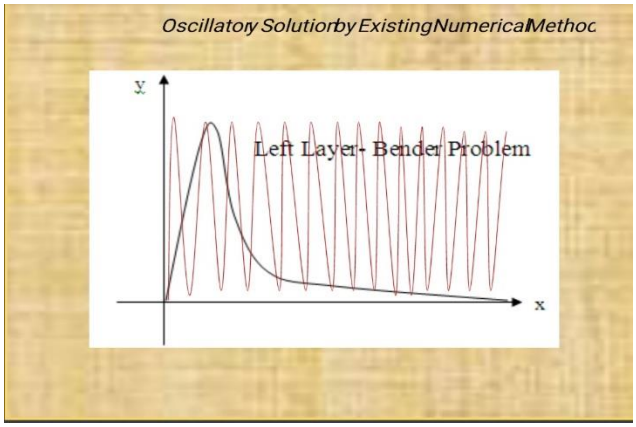
The following items purchased under plan grant for Computational Laboratory:

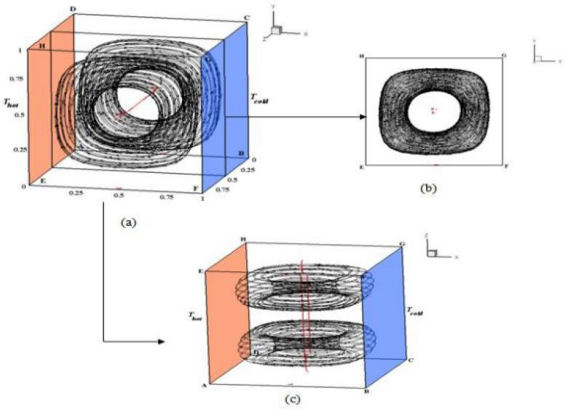
Desktop Computers (Make & Model): HP 280G4_Core i5-8500/8GB RAM/1TB/HDD/USB_HNS Code No.8471, Quantity:10

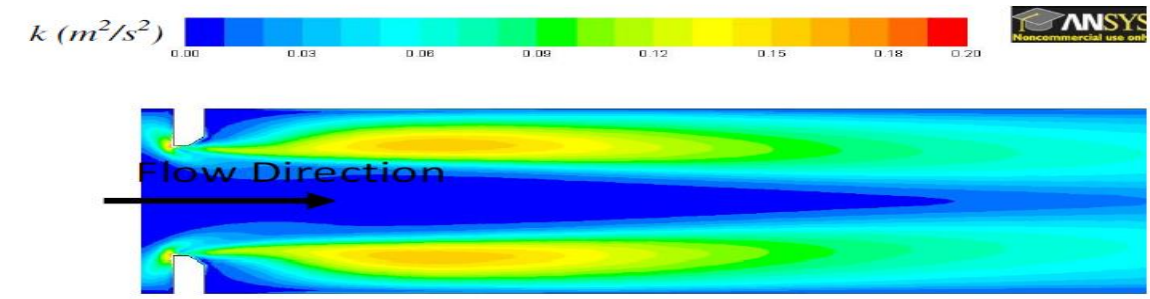
DELL PowerEdge R740 Server_HNS/SAC: 8471

Matlab & Semulink (Academic Version)_Quantity: 25

Research Highlights



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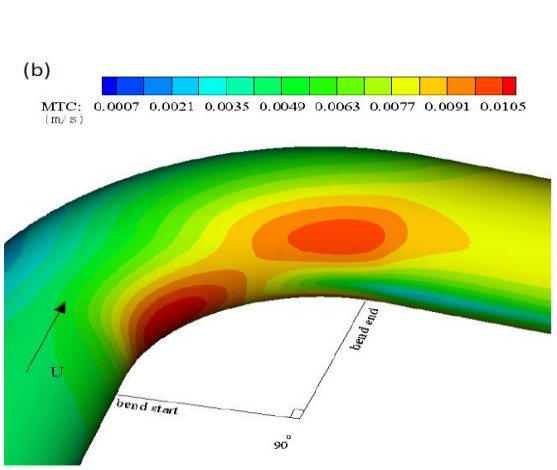
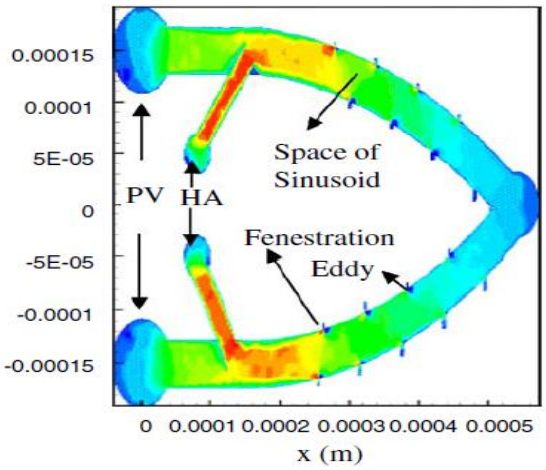
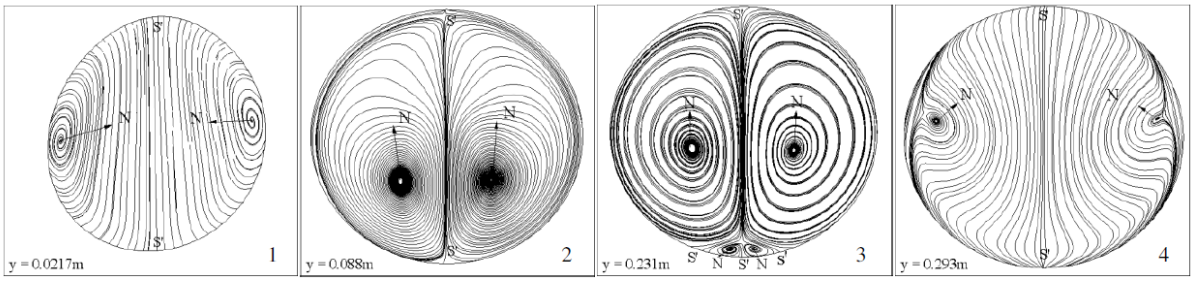
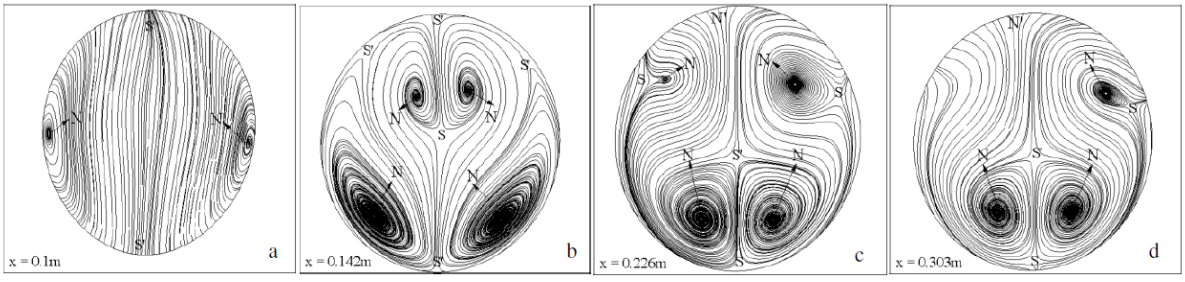
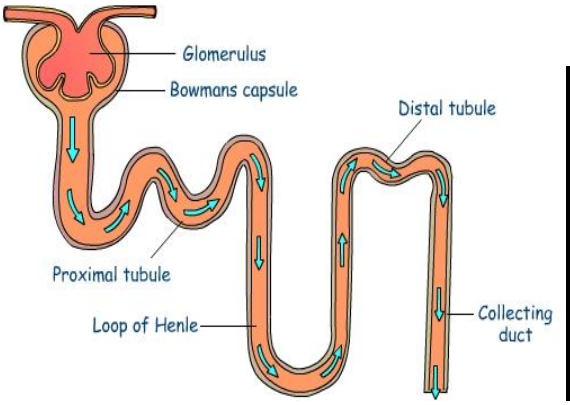
ANSYS
Flow Direction

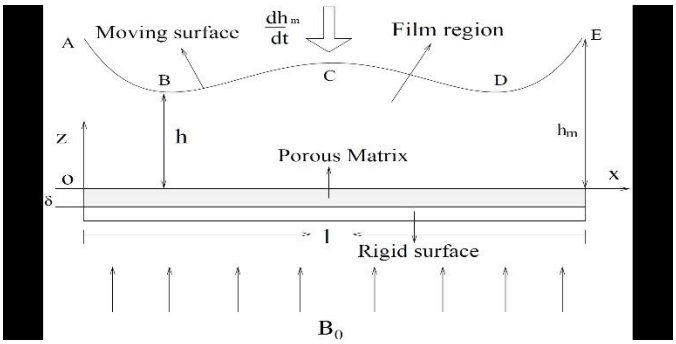

(b)
MTC: 0.0007 0.0021 0.0035 0.0049 0.0063 0.0077 0.0091 0.0105
(m/s)
U
bend start
bend end
90°

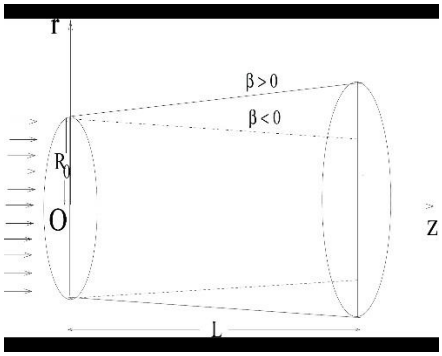

0.00015
0.0001
5E-05
0
-5E-05
-0.0001
-0.00015
PV
HA
Space of Sinusoid
Fenestration
Eddy
0 0.0001 0.0002 0.0003 0.0004 0.0005
x (m)

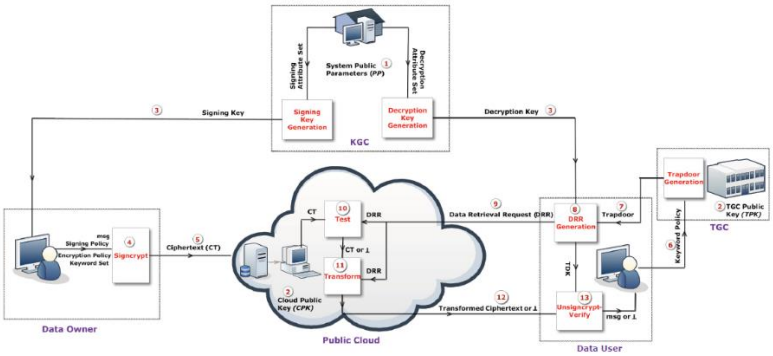

y = 0.0217m
1
y = 0.088m
2
y = 0.231m
3
y = 0.293m
4

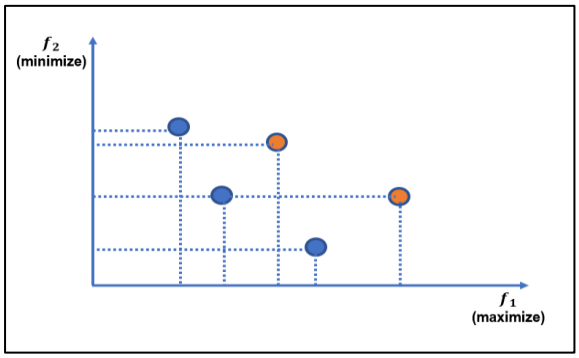

x = 0.1m
a
x = 0.142m
b
x = 0.226m
c
x = 0.303m
d

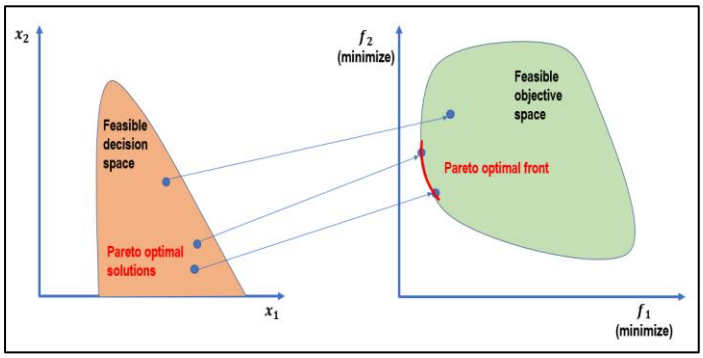

Glomerulus
Bowmans capsule
Distal tubule
Proximal tubule
Loop of Henle
Collecting duct


Moving surface
dh m / dt
Film region
A
B
C
D
E
z
h
hm
Porous Matrix
o
x
δ
l
Rigid surface
B0


r
β > 0
β < 0
R0
O
z
L


System Public Parameters (PP)
Signing Key
Signing Key Generation
Decryption Key Generation
Decryption Key
KGC
Data Owner
Ciphertext (CT)
Public Cloud
Data Retrieval Request (DRR)
Trapdoor
DRR Generation
TGC
TGC Public Key (TPK)
Data User
Transformed Ciphertext or ⊥
msg or ⊥


f2
(minimize)
f1
(maximize)


x2
f2
(minimize)
Feasible decision space
Feasible objective space
Pareto optimal front
Pareto optimal solutions
x1
f1
(minimize)

DEPARTMENT OF PHYSICS

VISION

Be on the forefront of applied research and dissemination of knowledge combining Science and Engineering perspectives.

MISSION

Develop the scientific insight and technical competence of the students for keeping abreast with the advancements in Science and Technology to meet the demands of Industry and Research.

ACHIEVEMENTS

The department has been sanctioned **Rs.2.75 Crore** from Department of Science and Technology (DST) under "Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (DST-FIST)" Scheme in January, 2020. The duration of the project is five years (2020 – 2025).

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Professor (HOD)

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Professor
Medical Instrumentation & Super Capacitors

Prof. R. L. N. Sai Prasad
Professor

Applied Optics

Prof. K. V. G. Reddy
Professor

Materials Science and Condensed Matter Physics

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Associate Professor

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Asst. Professor

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Dr. D. Paul Joseph
Asst. Professor

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Dr. K Udaykumar
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Dr. Aalu Boda
Asst. Professor

Condensed Matter Theory, Low-dimensional Systems and Nanostructures, etc…

Publications(Peer Reviewed Journals)

International Journals (67)

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66, R. Rathika, M. Kovendhan, **D. Paul Joseph**, C. Venkateswaran, K. Asokan and S. Johnson Jeyakumar, Investigation of structural and electrical properties of pristine and 200 MeV Ag15+ ion irradiated 3 wt% 'Li' doped WO3 thin films, Indian Journal of Physics – Springer ISSN: 0973-1458 (print) ISSN: 0974-9845 (e-version) https://doi.org/10.1007/s12648-019-01427-5 1.407, 93, (2019) 1559–1565

66, R. Rathika, M. Kovendhan, **D. Paul Joseph**, A. Sendil Kumar, K. Vijayarangamuthu, C. Venkateswaran, K. Asokan, S. Johnson Jeyakumar, Effect of 200 MeV Ag15+ ion beam irradiation at different fluences on WO3 thin films, Nuclear Instruments & Methods in Physics Research Section B-Beam Interactions With Materials and Atoms 0168-583Xhttps://doi.org/10.1016/j.nimb.2018.10.036, 1.270 , 439, 51-58, 2019

67, P. M. Pratheeksha, J. Sri Rajeshwari, **D. Paul Joseph**, Tata Narasinga Rao, and S. Anandan, Investigation of in-situ carbon coated $LiFePO_4$ as a superior cathode materials for lithium ion batteries, Journal of Nanoscience and Nanotechnology 1533-4880 https://doi.org/10.1166/jnn.2019.15881, 1.134, 19 (5) , 3002-3011, 2019

Funded Research Projects (2019-20)

Ongoing Projects (8)

1, Development of fully bio-based and biodegradable polymer and bamboo fibers composites for commercial applications, Tumu Venkatappa Rao, MD/MBDB/CR-86/18-19/589, Dt.22.04.2019, 34.50, MBDB-Naiontional Bamboo Mission, Govt of Maharastra, 3

2, Development of Working Models to Demonstrate Real Time Diamagnetic Levitation Using YBCO and Bismuth, Dr. D. Paul Joseph, *TLC-NITW Sanction Order: Ref. No:NITW/TLC/2017/419 Dated 08-11-2017*, *1.75*, *TLC of NIT-Warangal*, *2*

3, Investigation of Proximity Effect between Mixed ortho-ferrites and YBCO Hetero-structures, Dr. Kodam Ugendar, Dr. Bhavana Godbole & Dr. D. Paul Joseph, National Project Implementation Unit (NPIU) Sanction Order Dated 18-06-2019, 17.48, Project funded by NPIU Jabalpur Eng. College, M.P., *2*

4, Development of Distributed Photonic Sensor for Simultaneous and Real-time Measurements of Strain and Temperature in Fusion Reactor Relevant Applications, Dr. Sourabh Roy, Sanction No. 39/14/27/2016-BRNS date 1st April 2017, 29, BRNS DAE, 3

5, "Stable Generation of Optical Vortex Beams using Long Period Grating inscribed Few-Mode Optical Fiber, Dr. Sourabh Roy, SERB/F/10339/2019-2020 dated 17th February, 2020, 39, SERB - DST, 3

5, Development of novel bioactive glass and glass ceramics - In vitro and in vivo, P. Abdul Azeem and M Bramanandam (HCU, Hyd), *EMR/2016/006870 date 27.06.2018*, 40, SERB - DST, 3

6, Development of nano-bioactive glass-ceramic powders for tissue engineering applications, Dr. P. Syam Prasad, , 32 , SERB – DST, 3

7, Computational structure-based drug design: Identifying antivirals from natural products targeting SARS-CoV-2, Dr. Thyageshwar Chandran, Dr. Surya Kanta Ghosh, HPC Consortium Project: MCB200128, , XSEDE, USA,

8, Dynamics in complex environments: From single particle to giant polymers , Dr. Surya Kanta Ghosh , SERB – DST , 17 Lakhs

Patents

Filed (4)

1, **P. Abdul Azeem**, P Srinath, K. Venugopal Reddy, S. Rajkumar, M Bamanandam, M Krishnam Raju, Sushil Patel, 2.02E+11, CALCIUM SILICATE BASED NANO CRYSTALLINE CERAMICS: A COST-EFFECTIVE METHOD FOR THE PREPARATION USING NATURAL RESOURCES, 2020, NA, Intellectual property, India, NIT Warangal, HCU Hyderabad

2, **Haranath Divi,** G. Swati and Nahar Singh, Indian Patent No. IN201811006559, Sunlight Sensitized Blue Afterglow Phosphor: A Commercial Process for the Preparation Thereof, 8/23/2019, Sunlight Sensitized Long Afterglow Phosphor Powder and Paint, Intellectual property, India, NPL, New Delhi

3, **Haranath Divi,** Nahar Singh, Sneha Chawla, Indian Patent No. IN201611019355, A Process for the Preparation of Uniform Sized Phosphor Aerogel, 12/8/2017, Development of Advanced Luminescent Materials and Devices, Intellectual property, India, NPL, New Delhi

4, R. N. Bhargava, Adosh Mehta, **D. Haranath**, US Patent Filed Docket. NTN1503u, Use of Dopant for Creation of Paramagnetic, Ferromagnetic and Luminescent Nanocrystals and Modulation of their Properties, 2019, Development of Advanced Luminescent Materials and Devices, NCT, USA, NCT, USA

Books and Book Chapters

Book Chapters (3)

1, R. Ramarajan, D. Paul Joseph, K. Thangaraju, M. Kovendhan, Indium-Free Alternative Transparent Conducting Electrodes: An Overview and Recent Developments, Book entitled 'Metal and Metal Oxides for Energy and Electronics' to be published by Springer Nature, 2020

2, R. Rakesh Kumar, K. Uday Kumar, and D. Haranath, Synthesis, Properties, and Applications of Transition Metal Oxide Nanomaterials Scheme for HESS in Renewable Power Generation Applications, Book Chapter -CRC Press (ISBN:9780367275471), June 2020. (https://www.routledge.com/Multifunctional-Nanostructured-Metal-Oxides-for-Energy-Harvesting-and-Storage/Pawade-Salame-Bhanvase/p/book/9780367275471), 2020

3, G. Swati, V. V. Jaiswal and D. Haranath, Rare-earth doping in afterglow oxide phosphors: Materials, persistence mechanisms, and dark vision display applications, Bool Chapter - Woodhead Publishing Series in Electronic and Optical Materials (Elsevier), Nov 2019 (Spectroscopy of Lanthanide-Doped Oxide Materials. https://doi.org/10.1016/B978-0-08-102935-0.00012-5), 2019

Conferences/ Workshops/GIAN courses/FDPs Conducted *(5)*

1, FODS-2019, 17th June 2019, 21st June 2019, For faculty in Universities/Colleges/Institutes -47 Participants, TEQIP-III, NIT-Warangal, Dr. D. Paul Joseph, Dr. V. Jayalakshmi, Dr. K. Thangaraju

2, TLFMD-2020, 9th Mar. 2020, 14th Mar. 2020, For faculty in Universities/Colleges/Institutes -40 Participants, TLC of NIT Warangal , Dr. V. Jayalakshmi, Dr. K. Thangaraju, Dr. D. Paul Joseph, Dr Kusum Kumari

3, A One day Workhop on "Fourier Optics and Application, 17th August 2019, 17th August 2020, Reseacher and students, SPIE, Dr. Sourabh Roy

4, ICAFMD – 2019), 2/26/2019, 02/28/2019, Faculty, Researchers and PG/UG students (150), TEQIPIII, DRDO, BRNS, INSA, P Abdul Azeem and T. Venkatappa Rao

5, NCLA-2020, 2/8/2020, 2/10/2020, faculty, researchers (120), DRDO, BRNS. CSIR, TEQIP -III, D. Haranath, P. Abdul Azeem and T Venkatappa Rao Joint secreratary

Guest talks/ Webinars delivered

1, Y. Manjula, R. Rakesh Kumar,, P M Swarup Raju, G Anil Kumar, Felxible Nanogenerator Based on ZnONanosheets for Mechanical Energy Harvesting, Oral, ICAFMD-2019, 26-28th February, 2019

2, P Srinath, P. Abdul Azeem, K. Venugopal Reddy, In vitro studies of bioceramics from agro-food recyclable materials, Oral, 2nd World Summit on Advances in Sciences, IUPUI, Indianapolis, USA, October 3-5, 2019

3, Vishnu V. Jaiswal and D. Haranath, Highly Efficient Orange-red (610 nm) Emitting Lumino-Magnetic Nanophosphor for Biomedical Applications, Oral, State Level Chekumuki Childrens Science Festival organized by Jana Vignana Vedika 05-07 January, 2019

4, D. Haranath, Innovative Electroluminescent Display from Phosphor-CNT Hybrid, Invited Talk, ICLA-2019 during 07-10 Jan 2019

5, Vishnu V. Jaiswal and D. Haranath, Tuning of Emission Colors (400–600 nm) of Aqueous Stable and Ambient-light Excitable Sr2MgSi2O7:Eu2+, Dy3+ Long Afterglow Phosphor, Oral, ICLA-2019 during 07-10 Jan 2019

6, D. Haranath, IPR Policy for Young Minds: Special Focus on Patent, Trademark, Design and Copyright, Invited Talk, RMSWS-2019 during 21-25 January, 2019

7, D. Haranath, Nanomaterials for Energy Saving Applications, Invited Talk, Department of Physics & Chemistry, Vivekananda Degree College, Bengaluru during 28-29 Jan, 2019

8, D. Haranath, Advanced Luminescent Materials and Devices for Societal Applications, Invited Talk, National Conference on Frontiers in Advanced Physics, during 07-08 Feb, 2019

9, D. Haranath, Advanced Luminescent Materials and Devices for Societal Applications, Invited Talk, Two days National Workshop on Physics of Materials and Molecules, organized by Department of Physics, during 15-16 March, 2019

10, R.Ramarajan, M. Kovendhan, R. Ramesh Babu, K. Thangaraju1, D. Paul Joseph, "Optimization and Transport Properties of 'Nb' Doped SnO2 Thin Film as an Alternate TCO Application", Poster, 64th DAE-Solid State Physics Symposium December 18 - 22, 2018

11, R. Ramarajan1, K. Thangaraju, D. Paul Joseph, R. Ramesh Babu, Investigation of substrate temperature effect on the properties of spray deposited Ta-doped SnO2 thin films, Poster, 64th DAE Solid State Physics Symposium 18th – 22nd Dec., 2019,

12, N. Purushothamreddy, Rompivalsa Santhosh, Ravi Ketavath, Banavoth Murali, D. Paul Joseph, Optimization of nanocrystalline Sb doped BaSnO3 for dye-sensitized solar cell applications, Poster, In Press - AIP Conf. Proc., of the 64th DAE Solid State Physics Symposium

13, R. Rathika, S. Johnson Jeyakumar, M. Kovendhan, D. Paul Joseph, C. Venkateswaran, and K. Asokan, Study of 100 MeV O7+ Ion Beam Irradiation Effects on Spray Deposited 5 wt% 'Li' doped MoO3 Thin Film, Poster, In Press - AIP Conf. Proc., of the 64th DAE Solid State Physics Symposium

14, Onkar Nath Verma and Sourabh Roy, Subnanoscale Localization of Rare-Earth-Ion in Doped Crystal via Electromagnetically Induced Transparency, Oral, 24th Microoptics Conference (MOC), 2019, Japan

15, Koustav Dey and Sourabh Roy et al.,, Interrogation of SMS for measuring of temperature and strain using half etched FBG with enhanced sensitivity, Oral, SPIE

Photonics Europe 2020, Strasbourg, France. Proc. Of SPIE

16, Koustav Dey and Sourabh Roy et al.,, Inscription and Optimization of Fiber-Optic Long Period Gratings Using Electric Arc Discharge, Postar, 24th Microoptics Conference (MOC), 2019, Japan

17, Koustav Dey and Sourabh Roy et al.,, Fabrication and analysis of Long-Period Gratings by Electric Arc Discharge, Poster, FIO 2019, USA, OSA

18, Vadapalli Durga Rama Pavan, and Sourabh Roy, Temperature Effects on Dispersion Tailoring of Slow Light Engineered Photonic Crystal Waveguide, Poster, 24th Microoptics Conference (MOC), 2019, Japan

19, C. Harikrishna and Sourabh roy, Controlled Generation of Isolated C-points in Few-mode Optical Fiber, Oral, 24th Microoptics Conference (MOC), 2019, Japan

20, *'Transparent, Flexible Tri-layer Metallic Thin Films – Role of Hierarchy and Thickness'*, NCHSM – 2019, 22nd & 23rd Feb. 2019 - Dept. Physics, SRM-Univ. Ramapuram Campus, Chennai.

21, *"Functional Tri-layer Oxide and Metallic Thin Films"*, National seminar on Physics of Materials and Molecules 15th & 16th March 2019, Kakatiya University, Warangal.

22, *"Nano-Dimensional Metallic and Oxide Tri-layer Thin Films for Advanced Applications"*, Colloquium on Nanoscience and Nanotechnology (Under TEQIP-III), 7th - 8th Nov. 2019, Department of Applied Physics, Jabalpur Engineering College, Madhya Pradesh.

23, 'Hierarchically Structured Metallic Multi-layered Thin Films & Rapid Synthesis of Half-Metallic CrO_2', National Conference on Novel Materials and Devices for Future Applications, *18th Feb. 2020*, *Dept. of Physics, St. Aloysius College (Autonomous) Mangaluru, Karnataka. (Plenary Lecture).*

24, *'Proximity Effect in Hierarchically Structured Superconductor/Ferromagnet Multi-Layers'*, 19th Feb. 2020, Dept. of Metallurgical and Materials Engineering, NIT-K, Surathkal, Mangaluru, Karnataka.

25, WEBINAR- Ultrathin Transparent Conducting Metallic Multi-layers delivered in the 'Frontiers in Scientific Research & Technology' (June 11th -13th, 2020) organized by Dept. of Physics & Chemistry, St. Joseph's Institute of Technology, Chennai.

26, WEBINAR- Proximity Effect in Superconducting-Halfmetallic Multi-layers delivered in the 'Expert Webinar Series' (4th July, 2020) organized by Dept. of H & S, Rajalakshmi Engg. College, Chennai.

27, WEBINAR- "Thin Films – Basics and Advanced Applications" delivered in the 'Two week faculty development programme on recent advances in Materials Science & Physics' (1st August, 2020) organized by Dept. of Physics, SRM Institute of Science & Technology, Ramapuram Campus, Chennai, from 27th July to 8th Aug. 2020 by virtual mode.

28, WEBINAR - Transparent Conducting Oxides: An Inevitable Component in Displays and Solar Cells - Alternative Approach, 17th Nov.-2020, Phase-2-AICTE Sponsored Online Short Term Training Programme (STTP) on "Nanomaterials for Clean Energy and Environmental Applications" 16th to 21st November 2020, Conducted by Physics Division of MCET-Pollachi, Tamilnadu.

29,

30, WEBINAR - Stabilizing Novel Heterostructures and Nanostructures of Oxide Superconductors and Half-metallic Ferromagnets – Role of Hierarchy and Preparation Strategy, 27th Nov.-2020, Phase-3-AICTE Sponsored Online Short Term Training Programme (STTP) on "Nanomaterials for Clean Energy and Environmental Applications" 23rd to 28th November 2020, Conducted by Physics Division of MCET-Pollachi, Tamilnadu.

Awards/Recognitions/Achievements

1, Dr. Haranath D, Elected as Executive Council (EC) Member of Luminescence Society of India, Baroda, Gujarat for the duration 2020-2022, 2020-2022 (for 2 years)

2, Dr. Haranath D, Visiting Scientist Award by M/s Nanotheranoustics Inc, NY, USA, 2019-2024 (5 years)

Research Guidance (Completed in 2019-20) (*7*)

1, Ashish Kumar, Tumu Venkatappa Rao, Fulltime, BRNS_DAE project fellow, Compatibilization and Characterization of Bio-based and Bio-Degradable Poly (Lactic Acid) Blends and Composites

2, R. Ramarajan, DR. K. THANGARAJU, Fulltime, Institute, INVESTIGATION ON LARGE-AREA SPRAYDEPOSITED DONOR (Sb, Ba, Nb, Ta) DOPED SnO2 THIN FILMS FOR TRANSPARENT CONDUCTING ELECTRODE APPLICATION

3, Ms. Pooja Sharma, Dr V Shanker and Dr D Haranath, Fulltime, JRF, Synthesis of Alkaline Earth Aluminate

Phosphors by Various Routes and Study of Their Luminescence Characteristics

4, P. M. Pratheeksha, Dr. D. Paul Joseph & Dr. S. Anandan (ARCI-Hyderabad), Fulltime-External, ARCI-SRF, Development of Nanostructured Electrodes for High Energy Density Lithium Ion Batteries - Strategies for Improved Performance and Bulk Synthesis

5, K. Uma Devi, Dr. V. Jayalakshmi & Dr. J. Arout Chelvane, Fulltime-External, DMRL-SRF, Tailoring Magnetic Anisotropy and Microscopy Studies in Tb-Fe-Co and Fe-CO-SI-B Thin Films

6, C. Hari Krishna, Dr. Sourabh Roy, Fulltime, Institute, Vector Vortex Modes in Few Mode Optical Fibers: Generation and Characterization

7, M. Mohanbabu, Dr. P. Syam Prasad, Fulltime, Institute,

International Visits of the Faculty Members *(4)*

1, Dr. Tumu Venkatappa Rao, USA, Indiana University-Purdue university, Indianapolis, 03.10.2019 to 05.10.2019, Oral presentation at 2nd WASET, Indiana Summit 2019 on ZnO nanorods grown on biodegradable polylactic acid substrates by low temperature solution growth method.

2, Dr. P. Abdul Azeem, Indianapolis, USA, Indiana purdue University, 3- 5 October, 2019, Presented a paper in an International conference

3, Dr. D. Haranath, USA, M/s Nanotheranostics Inc, NY, USA, 01-31 Dec 2019, To receive Visiting Scientist Award (2019-2024) by M/s Nanotheranostics Inc (NTI), USA

4, Dr. Sourabh Roy, Japan, University of Toyama, 22.11.2019 to 29.11.2019, Attend and present paper in 24th Micro Optics Conference

SUMMARY OF PHYSICS DEPARTMENT

(June 1, 2019-May 31, 2020)

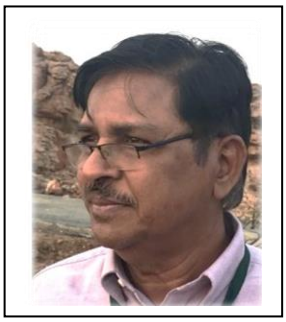
S.No.	Activity	Number
1	**Publications (Peer Reviewed Journals/ conferences)** (SCOPUS/SCI)	67
2	**Funded Research Projects/SPARC projects (2019-20)**	
	Ongoing Projects	**8**
3	**Patents**	
	Filed	**4**
4	**Books and Book Chapters**	**3**
5	**Conferences/ Workshops/GIAN courses/FDPs Conducted**	***5***
6	**Guest talks/ Webinars delivered**	***29***
7	**Awards/Recognitions/Achievements**	***2***
8	**Research Guidance (Completed in 2019-20)**	***7***
9	**International Visits of the Faculty Members/ students**	***4***

Department of Chemistry

The department of chemistry was established in the Year, 1959, as an integral part of the Regional Engineering College Warangal (RECW). Since its inception, the department is greeted as one of the most academically active departments in the Institute. The department housed 18 faculty members, 60 research scholars and 101 M.Sc. students. Department offers chemistry courses to all engineering branches and two years M.Sc. Chemistry with specialization in Organic and Analytical Chemistry. The department has been conducting cutting-edge research in contemporary topics of Organic, Inorganic, Physical and Analytical Chemistry. In the department, various state-of-the-art facilities such as 400 MHz NMR, HRMS, gas chromatography, HPLC, FTIR, UV-vis-NIR, fluorescence, electrochemical workstation, computational chemistry software, etc. are available. So far, department received several extramural research projects worth Rs ~11 crores. As a part of continuing education and outreach activities, department organized national and international Conferences, seminars and workshops. In addition, department is actively involved in science popularization among the school children via INSPIRE programme and society. So far, the department produced 130 Ph.D. students and published over 950 research articles in various well-reputed international and national journals. The department surpasses in teaching, research and graduate students' placement.

CHEMISTRY

Faculty



Dr. A. Ramachandraiah
Ph.D. (Univ. of Hyderabad)
Professor (HAG)
Research area: Coordination and Electrochemistry

Dr. K. Laxma Reddy
Ph.D. (Kakatiya Univ.)
Professor (HAG)
Research area: Coordination and Environmental Chemistry

Dr. V. Rajeswar Rao
Ph.D. (Kakatiya Univ.)
Professor
Research area: Synthetic organic chemistry

Dr. K. V. Gobi Ph.D. (Madurai Kamaraj Univ.), Professor
Research area: Electrochemical Biosensors, Fuel Cell Electro-catalysts

Dr. P. V. Srilakshmi Ph.D. (IICT, Hyderabad), Professor
Research area: Bioorganic Chemistry, Drug Delivery/Gene Delivery

Dr. Vishnu Shanker, Ph.D. (IIT Delhi), Associate Professor
Research area: Nanocomposite materials, Environmental remediation and photocatalysis

Dr. D. Kashinath
Ph.D. (IIT Bombay)
Associate Professor
Research area: Organic synthesis, Medicinal chemistry

Dr. Venkatathri Narayanan
Ph.D. (NCL, Pune)
Associate Professor
Research area: Materials chemistry and catalysis

Dr. Raghu Chitta Ph.D. (Wichita State Univ), Assistant Professor
Research area: Materials Chemistry, Solar energy, Chemosensors

CHEMISTRY

Dr. B. Srinivas Ph.D. (Univ. of Hyderabad), Assistant Professor
Research area: Organic synthesis, Supramolecular chemistry, Crystal engineering

Dr. K. Hari Prasad Ph.D. (IIT Kanpur), Assistant Professor
Research area: Organic synthesis, Carbohydrate Chemistry

Dr. S. Nagarajan Ph.D. (Univ. of Madras), Assistant Professor
Research area: Organic synthesis, Organic materials, Molecular self-assembly

Dr. M. Raghasudha, Ph.D. (Osmania Univ.)
Assistant Professor
Research area: Nano-ferrites, Nanomaterials, Photocatalysis

Dr. C. Jugun Prakash, Ph.D. (IIT Bombay), Assistant Professor
Research area: Medicinal inorganic and bio-analytical chemistry

Dr. Ravinder Pawar, Ph.D. (CSIR-CLRI),
Assistant Professor
Research area: Computational and theoretical chemistry

Dr. Mukul Pradhan, Ph.D. (IIT Kharagpur), Assistant Professor
Research area: Nanomaterials, Energy devices, Electrochemical and SERS sensors

Dr. G. Rajeshkhanna, Ph.D. (IIT Madras), Assistant Professor
Research area: Nanomaterials, Electrocatalysis, Electrochemical sensors

Dr. V. Rajeshkumar, Ph.D. (National Chiao Tung Univ.),
Assistant Professor
Research area: Organic synthesis, Metal catalysis

CHEMISTRY

Publiccations (in peer reviewed journals)

S Manchala, A Gandamalla, NR Vempuluru, SM Venkatakrishnan, **Vishnu Shanker**, High potential and robust ternary $LaFeO_3$/CdS/carbon quantum dots nanocomposite for photocatalytic H2 evolution under sunlight illumination, Journal of Colloid and Interface Science, (2020), DOI: 10.1016/j.jcis.2020.08.125.

S Manchala, V Tandava, D Jampaiah, SK Bhargava, **V Shanker**, A Novel Strategy for Sustainable Synthesis of Soluble-Graphene by a Herb Delphinium denudatum Root Extract for Use as Light-Weight Supercapacitors, ChemistrySelect 5 (9), (2020) 2701-2709.

Deepak Badgurjar, Bing Shan, Animesh Nayak, Lei Wu, **Raghu Chitta**, Thomas Meyer. Electron-Withdrawing Boron Dipyrromethene Dyes as Visible Light Absorber/Sensitizers on Semivonductor Oxide Surfaces. *ACS Appl. Mater. Interfaces* **2020**, 12, 7768-7776.

Naresh Duvva, Suneel Gangada, **Raghu Chitta,*** Lingamallu Giribabu.* Bis(4'-tert-butylbiphenyl-4-yl)aniline (BBA)-substituted A3B zinc porphyrin as light harvesting material for conversion of light energy to electricity. J. Porphyr. Phthalocyanines 2020 In press.

Sangolkar, A. A., **Pawar, R**. Prediction of the [4+ 2]- and [5+ 4]-cycloaddition reactions in zig-zag carbon nanotubes via an ambimodal transition state: density functional theory calculations, RSC Advances 10 (2020) 16: 11111-11120

Pawar, R., Subramanian, V. Hydrogen bonding interaction of N5H with water: A first principle calculations, Computational and Theoretical Chemistry 1165 (2019): 112560.

Löfgren, R., Pawar, R., Öberg, S., Larsson, J. A. The bulk conversion depth of the NV-center in diamond: computing a charged defect in a neutral slab, New Journal of Physics 21 (5), 053037.

Golla, S., Poshala, S., **Pawar, R.**, **Kokatla, H. P.** Rongalite-promoted metal-free aerobic ipso-hydroxylation of arylboronic acids under sunlight: DFT mechanistic studies, Tetrahedron Letters 61 (2020) 9: 151539.

Thunga, S., Poshala, S., Anugu, N., Konakanch, R., Satheesh, V., **Kokatla, H. P**. An efficient Pd (II)-(2-aminonicotinaldehyde) complex as complementary catalyst for the Suzuki-Miyaura coupling in water, Tetrahedron Letters 60(2020) 31: 2046-2048.

Ramaiah K., Jyothi P. and **Laxma Reddy K.**, Investigation of structures, FTIR, FT-Raman, in vivo anti-inflammatory, molecular docking and molecular characteristics of 2-amino-3-pyridine carboxaldehyde and its copper(II) complex using experimental and theoretical approach, Polycyclic Aromatic Compounds, (2020) DOI: 10.1080/10406638.2020.1725899

Jyothi P., Ramaiah K., Byru Venkatram R. and **Laxma Reddy K.**, Barrier potentials, molecular structure, force killed calculations and quantum chemical studies of some bipyridine di-carboxylic acids using the experimental and theoretical using (DFT,IVP) approach, Molecular Simulation, (2020) Just accepted, in press

Velugula, K., Kumar, A., **Chinta, J.P.** Nuclease and anticancer activity of antioxidant conjugated terpyridine metal complexes Inorganica Chimica Acta, (2020), 507: 119596

Prasad Y.S., Miryala S., Lalitha K., Saritha B., Maheswari C.U., Sridharan V., Srinandan C.S., and **Nagarajan S.**, An Injectable Self-Healing Anesthetic Glycolipid-Based Oleogel with Antibiofilm and Diabetic Wound Skin Repair Properties, Scientific Reports, (2020) Just accepted, In press

Thamizhanban A., Guru Prasanth S., Lalitha K., Siva Prasad Y., Dinesh Kumar S., Apurba Das., John Bosco B.R., and **Nagarajan S**, Fabrication of Biobased Hydrophobic Hybrid Cotton Fabrics Using Molecular Self-Assembly: Applications in the Development of Gas Sensor Fabrics, ACS Omega, (2020) 5: 3839-3848"

Guru Prasanth S., Dinesh Kumar S., Lalitha, K., **Nagarajan S**., and John Bosco B. R, Self-assembled sugar-based copper nanoparticles as trimethylamine sensor, Journal of Materials Science: Materials in Electronics, (2020) 31: 1594-1603

Gopinath K., **Nagarajan S**., and Karthikeyan M, Isolation of Natural Compounds from Syzygium densiflorum Fruits and Exploring its Chemical Property, Therapeutic Role in Diabetic Management , The Natural Products Journal (2020) 10: 168

Muthukrishnan I., Karuppasamy M., Vachan B.S., Diksha R., **Nagarajan S.**, Maheswari C.U., and Sridharan V, Chemodivergent synthesis of functionalized methanodibenzo[b,f][1,5]diazocin-13-ylmethanones and tetrahydroquinolines via solvent-dependent AB2 and A2B2 multicomponent annulation reactions, Organic Chemistry Frontiers, (2020) 7: 1616-1625

Sankari Devi E., Pavithra T., Tamilselvi A., **Nagarajan S.**, Sridharan V., and Uma Maheswari C, N-Heterocyclic Carbene Catalyzed Synthesis of Trisubstituted Epoxides via Tandem Amidation/Epoxidation Sequence, Organic Letters, (2020) 22: 3576-3580"

Sandeep M., Himesh M., Siva Prasad Y., Venkatasubramanian U., **Nagarajan S.**, and Srinandan C.S., Disperse red 15 (DR15) impedes biofilm formation of uropathogenic Escherichia coli, Microbial Pathogenesis, (2020) 138: 103772

Siva Prasad Y., Manikandan S., Lalitha K., Sandeep M., Vara Prasad R., Arunkumar R., Srinandan, C. S., Uma Maheswari C., Sridharan V., and **Nagarajan S**, Supramolecular gels of gluconamides derived from renewable resources: Antibacterial and anti-biofilm

applications, Nanoselect, (2020), Accepted article DOI: 10.1002/nano.202000058

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M. Raghasudha, Synthesis and antimicrobial study of Co-Ni-Cd nanoferrites, Magnetic Oxides and Composites II, Materials Research Foundations 83 (2020) 117-133 eBook ISBN 978-1-64490-097-0

Conferences/ Workshops/GIAN courses/FDPs Conducted

State Level Chekumuki Children's Science Festival (CCSF-2019), 5-7, January, 2019, **K. Laxma Reddy** & L. Anjaneyulu, Organizing Secretaries

State Level One Month Mentoring program for High School students of Government Schools at NIT Campus, 1-30, May, 2019, **K. Laxma Reddy** & L. Anjaneyulu, Coordinators

FDP on "Instrumental Strategies of Physical Methods on Chemical Analysis with Hands on Experiment" 2-7, March, 2020, coordinators: **K. Laxma Reddy, Raghu Chitta & Jugun Prakash**, Coordinators

Basavoju, S., H.P., Kokatla, TLC funded faculty development workshop on Teaching and learning of Modern Methods of Organic Chemistry, 24-29, Feb-2019.

International conference on "Advances in Chemical Sciences and Technologies (ACST 2019)" is organized by Department of Chemistry as a part of Diamond Jubilee Celebrations of NIT (REC), Warangal during 23rd–25th September 2019; Coordinators: Dr. **Vishnu Shanker, and Dr. D. Kashinath**, Department of Chemistry, NIT Warangal.

A one-week National Workshop on "Hands-on-experience on Fabrication of Nanocomposite Materials for Engineering Applications" (FNMEA – 2019) is organized by Centre for Advanced Materials, NIT Warangal as a part of Diamond Jubilee Celebrations of NIT (REC), Warangal during 6th-10th May 2019; Coordinators: **Dr. Vishnu Shanker, Dr. G. Raghavendra** and **Dr. P. Abdul Azeem**

K. V. Gobi, Vishnu Shanker, Raghu Chitta, A Six Day Faculty Development Programme on "Nano-science and Technology Through Hands-On Experiences" 10-15 February, 2020.

K. V. Gobi, K.V., Srilakshmi, P. V. Srinivas, B., and Hari Prasad, K., TEQIP-III funded National Conference on ''Emerging Trends in Instrumental Methods of Chemical Analysis'', from 30th-31st January 2019.

One day National Seminar on Strategies for Empowering Youth for a Vibrant India during Youth Fest on 10-01-2020, **Dr. M. Raghasudha**, Co-ordinator

A Six day FDP on "Teaching and Learning of Advances in Physical Chemistry through Hands-on-Experieces" from 17th-22nd February 2020, **Prof. K.V. Gobi, Dr. M. Raghasudha, Prof. A. Ramachandraiah** co-ordinators

Guest talks/ Webinars delivered

Dr. Srinivas Basavoju, delivered an expert lecture on Multidimensional NMR Spectroscopy and its Software Applications'', UGC Sponsored National Conference on Multidimensional NMR Spectroscopy and its Applications, Organized by Acharya Nagarjuna Univeristy, College of Pharmaceutical Sciences, Guntur District, Andhra Pradesh, held on 17th & 18th March 2020

Dr. Srinivas Basavoju, delivered an expert lecture on NMR Techniques and its Applications in Pharmaceutical Sciences'', SERB Sponsored two day national conference on ''NMR Techniques and its Applications in Pharmaceutical Sciences'', Organized by Jayamukhi College of Pharmacy, Narasampet, Warangal, Telangana, held on 20th & 21st Sept 2019

Dr. Srinivas Basavoju, delivered an expert lecture on ''A Green protocol for the synthesis of spiro heteocyclic compounds by 1,3-dipolar cycloaddition'', RUSA & TSCHE sponsored One-day National Seminar on ''Technological Advances in Chemical Science'', organized by Government Degree & P. G. Collge, Siddipet (A), Telangana, held on 19th March 2019.

K. Laxma Reddy, "Symmetry & Group Theory and its Applications" at FDP on "Teaching Physical Chemistry with Hands on Experience" on 20-2-2020, organized by Department of Chemistry, NITW

K. Laxma Reddy, "Environmental Issues and Challenges" at FDP on "Teaching Oganicl Chemistry with Hands on Experience" on 24-2-2020, organized by Department of Chemistry, NITW

K. Laxma Reddy, "Electronic Spectroscopy" at FDP on "Instrumental Strategies of Physical Methods on Chemical Analysis with Hands on Experiments" on 2-3-2020, organized by Department of Chemistry, NITW

K. Laxma Reddy, "Symmetry & Group Theory and its Applications" at FDP on "Instrumental Strategies of Physical Methods on Chemical Analysis with Hands on Experiments" on 3-3-2020, organized by Department of Chemistry, NITW

K. Laxma Reddy, Expert Lecture on "Symmetry & Group Theory and its Applications" at Department of Chemistry, PG centre, Adikavi Nannaiah University, Tadepelligudem, AP on 1-2-2020

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K. Laxma Reddy, Expert Lecture on "Electronic Spectra of Metal Complexes" at Department of Chemistry, GITAM University, Vishakapatnam on 10-2-2020

V. Rajeswar Rao, Chemistry of Medicinally Important Thiazolidinones Satavahana University, Karimnagar Delivered a Lecture on 26/02/2020

V. Rajeswar Rao, Organic Reaction Mechanism JNTU Hyderabad 5-12-2020.

V. Rajeswar Rao, Recent Developments of Multi-Component Reactions NIT Warangal 23 and 24 February 2020

S. Nagarajan, Molecular Self-Assembly: An Elegant Strategy to Construct Advanced Organic Materials, Emerging trends in chemical sciences (ETCS-2019) organized by Department of Chemistry and Chemical Sciences, Central University of Jammu, Jammu on 14-15/03/2019

S. Nagarajan, Soft materials by self-assembly, Faculty Development Programme on MATERIALS SCIENCE & NANOTECHNOLOGY" organized by Department of Chemistry, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai-48, on 16/08/2020.

S. Nagarajan, Soft materials by self-assembly, One week Online Faculty Development Programme on "Recent Avenues in Chemical Sciences" organized by the Department of Chemistry, Saranathan College of Engineering, Trichy from 22.06.2020 to 28.06.2020.

S. Nagarajan, Assembled advanced organic materials, Webinar on Advanced organic materials organized by PG and Research Department of Chemistry, National College, Trichy, Tamil Nadu, India on 03/06/2020

S. Nagarajan, Molecular Self-Assembly: An Elegant Strategy to Construct Advanced Organic Materials, Webinar on Molecular Self-Assembly: An Elegant Strategy to Construct Advanced Organic Materials organized by Department of Chemistry, Easwari Engineering College, Chennai, Tamil Nadu, India on 02/06/2020

Raghu Chitta, Invited Lecture on "Photophysics of Electron and Energy Transfer in Artificial Photosynthetic Systems" at *One-Week Online Faculty Development Programme on "Spectroscopic and Analytical Techniques: Applications"* on 29th May, 2020 at J.C.Bose University.

Raghu Chitta, Invited Lecture on 'Atomic Spectroscopy" at A National Webinar on Lecture Series on Spectral Techniques on 4th July, 2020 at Palamuru University

Vishnu Shanker, delivered a lecture in one-week National Workshop on "Hands-on-experience on Fabrication of Nanocomposite Materials for Engineering Applications" (FNMEA – 2019) is organized by Centre for Advanced Materials, NIT Warangal as a part of Diamond Jubilee Celebrations of NIT (REC), Warangal during 6th-10th May 2019.

Vishnu Shanker, delivered a lecture in Six Day Faculty Development Workshop on "Teaching and Learning Nanoscience and Technology through Hands-on-experiences" (TLNST – 2020) is organized by Department of Chemistry, NIT Warangal In association with Teaching Learning Centre, NIT Warangal as a part of Diamond Jubilee Celebrations of NIT (REC), Warangal during 10th-15th February 2020.

Dr. K. Hari Prasad delivered lecture at state Science congress held at Yadadri-Bhuvanagiri District

Dr. K. Hari Prasad delivered expert lecture on the eve of Teachers Day at ZPHS, Chandupatla.

K V Gobi delivered an expert lecture on "Hybrid Nanocomposite Materials for Electrocatalytic Applications in Sensors", during a 14-day FDP on MATERIALS SCIENCE & NANOTECHNOLOGY" organized by Department of Chemistry, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai on 13th August 2020.

New Labs Established

(Equipment/Software)

Establishment of 'Solid State Probe for 400 MHz NMR Instrument' located at CAI center NITW with a funding of 62.0 Lakhs under TEQIP–III scheme and Plan Grant Establishment of solid-state probe FOR 400 MHz NMR at CAI canter with a funding of 62.0 lakhs under TEQIP – III scheme and plan grant, **B. Srinivas**

Establishment of 'Advanced English communication Skills Multi Media Laboratory' has been initiated with a funding of 7.5 Lakhs under TEQIP –III scheme, **K. Hari Prasad**

Awards/Recognitions/Achievements

A MoU has been signed between NIT Warangal and The Waxpol Industries LTD, Kolkata, west Bengal to scale up the process for the production of Graphene under the supervision of Dr. Vishnu Shanker.

Prof.Laxma Reddy- Fellow of Andhra Pradesh Academy of Sciences and Telangana Academy of Sciences

Dr. Srinivas Basavoju, Associate Fellow of Telangana Academy of Sciences.

Dr. Hari Prasad, Associate fellow of Telangana Academy of Sciences

Dr. M. Raghasudha, Associate Fellow of Telangana Academy of Sciences

Research Guidance (Completed in 2019-20)

Venkata Bharat Nishtala (Roll. No. 701448), Synthesis of Novel Spiro Heterocyclic Compounds and Biological

Evaluation, under guidance of **Dr. B. Srinivas,** in the month of Apr-2019

B. Mayuri, "Synthesis, Structual Elucidation and DNA Interaction, Molecular Docking and Anticancer Studies of Metal(II) Complexes with 3-Formylchromone and 2-Hydroxy-1-Naphthaldehyde Derived Ligands" under the guidance of K. Laxma Reddy, April, 2019

K. Ramaiah, "Synthesis, Characterization, Density Functional Theory and Biological Evaluation of Metal Complexes of New Ligands Derived from 2-Aminonicotinaldehyde" under the guidance of K. Laxma Reddy, October, 2019

Mr. M. Saikumar, Title "Fabrication of High potential Nano Carbon Based Photocatalysts for H_2-generation under Sunlight Illumination" under the supervision of Dr. Vishnu Shanker, Department of Chemistry, NIT Warangal graduated in the month of June 2020.

Mr. Seelam Rangaswamy Reddy, Title "Studies on dielectric and ferroelectric properties of lead free $Ba_{0.85}Ca_{0.15}Ti_{0.9}Zr_{0.1}O_3$ thin films and bulk ceramics" under the supervisions of Dr. Vishnu Shanker (Internal Supervisor), Department of Chemistry, NIT Warangal and Dr. Subir K. Roy, DRDL, Hyderabad, (External Supervisor) graduated in the month of June 2020.
Mr Suman Chirra, Dr. N. Venkatathri Development of the selected multi-valent metal ions functionalized mesoporous materials and studies on their applications 2020

V. Sunil Kumar (Roll No. 714164) under the guidance of **Dr. K. V. Gobi**, Professor of Chemistry submitted his Doctoral Thesis titled "*Development of Palladium and Non-noble Metal Based Nanocomposite Electrocatalysts Toward Methanol Oxidation in DMFC Applications*" in the first week of July 2020 for the award of the Ph.D. degree.

S. Manasa (Roll No. 715095) under the guidance of **Dr. K. V. Gobi**, Professor of Chemistry and **Dr. R. Subasri**, Scientist F, ARCI Hyderabad submitted her Doctoral Thesis titled "*Nanoclay-based Self-healing Corrosion Protection Coatings on Aluminum Alloys AA2024-T4 and A356.0*" in the third week of July 2020 for the award of the Ph.D. degree.

Students Achievements

Vinay Pogaku and **Srinivas Basavoju,** Green Synthesis of Novel Benzotriazoloquinolinyl Spirooxindolopyrrolizidines: Anti-mycobacterial and Anti-proliferative studies. Best poster Award in International Conference on ''Advances in Chemical Sciences and Technologies'' (ACST-2019), Organized by Department of Chemistry, National Institute of Technology, Warangal, Telangana, held on 23rd - 25th September, 2019.

Technical Association Activities

Inaugural of Chemistry Association on 11th September 2019, and an invited talk by Prof. V. Peesapati, Hon. Secretary, Royal Society of Chemistry (London)-Deccan Section, India

Chemistry Association: Prof. A Srikrishna memorial Lecture by Dr. Raghu Chitta, department of chemistry NITW on Jan 20th 2020

Chemistry Association: Sports Week by Chemistry Association 13th -15th March 2020

Chemistry Association: Virtual Farewell for M.Sc. students of 2018-2020 batch students on 13th September 2020

Outreach Programmes

Prof. K. Laxma Reddy, Organized online Astronomy classes to the Faculty and Students from 23-30, May, 2020

Prof. K. Laxma Reddy, distributed masks and sanitizers to the works during April & May, 2020

Prof. K. Laxma Reddy, visited the Tribal Welfare Hostel, Mangapeta, Mulug District and motivated the students towards higher education on 25-5-2019

Dr. K. Hari Prasad student-Scientist interaction program at ZPHS Subedari, HanamKonda in association with JVV

B. Srinivas, Conducted a Mega Blood Donation camp during the Youth Fest -2019 on 8th Jan 2019 on behalf of NSS NITW and collected 1105 blood units at NITW and donated to Red Cross and Mahatma Gandhi Memorial Hospital Warangal.

B. Srinivas, Conducted a Mega Blood Donation camp during the Youth Fest -2020 on 11th Jan 2020 on behalf of NSS NITW and collected 1210 blood units at NITW and donated to Red Cross and Mahatma Gandhi Memorial Hospital Warangal.

B. Srinivas, A cycle rally was conducted by the NSS team of NIT Warangal with the slogan "GO GREEN" as a part of 150th birth anniversary celebrations of Mahatma Gandhi.

B. Srinivas, A walkathon was conducted with NSS volunteers on NATIONAL GIRL CHILD DAY (24.01.2020) with slogans on Beti Bachao, Beti Padhao.

CHEMISTRY

Lectures Delivered at Conferences/Workshops

Laxma Reddy K, Professor of Chemistry, NIT Warangal, **delivered lectures** entitled "**Symmetry & Group Theory and its Applications**" and "**Environmental Issues and Challenges**" at FDP on "Teaching Physical Chemistry with Hands on Experience" during 20-24th February, 2020, organized by Department of Chemistry, NITW. Also, he delivered a lecture on "**Electronic Spectroscopy**" and "**Symmetry & Group Theory and its Applications**" at FDP in the area of "Instrumental Strategies of Physical Methods on Chemical Analysis with Hands on Experiments" during 2-3rd March, 2020, organized by Department of Chemistry, NITW. Furthermore, he delivered Expert Lecture on "Electronic Spectra of Metal Complexes" at Department of Chemistry, GITAM University, Vishakapatnam on 10-2-2020

Social Service Activities Rendered During the Lockdown Period

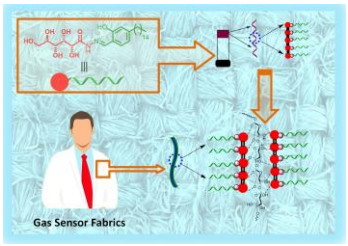
Laxma Reddy K, Professor of Chemistry, NIT Warangal has **distributed masks in slum areas** and explained about the safety from Corona at Hanamkonda. Also, he has given a **talk** in FM Radio Station, Warangal **about spending of time during the lockdown period** on 15-5-2020 at 7.15 am. Further, he delivered a **talk** on "**Education-Values**" through zoom to teachers on 19-5-20 between 6-8 pm. He took line classes to 9th and 10th class students from 18-5-20 to 23-5-20 and he is actively involved in clarifying the Chemistry doubts for High School Physical Science Teachers by Whats App / Mail. Additionally, he has **created** an **online help line for free medical check-up facilities** during lockdown period with the help of doctors.

Hand Sanitizer Preparation

Recent past has witnessed the emergence of a global pandemic in the form of coronavirus disease which has already resulted in the death of about 9000 people world over. Even in India there are about 170 reported cases till date. One of the best ways to protect oneself from this disease is through the use of hand sanitizers, but due to ever increasing demand there has been a situation of scarcity. In this regard **Dr. K. Hari Prasad** and a team of research scholars took upon themselves the task of preparing hand sanitizer in the laboratory in line with all the standards set by WHO and CDC. This initiative is further supported by Prof. P.V.Srilakshmi, Head of Department of Chemistry who took up the matter to the higher authorities for further support to produce hand sanitizers on a sufficient scale so that, it can be distributed among all the Departments, Administrative block, Hostels, At the entrance gate ect.,. Prof. N.V. Ramana Rao, Director, NIT Warangal congratulated the whole team and the Department of Chemistry for taking up this endeavor.

Research highlight

Dr. S. Nagarajan, Assistant Professor, Department of Chemistry NIT Warangal in collaboration with Dr. John B. B. Rayappan, Sastra University and Dr. Apurba Das, Indian Institute of Technology Delhi have developed a trimethylamine (TMA) sensor fabric using sequential molecular self-assembly technique from silver-incorporated glycolipids.



This research work has been highlighted in the Daily News Paper "*Telangana Today, andhrajyothy, Eenadu and a popular scientific blog, scisoup "* Representative link is as follows https://telanganatoday.com/telangana-nit-professor-and-his-team-develops-tma-sensor

http://scisoup.org/article/2020/scientists-develop-sensor-fabric-for-volatile-organic-compound-detection.html

CHEMISTRY

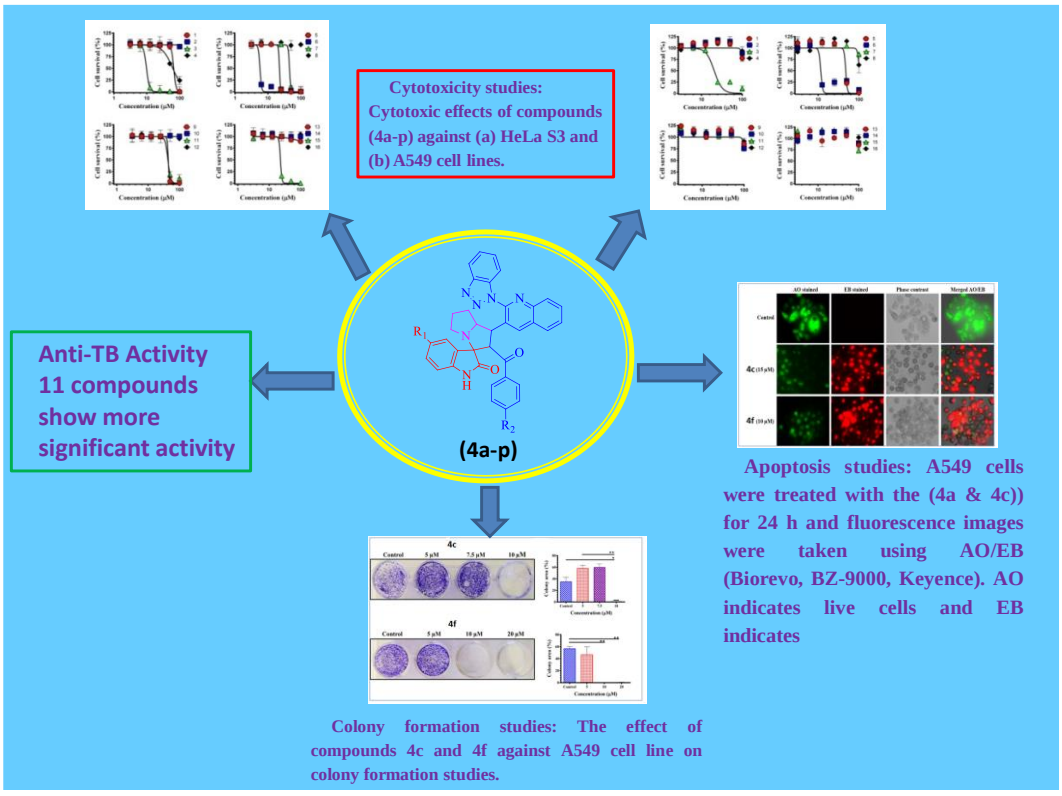
Award in Online Hackathon challenge (IEE India COVID Move)

Dr. Mukul Pradhan, Assistant Professor, Department of Chemistry, NIT Warangal along with research group of Dr. Rakesh Roy, Assistant Professor, Department of Electrical Engineering, NIT Meghalaya were awarded the third position in the IEE India COVID Move Online Hackathon challenge organized by IEEE India Council in collaboration with IEEE Hyderabad Section and IEEE Bangalore Section on 30th March 2020 to 2nd April 2020 for developing simple low-cost gloves which not only protect ourselves, it will also kill the virus.

Srinivas Basavoju and co-workers

Highlights: The design and green synthesis of novel benzotriazoloquinolinyl spirooxindolopyrrolizidines: antimycobacterial and antiproliferative studies

A novel series of potent antimycobacterial (anti-TB) and antiproliferative (anticancer) benzotriazoloquinolinyl spirooxindolopyrrolizidine derivatives were synthesized *via* an expeditious green approach using an ionic liquid ([Bmim]BF_4) under ultrasonication. (New Journal of Chemistry, 2019, 43, 17511-17520)

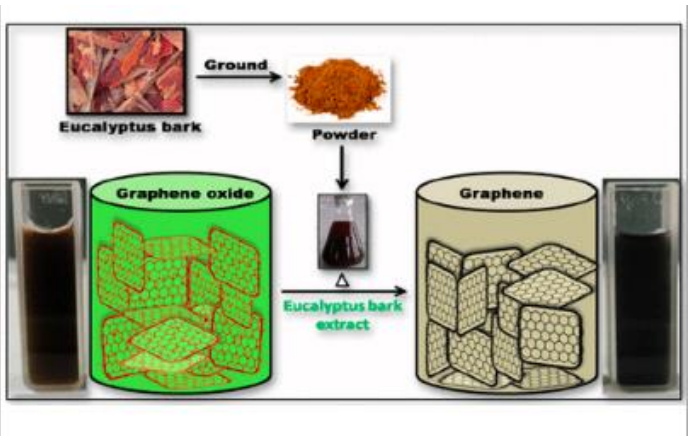


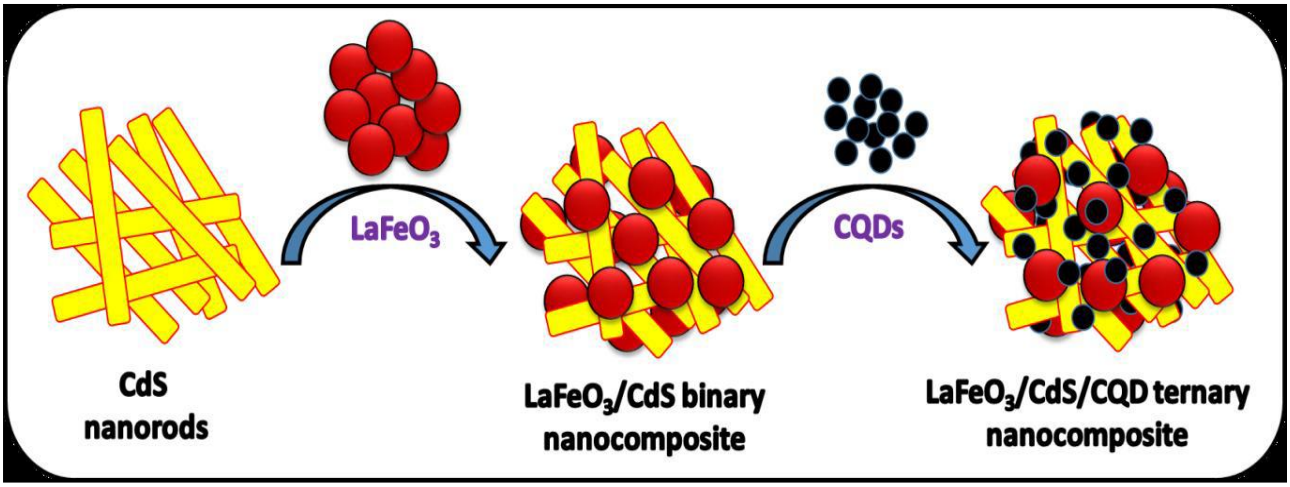
Dr K. Hari Prasad: Graphical abstract published on cover page.

Abstract: A novel rongalite-promoted metal-free aerobic *ipso*-hydroxylation of arylboronic acids has been developed. This method employs low-cost rongalite as a radical initiator and O_2 as a green oxidizing agent for *ipso*-hydroxylation. This protocol is compatible with a wide variety of functional groups with good to excellent yields at room temperature. Furthermore, mechanistic insight into the role of superoxide radical anions in C-B cleavage has also been provided based on DFT studies.

The ternary LaFeO3/ CdS/carbon quantum dots nanocomposite is an efficient photocatalytic material for H2 generation under sunlight illumination. The efficiency of H2 evolution rate is observed 25,302 μmolh-1g-1 is much higher than any other reported ternary system. Photocurrent studies reveal, encapsulation of CQDs with the LFO/CS heterojunction can facilitate easy and efficient separation of photo-generated excitons, which further results in a significant enhancement in H2 evolution rate of LFO/CS/CQDs ternary nanocomposite. This uniquely developed stable LaFeO3/CdS/CQD ternary nanocomposite opens opportunities for the development of high potential photocatalytic systems to realize the abundant production of solar fuels.

A group led by Dr. Vishnu Shanker, NITW has developed a safer and much less costly process for synthesizing the super-material graphene using an extract from eucalyptus bark. Due to economical and eco-friendly methodology Industry have shown their interest to scale-up the process and bring up to the commercial level. Recently, a MoU has been signed between NIT Warangal and The Waxpol Industries LTD, Kolkata, west Bengal.





SCHOOL OF MANAGEMENT

School of Management

Recognizing the need of techno management, the institute has designed a comprehensive MBA program exclusively for engineers. Thus, came to light the "School of Management (SOM)" at NIT Warangal in 2000. The MBA program offered by the School of Management is exclusively for engineering graduates. A two-year course runs into 8 quarters. The program has extensive electives in the specialized areas of Marketing Management, Human Resource Management, Financial Management, Operations Management, Information Technology and allied areas of management. Students are exposed to industrial training for a period of eight weeks, after completion of first year and the project work for a period of twelve weeks during their final quarter. The School of Management provides a well-balanced combination of academic and practical business oriented content. The updated curriculum with its wide range of video materials, databases like prowess, case studies, research projects and other tools aim at enhancing the understanding of the business reality and imbibing problem-solving skills. The School has been accredited with Tata Consultancy Services and is having significant placements. The School has fully air-conditioned classrooms with Wi-Fi facility.

SCHOOL OF MANAGEMENT

Faculty

Prof. M. Ravindar Reddy
Professor
Economics, Agriculture Economics, Rural Marketing

Dr. K. Padma
Associate Professor
Economics, Financial Management

Dr. P. Ramlal
Associate Professor
Human Resource Management, Soft Skills, Corporate Training

Dr. V. Rama Devi (HoD)
Associate Professor
Organizational Behavior & Human Resource Management

Dr. G.Sunitha
Assistant Professor
Behavioral Finance, Financial Markets

Dr. S. L Tulasi Devi
Assistant Professor
Corporate Finance, Financial Econometrics

Dr. Francis Sudhakar
Assistant Professor
Consumer Behavior and Industrial Marketing

Dr. K Lakshminarayana
Assistant Professor
Information Systems, Socio Technical systems and E-Governance

Dr. P Ramachandra Gopal
Assistant Professor
Supply chain Management, Sustainability, Operations Management.

Dr.T.Rahul
Assistant Professor
Marketing Research, Business Analytics

SCHOOL OF MANAGEMENT

Publications (in Peer Reviewed Journals)

M Ravindar Reddy, Neelima K. "Performance management system implementation in public sector undertakings – with reference to the RSTPS, Telangana", International Journal of Innovative Technology and Exploring Engineering (IJITEE). 2019, Vol.8, NO.7S2, 231-235. ISSN: 2278-3075.

M Ravindar Reddy, Neelima K. "A study of stress impact of physical health of bank employees". Journal of Advance Research in Dynamical & Control Systems. 2019, Vol.11, No.5, 118-121. ISSN 1943-023X.

Shafi M K M, **Dr. M Ravindar Reddy**, "Viability and Practices of Interest-Free Microfinance in the State of Kerala: An Analytical Study Based on Customers' Perceptions towards Products, Services and Operational Methods". IIMB Management Review. 2019. ISSN 0970-3896

Swamy, P., & **Padma, K.** (2020). An empirical examination of correlation dynamics between commodity and equity derivative indices: evidence from India using DCC-GARCH models. *Afro-Asian Journal of Finance and Accounting,* 10(2), 207-234.

Swamy, P., & **Padma, K.** (2020) (In Press). Commodity Transaction Tax: Nature of Correlation Dynamics and Volatility linkages between Indian Commodity and Equity Markets. International Journal of Asian Business and Information Management (IJABIM) (SCOPUS, Web of Science & ESCI Indexed),12 (2).

Mozumder, S. & **Ramlal**, P. (2019). Welfare facilities and Worker Satisfaction- A study of Indian Coal Mining Sector, IJERT.

Rambabu, L. & **Ramlal**, P. (2020) Packaging strategies: knowledge outlook on consumer buying behavior. *Journal of Industry –University Collaboration,* 2(2), 67-78.

Kumari, T., & **Rama Devi, V.** (2020). Impact of Work-Family Conflict on Career Development of Knowledge Workers in Indian IT Sector: Examining Moderating Effect of Age. *International Journal of Human Capital and Information Technology Professionals*, (Scopus Indexed, Accepted for publication).

Rama Devi, V. (2020). An Exploration of Talent Management Factors in Business Schools, *International Journal on Emerging Technologies*. (Scopus Indexed, Accepted for publication).

Habeeb Syed & **Francis Sudhakar, K.** (2019). A Review of Antecedents of Online Repurchase Behavior in Indian E – Commerce – Paradigm Shift, *Handbook of Research on Social and Organizational Dynamics in the Digital Era*, IGI Global, 550-568.

Habeeb Syed & **Francis Sudhakar, K.** (2019). Online Shopping and its Impact on Customer Satisfaction considering the Role of Respondents Trust and Gender Influence. International Journal of Recent Technology and Engineering, 8 (2S4), 314-319.

Kompella, L. (2020)**.** Socio-technical transitions and organizational responses: insights from E-Governance case studies, *Journal of Global Information Technology Management,* 23(2), 89-111.

Kompella, L. (2020). A co-evolution framework towards stable designs from radical innovations for IT organizations. *International Journal of Innovation and Technology Management,* 16(7), 1-27.

Kompella, L. (2020). Digital innovation in the public sector: The role of embeddedness in socio-technical transitions. International Journal of Innovation and Technology Management. 16(7), 1-27. 2019

Kompella, L. (2020). Role of organizational aspects in requirements engineering processes of a socio-technical system: Insights from E-Governance case studies. *International Journal of Electronic Governance*. 12(2), 113-140.

Kompella, L. **(2019**).Barriers to radical innovations as stable designs: Insights from an IT case study. *International Journal of Innovation Management*. 23(5), 1-31.

Kompella, L. (2019). A co-evolution framework towards stable designs from radical innovations for organizations using IT. Journal of Technology Management & Innovation. 14(2), 44-58.

Labhane, N. B. (2019). Impact of Catering Incentives on Dividend Payment Decisions: Evidence from Indian Firms. Asian Journal of Business and Accounting, 12(2), 93-120.

Labhane, N. B. (2019). A Test of the Catering Theory of Dividends: Empirical evidence from an emerging economy India. Asian Academy of Management Journal of Accounting & Finance, 15(2), 1-17.

Publications (in Peer Reviewed Conferences)

Preethi Pal and **PRC Gopal**, A Study On The Impact of Transportation n Climate Change: An Ecological Modernization Theory Perspective, POMS International, SIMSR SCM Conference, December, 2019, Mumbai.

Funded Projects

Dr. V. Rama Devi (Principal Investigator), The Role of Social media in Rural Development -A Study in Telangana State, IMPRESS scheme of ICSSR, New Delhi.

Dr. P. Ramlal (Principal Investigator), Use of Information and Communication Technology (ICT) for Empowering differently abled: A study in Telangana region, ICSSR, New Delhi

Workshops/FDPs

Prof. M. Ravindar Reddy and **Dr.PRC.Gopal** conducted a Faculty Development Programme on "Statistics for Business Research &SPSS applications", 20th-25th January 2020.

SCHOOL OF MANAGEMENT

Research guidance

Four scholars were awarded Ph.D Degree during 2019-20

Mr Saleh Ahmed Mozumber has been awarded Ph.D degree under the supervision of **Dr.P.Ramlal** for thesis entitled "Impact of employee grievance redressal procedure on industrial relations: A study on Indian Coal mining workers" on 01-11-2019.

Mr. Habeeb Syed has been awarded Ph.D degree under the supervision of **Dr. K. Francis Sudhakar** for thesis entitled "Factors of Consumer behavior and its impact on repurchase intention: An Indian e shopping perspective" on 08-11-2019.

Mr. Swamy Perumandla has been awarded Ph.D degree under the supervision of **Dr.K.Padma** for thesis entitled ""Dynamic Relations of Equity and Commodity Derivative Markets for Diversifying Risk and Portfolio Optimization: An empirical Evidence from India" on 10th January 2020.

Mr. K. Madhu Kishore Raghunath has been awarded Ph.D degree under the supervision of **Dr.S.L.Tulasi Devi** for thesis titled "A study on impact of risk assessment tools on organizational effectiveness: An evidence from automobile, Construction & Information Technology Industry" on 17th June 2020.

Conferences Organized

Dr. P.Ramlal, Dr.G Sunitha and **Dr.L.T Devi** organized a National Conference on "New Management Paradigms in a Changing World: Innovations, Dynamics & Future Prospects" (NMPCWIDF) 31 Jan-1 Feb 2020

Expert Lectures/ Student Workshops

Expert Lecture on "Strategic Management Perspectives in Mergers and Acquisitions" by Mr.Ghiridharan Surendran, SVP, Factset, Hyderabad on November 15th, 2019

Expert Lecture on "Innovations and Intellectual Property Rights" by Mr.Sudhakar Anivella, Director Engineering, Turvo, Hyderabad on November 16th, 2019

Expert hands-on Session on "Spreadsheet modelling" by Mr.Anudeep Appe, Senior Data Scientist, United Health Group, Hyderabad on November 8th, 2019

Student Activities

Cura

Cura is a momentous management event organized by the students of School of Management in the month of February every year. Cura signifying "Thoughtfulness" is a platform that started in 2009 to unleash the potential of the management aspirants all over India. The aim of the event is to elucidate the major business activities through different events thus to elicit the diverse responses from the rapt and admiring students of management. Undoubtedly, this event is a beacon of light for all those who can balance and blend their skills with palatable and innovative ideas accompanied with verve.

Cura'20 was organised during *Feb 14th - 15th 2020*. Participants from prestigious B-Schools have participated in eight events, two workshops and three keynote sessions this year. Dr.K.Francis Sudhakar was the faculty coordinator of the event.

Youth Festival

Participated actively in the youth festival 2020 conducted from 6th to 12th January. There were 3 food stalls set up by the students of SOM.

News Letter Launch

Alumni Webinar Series

Summary: 15 sessions were organised by 12 alumni.

Alumni Talks (Webinar series 1.0): Included webinars from the Alumni of the School

Ram Kumar Nimmakayala (Ericsson, Dallas) Importance of Analytics

Bhanu Prakash Sharma G (Accenture, Hyderabad) Career Growth & Industry Experience

Ankush Gupta (KPMG, Hyderabad) Industry post COVID-19

Saadul Haque (Kearney, Delhi) - What a company expects from students for hiring after COVID19.

Ankush Gupta (HRBP & Recruiter, KPMG, India) - How to crack interviews.

Parag Ray (TCS, Chennai) - H ow to prepare yourself for the upcoming opportunities.

Inavalli Tapaswi (SAP, FICA Consultant, Deloitte USI) - General interaction & experience sharing.

Ankush Gupta (HRBP & Recruiter, KPMG, India) - Case Studies - How to tackle it.

Ankush Gupta (HRBP & Recruiter, KPMG, India) - Employee engagement.

Parag Ray (TCS, Chennai) - Excel Session - 1, 2, 3 along with case study.

Krishna Vijay Kumar Gangisetty (senior business Operations analyst) - Industries after this outbreak and some suggestions along with practical examples.

RAM KUMAR NIMMAKAYALA
(Ericsson, Dallas)
Importance of Analytics

BHANU PRAKASH SHARMA G
(Accenture, Hyderabad)
Career Growth & Industry Experience

ANKUSH GUPTA
(KPMG, Hyderabad)
Industry post COVID-19

Leadership webinar Series

This series was organized by the alumni of our deparrtment which included leaders from various sectors. Five sessions were organized as a part of this series.

Kaveri Rangan (Director, Bank of Singapore) - Opportunities in the banking sector in this new digital world.

Anand K Kadali (Founder & Secretary, Sri Sathya Sai Annapoorna Trust) - Rural development & transformation - An approach through a focus on nutrition, health & education.

Dr. Lakshmi Prasad (MD & CEO, Sujay Biotech Pvt Ltd) - Successful Entrepreneurship.

Gary Seaton (Founder and chairman G&G group of companies) – Transition of Economy.

A. Balasubramanian (MD & CEO Aditya Birla life AMC Ltd.) – Crisis as an opportunity: Impact of COVID-19 in Indian economy, market and governance.

Taking insights from the second series, the students with the support of the faculty brought in several corporate based webinars from various industries.

Corporate Webinar Series

Seven sessions were organized:

CS Krishna Kuppachi (Ex-vice President, Indusland bank) - What to expect from the corporate world and understanding the skill gap.

Anil Kumar Yedida (Deputy Vice President & Regional Head HDFC Bank) - Reset, Rethink, Reinvest amid COVID-19 for banking industry.

Ankit Choudary (Sr. product manager, Microsoft) – Data driven product management.

Arup Majumdar (CEO, Traiti Consulting Group) – The mind of a strategist – career in management Consulting.

Debashish Gosh – (VP & Country HR Head, Berkadia commercial Mortgage LLC) – Impact of COVID – 19 on the HR function and skills.

Arpit Jain (Manager, HR, Yokohama India Pvt. Ltd, Mentor of Change, Atal Innovation Mission, Niti Aayog)- Behavioral Approach in Leadership

Divya Bharathi (Manager - Business Intelligence, TVS Credit Services Ltd) - Data driven storytelling with "Tableau"

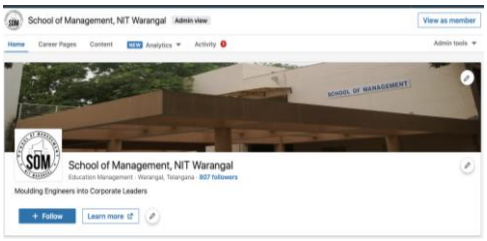
Branding team

To create a recognition for the School of Management through the business world, the students have formed a

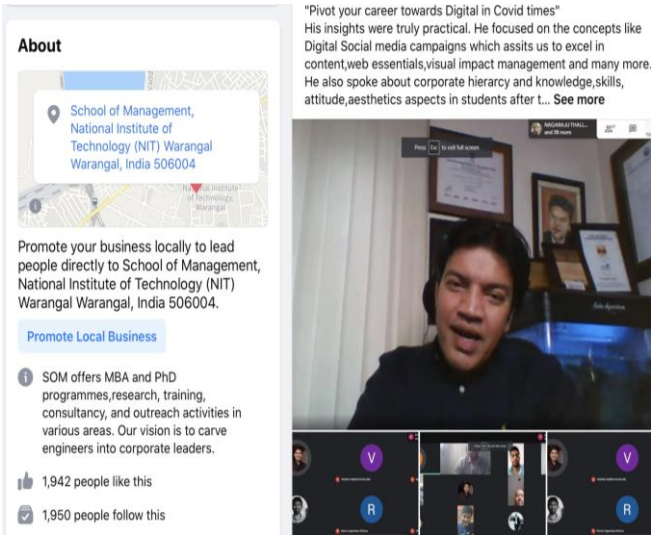
team which actively manages the social platforms. Below are the various links of the social media platforms which are management by the students:

LinkedIn: https://www.linkedin.com/school/somnitw/

This page was only created in April 2020 and we have about 1500 followers to the page. We stand ahead of our near competition in terms of followers and posts.



Facebook: We have over 1970 followers on Facebook



Instagram: We have over 150 followers for us on Instagram and this page was also created only during this April.

Twitter: Twitter page of SOM was created in April 2020 and the team is working hard to build a good base of network.

Social Outreach Activities

With the inspiration from many social servants, the 'Social Outreach and Activities team' burgeoned to make it is water drop impact on the society. It aims to keep in mind the present-day social situations and create awareness by keeping people active, motivated to extend their services to the society by designing activities in and out of the institute.

HelloTree is one such activity planned to organize a plantation drive at each individual's home in three phases: Planting sapling, nominating friends in the first phase to presenting its growth in the next two phases. The first phase was completed successfully on 25th July 2020, witnessing many sapling plantations and nominations. Another initiative was taken up in the month of April during lockdown

encouraging students to take part in Yoga, meditation and develop hobbies that would keep them busy.

Highlights

Analytics Lab

Behavioral Lab

Financial Analytics Laboratory

The SOM was accredited by Tata Consultancy Services

Workshops

Corporate - Interactions

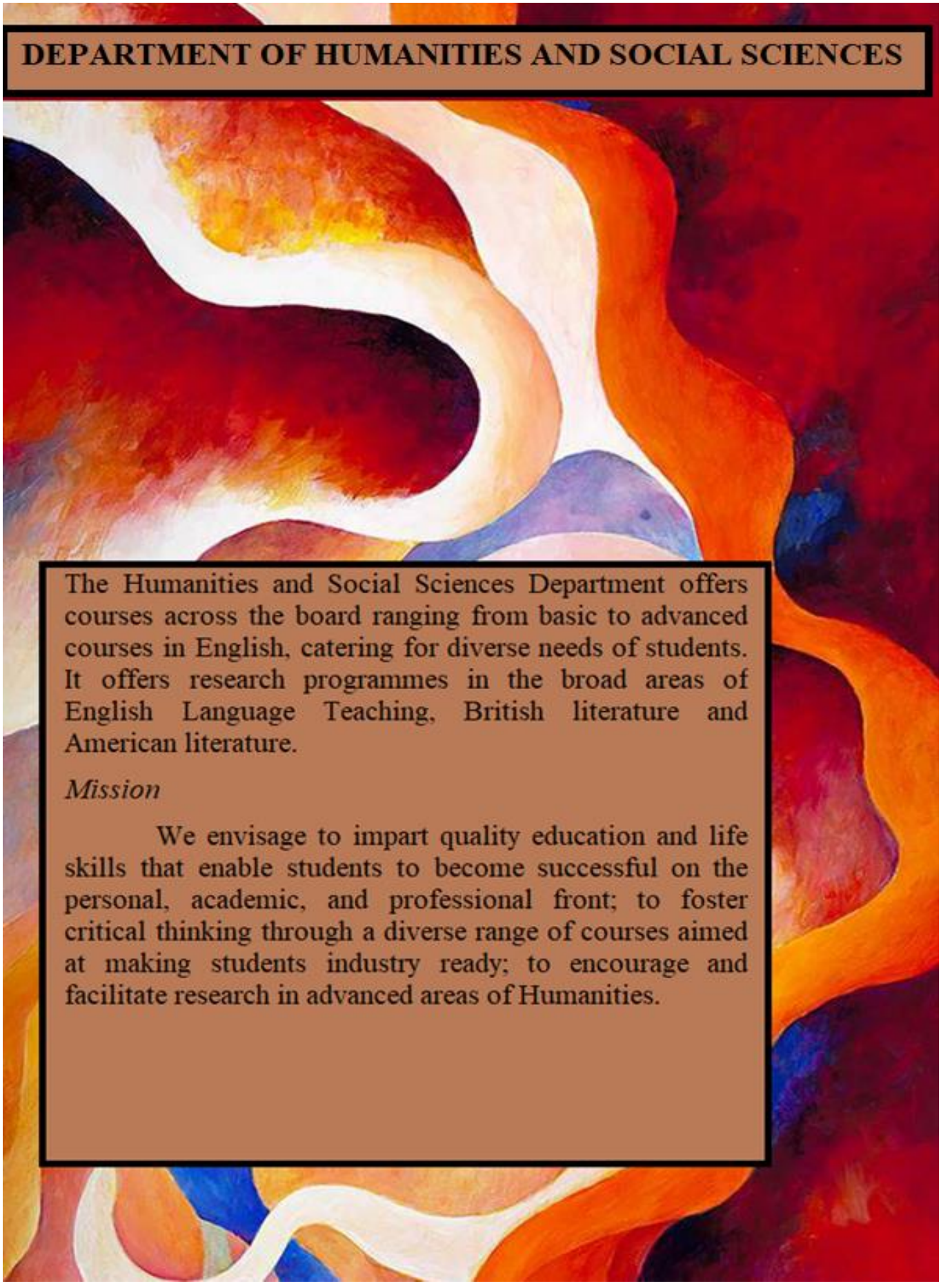
Guest lectures

GD Room

Departmental library

SCHOOL OF MANAGEMENT

HUMANITIES AND SOCIAL SCIENCES



HUMANITIES AND SOCIAL SCIENCES

Dr. Madhavi K.

Associate Professor and Head

Areas of Interest

Academic writing skills; Designing task-based ESP courses; Multiple intelligences -Visual Literacies; teaching reading and writing using technology

Dr. M.R. Vishwanathan

Assistant Professor

Areas of Interest

Bilingual and Bilingual Education; Ideology in Language Teaching; Critical Pedagogy; Academic Writing; Genre Analysis

Dr.B.Spoorthi

Assistant Professor

Areas of Interest

English Language Training, leveraging Technology in language learning, curriculum development, Teaching/training, social emotional Learning

Dr.P.Madhumathi

Assistant Professor

Areas of Interest

Critical pedagogy, materials development; academic writing; Cultural Studies

Dr. R. Vennela

Assistant Professor

Areas of Interest

Translation, language attitudes, language policy & planning in, colonial lexicology, and bilingual education in India.

Publications (in peer reviewed journals) 07

1. Dr. K. Madhavi.,'Soft Skills as Survival Skills- What Indian Students Need to Know' published in Langlit An International Peer-Reviewed Open Access Journal, March 2020 ISSN-2349-5189.

2. Vishwanathan M R& Jismy K Joseph, Through the prism of interdisciplinarity: Richard powers as a novelist, Research Journal of English Language and Literature ; 7(4), (2019) : 46-49

3. Vishwanathan M R& Jismy K Joseph, Plant Life and Richard Powers The Overstory" , Language in India , 19 (10) (2019): 76-81.

4. Vishwanathan M R, Pronounced ambivalence: R. P. and native speaker norms in the ESL classroom, Fortell, 39 (2019): 58-68.

5. Vishwanathan M R , The long road ahead , Kakatiya Journal of English Studies , 38, (2019) : 1-12

6. R. Vennela& K. M. C.Kandharaja (2020) Agentive responses: a study of students' language attitudes towards the use of English in India, Current Issues in Language Planning.

7. R. Vennela& Richard Smith (2019) Bilingual English teaching in colonial India: the case of John Murdoch's work in Madras Presidency, 1855–1875, Language & History, 62:2, 96-118.

International Conferences: Nil

National Conferences: NIL

Books and Book Chapters 03

Dr. K. Madhavi authored a book entitled **'English Matters'** , ISBN- 978-81-907052-2-3, Lorven Publications June 2019 pp 155.

Book Chapter

Dr. K. Madhavi's contribution titled 'Factors Affecting the Gross Enrollment Ratio (GER) of Women in Higher Education: A Cultural Perspective for Women Empowerment' accepted for publication as a chapter in the book 'Cambridge Scholars Publishing, London. **July 2020**

Dr. R.Vennela, "Group Communication", in *Textbook on Communication Skills*, Dr. B. R.Ambedkar Open University, Book format.

Conferences/Workshops/GIAN courses/FDPs Conducted -08

Dr. K Madhavi coordinated-

1. A One -Week Faculty Development Programme exclusively for Women Faculty in Universities and Colleges of Higher Education, titled "**Student-Centred Teaching Methods and Strategies in Higher Education "(SCTMSHE-19) ,** organised from June 3-8 ,2019.
2. Two-Day National Conference on 'Innovations in Teaching ESL and Literature: The Present and the Future (ITESLLPF)' during September 30 - October 1, 2019.
3. Organising Secretary for the Two-Day International Conference on 'Women Empowerment: Innovative Methods and Strategies in Higher Education(WEIMSHE-2020) organised by Teaching Learning Centre, National Institute of Technology, Warangal, from 06- 03-2020 - 07-03-2020.
4. Coordinator for the One-Week Faculty Development Programme for Women Faculty in Universities and Colleges of Higher Education, tilted "Pedagogical Skills in Teaching Methods and Strategies in Higher Education" (PSTMSHE-2020) Organized by the TLC, NIT Warangal Under PMMMNMTT Scheme of MHRD, Govt. of India from 9th - 14th March , 2020.
5. Dr M Raja Vishwanathan coordinated a Two day National seminar on 'Innovations in Teaching English Language and Literature: The Present and the Future, 30 September & 1 October 2019 at NIT Warangal.
6. Dr. Spoorthi- Five-Day AICTE sponsored AICTE Training and Learning Academy Programme (ATAL) on Virtual Reality in Education (VRE) organised by the Department of Humanities and Social Sciences (H&SS) from 09-13 November 2019.
7. A Five-day AICTE sponsored 'AICTE Training and Learning Academy Programme(ATAL) on Education 4.0 for Industry 4.0 in December 17-21, 2019.
8. A Five-Day AICTE sponsored Training and Learning Academy Programme (ATAL) FDP on Virtual Reality in Education (VRE) was conducted online by the Department of Humanities and Social Sciences (H&SS) from 16-20 June 2020,

Guest talks/ Webinars delivered: 23

Dr. K. Madhavi delivered the following expert lectures:

1. "Writing Successful Research Proposals" in a three days online FDP on "Scientific Communication for Research Paper and Proposal Writing" conducted during 1-07-2020 to 3-07-2020 by the Department of Information Technology, PSG College of Technology, Coimbatore.
2. Curriculum-basedEducational Applications on 18-06-2020 in a Five Day AICTE Training & Learning (ATAL) Academy online Faculty Development programme on 'Virtual Reality in Education' , " organized by National Institute of Technology, Warangal from 16-06-2020 to 20-06-2020.
3. "Areas of use - VR in Education: Training to Acquire Certain Skills" on 19-06-2020, in a Five-Day AICTE

Training and Learning Academy (ATAL) online Faculty Development programme on 'Virtual Reality in Education' (VRE) organized by National Institute of Technology, Warangal from 16-06-2020 to 20-06-2020

4. 'Making Classroom Learning and Teaching Effective' in a "One week Faculty Development Program on Research Methodology and Teaching Pedagogy" in association with Institute of Engineers (India) and Indian Society of Technical Education (ISTE) organised by Tulsiramji Gaikwad-Patil College of Engineering and Technology, Mohgaon, Wardha Road, Nagpur on 11- 06-2020.

5. " Classroom Communication and Vocabulary Building Strategies' on 3rd June, 2019 in a One-Week Faculty Development Programme for Women Faculty in Universities and Colleges of Higher Education on 'Current Trends in Teaching Methods and Strategies in Higher Education (PSTMSHE-2020)'organized by TLC at NIT Warangal., during 09th - 14th March, 2020.

6. " Classroom Communication and Vocabulary Building Strategies' on 3rd June, 2019 in a One-Week Faculty Development Programme for Women Faculty in Universities and Colleges of Higher Education on 'Current Trends in Teaching Methods and Strategies in Higher Education (PSTMSHE-2020)'organized by TLC at NIT Warangal., during 09th - 14th March, 2020.

7. 'Soft Skills as Survival Skills - What Indian Students Need to Know' in a Two- Day National Seminar on "Acquiring Soft Skills for Conventional & Professional Courses" conducted by Government Degree College, Eturnagaram, Mulugu District. sponsored by RUSA under the jurisdiction of commissioner of collegiate education, Telangana State, on 28th & 29th of Feb. 2020.

8. Global Research of OECD Learning on 18-12-2019 in a Five Day AICTE Training & Learning (ATAL) Academy Programme On"Education 4.0 for Industry 4.0" organized by National Institute of Technology, Warangal from 17-12-2019 to 21-12-2019.

9. Curriculum-basedEducational Applications on 18-12-2019 in a Five Day AICTE Training & Learning (ATAL) Academy Programme On"Education 4.0 for Industry 4.0" organized by National Institute of Technology, Warangal from 17-12-2019 to 21-12-2019.

10. "Areas of use - VR in Education: Training to Acquire Certain Skills" on 11/11/2019, in a Five-Day AICTE Training and Learning AcademyProgramme (ATAL) on Virtual Reality in Education (VRE) organized by National Institute of Technology, Warangal from 09-11-2019 to13-11-2019.

11. "Curriculum-based Educational Applications" in a Five-Day AICTE Training and Learning Academy Programme (ATAL) on Virtual Reality in Education (VRE) on 11-11-2019, organized by National Institute of Technology, Warangal from 09-11-2019 to13-11-2019.

12. 'Designing and Developing Writing Skills in Secondary School Level' in a One – Day Orientation Programme conducted for teachers of English on Achieving Better Results in SSC Public Examinations' organized by 'English Language Teachers Association', (ELTA) Warangal Urban on 04- 02- 2020.

13. 'Strategies for Developing Effective Communication Skills', in the One -Week Programme held in connection with 'National Youth Day' at the National Institute of Technology, Warangal on 09-01-2020.

14. 'Stress Management and Emotional Intelligence 'on 30-08-2019, in a one - week short term course on "Soft Skills and Professional Ethics" organized by UGC-Human Resource Development Centre, JNTUH from 26-08-2019 to 31-08-2019,

15. "Academic Writing and Classroom Communication" on 15-07-2019, in a three - week UGC sponsored "55th Orientation Programme" organizedby UGC-Human Resource Development Centre, JNTUH from 08-07-2019 to 27-07-2019.

16. " Classroom Communication and Vocabulary Building Strategies' on 3rd June, 2019 in a One-Week Faculty Development Programme for Women Faculty in Universities and Colleges of Higher Education on 'Current Trends in Teaching Methods and Strategies in Higher Education (SCTMSHE-2019)'organized by TLC at NIT Warangal., during 03rd- 08th June, 2019.

17. Dr M Raja Vishwanathan delivered an expert lecture 'Soft skills at the academia and workplace" in the National Seminar organised by the Dept. of Humanities and Social Sciences, VNIT Nagpur on 7-9 February 2020.

18. Dr. B. Spoorthi delivered a talk on Creative Teaching andLearning Strategies"" ""A Two-Week National Level Online Faculty Development Program on "Skill Development and Competency Enhancement for College Teachers", Government Degree College, Parkal - Warangal" 27/06/2020.

19. Dr. B. Spoorthi, delivered a talk on 'Developing Soft Skills and Communication Skills before the Interview 'at RGUKT, Basar (IIIT BASAR) on 30/01/2020.

20. Dr. B. Spoorthi, delivered a talk on 'Enhancing Speaking Skills in English' at Mathrusri Educational Society, Hyderabad on 08/02/2020.

21. Dr. B. Spoorthi, delivered a talk on 'Communication Skills' in a Two Day National Workshop on "Soft Skills on 06/02/2019

22. Dr. B. Spoorthi, delivered a talk on' Communication skills for Education 4.0' in a Two week FDP on Artificial Intelligence, Machine Learning and Deep Learning Applications in Production and Manufacturing Systemson 10/01/2020.

23. Dr.P.Madhumathi delivered a talk on 'Avoiding the Plagiarism' in a Two-Week National Level Online Faculty Development Program on "Skill

Development and Competency Enhancement for College Teachers", Government Degree College, Parkal - Warangal" on 11/06/2020

Research Guidance (Completed in 2019-20)

Dr.K.Madhavi Guided - 02

1. Shafiah Waheed, "Emerging Trends in the Writings of AnitaDesai, Toni Morrison and Alice Walker: A Comparative Study", under the guidance of Dr. K. Madhavi, 29 Nov,2019

2. Kasuba Rammohan, "Significance of Extensive Reading Skills for the development of Communication Skills among Professional Students", under the guidance of Dr. K. Madhavi, July 2020

3. Vidyasree B, Ongoing research under the guidance of Dr. K. Madhavi.

4. Krishna Priya, Ongoing research scholar under the guidance of Dr.M.R.Vishwanathan

5. Aishwariya P, ongoing research under the guidance of Dr. Spoorthi

6. Lalitha Devi B, ongoing research under the guidance of Dr. Madhumathi

Outreach Programmes

Dr. K. Madhavi is appointed as:

- Expert for All India Council for Technical Education, (AICTE's) Approval Process 2020-21.
- Academic Advisor and Member ' English Language Teachers Association, Warangal Urban', since 04 Feb 2020.
  Member of BOS Committee of the following institutions:
- KSRM College of Engineering Ananthapuram since 19 Oct 2019.
- JNTU Vizianagaram Since 25 July 2019
- Narsaraopeta Engineering College, Kotappakonda 20 th July 2019
- JNTU Kakinada, Kakinada Since 24 June 2019

Dr M Raja Vishwanathan, has been nominated as BOS member of GVP College of engineering, Madhurawada, Vizag, for a period of two years from 2019-20

Funded Research Projects/SPARC projects (2019-20)(Completed Projects)

Dr. Vennela -

Project Title: "Bilingual Teacher Talk: A Study of Telugu-medium Schools".
ELTRMS (2019-20), Funded by the British Council.
Principal Investigator: Dr. R. Vennela;
Co-Investigator: Mr. K.M.C. Kandharaja.

Consultancy Works

Dr Vennela

Project Title: "A MOOC on Life Skills for Engineers"
CEMCA, IIT-Kanpur and University of Hyderabad
Responsibilities: Research Assistance in research, course design and material development
Principal Developer: Dr Sunita Mishra

Research Assistant: Errata Work, Andhra Series Grade 8 SCERT Social Science Textbooks, Nov 2015, Under Supervision of Murali Mallepaku and Jayasree Subramanian, *School of Education, TISS Hyderabad.*

Research Highlights:

Ongoing Projects: 2

Dr, P.Madhumathi

A Major Research Project Technology-Based Strategy Intervention to Enhance Communication Skills of Arts and Science College Students from Rural Telangana: A rural development project was granted to Dr.P.Madhumathi, funded by Impactful Policy Research in Social Science (IMPRESS), ICSSR.

Dr B.Spoorthi

A Major Research Project titled 'Building an Artificially Intelligent Virtual Laboratory to develop Employability Skills of Engineering students 'AIVLES' to bridge the Gap between College and the Corporate' is funded by ICSSR under Novel and Path Breaking Research Proposals (Areas Unexplored)

HUMANITIES AND SOCIAL SCIENCES

*A One -Week Faculty Development Programme exclusively for Women Faculty in Universities and Colleges of Higher Education, titled "***Student-Centred Teaching Methods and Strategies in Higher Education "(SCTMSHE-19) .** was organised from June 3-8 ,2019.The programme was organized under the aegis of TLC, NITW, and Dr. K.Madhavi, Associate Professor, Dept of HSS and Dr. D. Bhargavi, Asst Prof., Dept of Mathematics, acted as coordinators.

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The Five-Day AICTE sponsored AICTE Training and Learning Academy Programme (ATAL) on Virtual Reality in Education (VRE) was organised by the Department of Humanities and Social Sciences (H&SS) from 09-13 November 2019. The programme was coordinated by Dr.B.Spoorthi, which was conducted exclusively for faculty and research scholars from AICTE approved institutions.

National Conferences Organised by the Department of H&SS:

The Department of Humanities and Social Sciences organised a Two-Day National Conference on 'Innovations in Teaching ESL and Literature: The Present and the Future (ITESLLPF)' during September 30 - October 1, 2019.

Dr. K. Madhavi, Associate Professor and Head, Dept of HSS and Dr B.Spoorthi, Asst Professor Dept of HSS, acted as Convenors for the Two-Day International Conference on"Women Empowerment: Innovative Methods and Strategies in Higher Education (WEIMSHE-2020). The conference was conducted under the aegis of Teaching Learning Centre, NIT Warangal, from 6th to 7th of March,2020.

HUMANITIES AND SOCIAL SCIENCES

A Six Day Faculty Development Programme was conducted exclusively for ***Women Faculty in Universities, and Colleges of Higher Education titled***'**Pedagogical Skills in Teaching Methods and Strategies in Higher Education (PSTMSHE 2020),** under TLC, from March 9-14, 2020.The programme was coordinated by Dr. K.Madhavi, Associate Professor &Head, Dept of HSS and Dr. D. Bhargavi, Asst Prof.,Dept of Mathematics

Department of Physical Education

DEPARTMENT OF PHYSICAL EDUCATION

Faculty

Dr.P.Ravikumar
Professor & Head

Dr. R.Dhayanithi
Professor

Dr.P.Madhusudhan
Professor

Physical Education and youth fitness were assigned a definite place in their schemes of education. The finding of the biologists, physiologists and psychologists confirmed the necessity of activating muscles of all parts of the human body for their natural growth and the health for all round development.

With inactivity recognized as a menace to physiological well-being. Some authorities including the doctors suggest that exercise is the cheapest preventive medicine in the world. Researchers in physical education do agree that physical exertion is necessary for maintaining a functional physical fitness. Physical fitness provides us with basis for optimal physiological health and the capacity to enjoy a full life. Probably we do not need a high level of physical fitness to work in a world dominated by technical innovations but regular physical activity is necessary if our body is to function properly.

Health education and physical education have been accepted by the policy framers an essential and very important part of educational activity in schools and colleges. There has been unanimous appreciation that a healthy mind dwells in a healthy body and, therefore, physical and mental developments go together. Participation in games and sports improves the health of the participant and improves his motor qualities and responses. Even more importantly, active participation in games and sports fosters the attitude of sportsmanship, fairness and team spirit. It has been internationally recognized since long that if the schools and colleges do not provide outlet for the youth in a constructive and healthy manner through sports and games, the youth get into the habit of idling.

Modern thinkers in education, now a days, emphasize that the best individual is one who is physically fit, mentally sound and sharp, emotionally balanced and socially well adjusted. Out of the myriads of new facts concerned with educational process, the fact that human beings need a well-planned curriculum of physical education deserves much consideration. It then becomes imperative that the discipline of physical education should be put into proper perspective and thoroughly studied for the welfare of the humanity at large.

Keeping this as a background it is thought to strengthen the Physical Education Department at this prestigious institution so as to enable the student to improve their health and endurance, so that they can perform the duties that reward them after they leave the institution.

The Department of Physical Education has following Infra Structure Facilities

INFRA STRUCTURE INDOOR FACILITIES

- 2 Table Tennis Halls.
- 1 Chess and 1 Carrom Hall.
- 1 Yoga Hall.
- 1 Meditation Hall.
- 3 shuttle Badminton Courts.

- 2 Gym Halls.
- 3 Faculty Rooms.
- 2 Store Rooms.
- 1 Games Boys Room.

IN THE STADIUM

- Multipurpose Ground Facility with flood lights which accommodates standard 400 Mts. Track with Flood lights
- Kho-Kho Ground, Football, Cricket fields and with 2 artificial turf net practising cricket pitches with Flood lights
- Galleries of sufficient seating capacity in the stadium and also a walking track.
- 2 Synthetic Top surface Basketball Courts with flood lights and sitting galleries.
- 2 Volleyball Courts 5 Tennis Courts (2 Synthetic, 1 Concrete and 2 Clay Courts),
- 2 Ball Badminton Courts with Flood lights

INFRA STRUCTURE FACILITIES IN AND AROUND HOSTEL BLOCKS

- 2 Shuttle courts and 1 Tennikoit court inside the Ultra Mega hostel.
- At Ultra Mega hostel 2 clay Volleyball Courts and Basketball court near the Ultra Mega Hostel.
- Multipurpose Ground with flood lights to play any sort of sports and games (rear side of the ultra-mega hostel).
- Gym facilities 2 common halls in the mega hostels and 2 rooms in the ultra-mega block 1 hall in the DASA hostel.

15 Table Tennis tables were placed in different hostels as detailed below:

- 4 Table tennis in Ultra mega hostels
- 3 in the mega hostel
- 2 T.T Tables in the DASA Hostel, 14th Block, 13th Block, 12th Block 11th Block, 2nd block and 1st block.

INFRA STRUCTURE FACILITIES IN GIRLS HOSTELS

- 1 Concrete Basketball Court proposed to upgrade with Synthetic top and flood light facility.
- 1 Volleyball Court
- 2 Gym rooms in the lady's hostels
- 1 Tennikoit Court
- 2 Table Tennis Tables

The Department conducts Extra Academic Activity (EAA) programme as a mandate course for the first year students.

ROUTINE PROGRAMME OF THE DEPARTMENT of PHYSICAL EDUCATION

- Facilitating the student and staff community for the utilization of the available infrastructure facility in the institute to be physically fit and wellbeing.
- Conducts International Yoga Day 21 June every year in a grand scale.
- Organises Independence Day and Republic Day in a befitting manner with number of Physical Education activities
- To prepare institute teams towards participation in the Extramural Competitions like Inter NIT or Inter Universities and other open tournaments in various sports and games.

ORGANISATION OF TOURNAMENTS

- Conducting of Intramural competitions for student's community
- Organising Extramural competitions like Inter NIT or Inter Universities and other local tournaments.
- Friendly matches with other institutions for the students.
- Conducting fitness activities for the staff like Yoga, Meditation, Etc.
- Helping to conduct sports activities of various Departments & Associations.

DEPARTMENT OF PHYSICAL EDUCATION

Awards/Achievements/Publications/Recognitions

- **Dr.P.Ravikumar** as **Resource Person** delivered a Lecture on "A Critical Study on the Analysis of Fitness Components among Smoking and Non-smoking Athletes**"** in the Scientific International Conference on Physical Education and Allied Sciences at S.S. Dempo College, Bambolim, Goa, during 27-29, February, 2020.

- **Dr.P.Ravikumar** as a Chairman, Technical Session in the Scientific International Conference on Physical Education and Allied Sciences at S.S. Dempo College, Bambolim, Goa, during 27-29, February, 2020.

- **Dr.P.Ravikumar** as a Moderator for Two Day International E-Conference on "Trends Issues and Development of Physical Education and Sports" under the aegis of NAPESS, DPE, Manipur University and Fit India Campaign Committee, during 30th & 31st July, 2020.

- **Dr.P.Ravikumar** as Chairman, Board of Studies in Physical Education, Kakatiya University since January, 2020.

- **Dr.P.Ravikumar** as a Moderator for Two Day International E-Conference on "Trends Issues and Development of Physical Education and Sports" under the aegis of NAPESS, DPE, Manipur University and Fit India Campaign Committee, during 30th & 31st July, 2020.

- **Dr.P.Ravikumar** as Resource Person delivered a Lecture on "Sustainability and Legacy in Sports: Challenges and Perspectives" in the IV International Conference (Webinar) at National University of Ukraine, KYIV, Ukraine during 26-27, November, 2020.

- **Dr.P.Ravikumar,** "Critical Study on the Effect of Physical, Mental Health and Wellness Before and During COVID 19 Pandemic as per Indian Context" Published in the International Journal for Innovative Research in Multidisciplinary Field – ISSN: 2455-0620, Paper ID: IECTIDPES121, Special Issue: 17 July, 2020, UGCRJ, Impact Factor: 6.497 dated 31-07-2020.

INTERNATIONAL RELATIONS AND ALUMNI ACTIVITIES 2019 - 2020

(Prof.N. SELVARAJ)
Dean, IR&AA

I am glad to present today a glimpse of various activities from the office of the Dean, International Relations and Alumni Affairs during the last one year 2019-2020.

International Alumni Meet:
NIT Warangal Successfully celebrated the Diamond Jubilee on a high note with the International Alumni Meet and National Conference on **"**Transforming NITW as a World Class Technical Institute – Role of Alumni", which was held during 10th to 12th October 2019.

Alumni Activities:
The office of the International Relations and Alumni Affairs at the institute serves as an outward-facing window from the institute to the alumni by extending several services to the alumni. RECW Class of 1994 batch organized the **Alumni 25th Reunion** which was held **on 4th August 2019** and Class of 1975 Batch organized **Alumni Meet** was held from **8th to 10th February 2020** in the permanent campus, interaction with the students and faculties. NITWAA **Newsletter and Magazine** was released on **10th of October 2020** by the NITWAA Chief Patron **Prof. N. V. Ramana Rao**. A large number of the alumni took up higher studies in reputed Universities abroad.

Distinguished Lecture Series of Ministry of External Affairs, Government of India:
As a part of the outreach activities of the Ministry of External Affairs, Government of India, NIT Warangal has been sanctioned the Distinguished Lecture Series by serving or retired ambassadors. The second distinguished lecture under this series was delivered by Ambassador Anil Trigunayat on "India's Changing and Challenging Neighbourhood" on 22nd August 2019.

Heritage Network:
Meeting of the Steering and Executive Committee of Heritage Network (Indo-European Network of Technical Higher Education Institutions) was held on **16th and 17th September 2019** at NIT Warangal, which was attended by President of the Heritage Network, Fouad Bennis, Prof. Frederic Dorel from Ecole Centrale de Nantes, France, Prof. Teresa from Warsaw University of Technology, Poland and Prof. Rakhi Chaturvedi, IIT Guwahati apart from Prof.Ramana Rao Director, Prof. K.V. Jayakumar from NIT Warangal.

TEACHING LEARNING CENTRE (TLC)

A Higher Education Teaching Learning established under the Scheme "Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching",

Ministry of Education, Govt. of India

Profile of Academic Activities Organized during the Academic Year 2019-20

- ✓ The Teaching Learning Center (TLC) of NIT Warangal was established at NIT Warangal under the MHRD's "Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT)" scheme in 2016. It has been doing commendable job in conducting Faculty Development Programmes, both on the campus also in other Institutions.
- ✓ Under this Scheme, a separate building has been built exclusively for the TLC activities, with the state-of-art training facilities that include a studio for production of video and e-lectures, training halls, seminar halls, a computer lab for developing on-line courses and other learning resources, learning spaces for facilitating interaction among various stake holders. The center also has facilities for hosting on-line courses employing Learning Management Systems like MOODLE.
- ✓ The Centre has so far conducted 58 In-house Faculty Development Programs (FDPs) and trained 2720 Faculty Members in 282 training days. Out of 58 FDP's organized, the TLC has organized 2 Faculty Development Programmes especially for Women Faculty in Higher Education during the months of January and June, 2019 and trained 121 Faculty Members drawn from various parts of the Country.

✓ **Organizational Members**

		
Prof. N. V. Ramana Rao Director, NIT Warangal Chairman, TLC	Prof. G. Rajesh Kumar Dean, R&C, NITW Co-Chairman, TLC (from 25-8-2018 to 24-08-2020)	Prof. A. Ramachandraiah Professor-in-Charge and Coordinator, TLC

- ✓ The TLC of NIT Warangal is now conducting all its training programmes virtually through Online Mode due to COVID-19. The Centre has conducted 6 Online Faculty Development Programmes in 35 Training Days and trained nearly 471 Participants across the country.
- ✓ The center has conducted three Faculty Training Programmes and trained 350 faculty members of NIT Warangal in Learning Management System with MOODLE. The role and importance of asynchronous learning need not be over-emphasized in the present scenario of COVID-19 assuming pandemic proportions.
- ✓ A DTLM *(Development of Teaching Learning Material)* titled **"TeachCAD"** is developed by Dr. V. Hari Kumar, Associate Professor, Department of Mechanical Engineering, NITW. **TeachCAD** is a Matlab based GUI (graphical user interface) based software tool that can be used as a teaching-aid for effective teaching-learning of concepts of the **C**omputer-**A**ided-**D**esign course which covers the ideas of geometric modeling. This tool is developed with the support of Teaching-Learning Center, NIT Warangal under DTLM scheme.

LIST OF FACULTY DEVELOPMENT PROGAMS PROGRAMS ORGANIZED BY THE TLC DURING THE ACADMEMIC YEAR 2019-20

S. No	Title of the Workshop - Training Programme	Dates	No. of Participants	Coordinators
1	Teaching and Learning Methods for Outcome Based Engineering Education	8th -13th, July, 2019	50	Prof. A. Ramachandraiah, Prof. L. Anjaneyulu, Prof. V. Vikram Reddy,
2	Effective Teaching and Evaluation Methods for Engineering Education	9th – 11th August 2019	50	Prof. DVSS. Siva Sarma, Prof. A. Ramachandraiah
3	Teaching and Learning Nano-Science and Technology Through Hands-on Experience	10th – 15th February, 2020	38	Dr. K. V. Gobi, Dr. Vishnu Shanker, Dr. Raghu Chitta, Prof. A. Ramachandraiah
4	Teaching Engineering Standards and Intellectual Property Rights for Academicians	13th -18th February, 2020	51	Dr. K. Srikanth, Dr. G. V. Ramana, Prof. L. Krishnanand
5	Teaching and Learning of Advances in Physical Chemistry Through Hands-on Experience	17th – 22nd February, 2020	48	Dr. K. V. Gobi, Dr, M. Raghasudha, Prof. A. Ramachandraiah
6	Teaching and Learning of Modern Methods of Organic Chemistry Through Hands-on Experience	24th – 29th February 2020	46	Dr. B. Srinivas, Dr. K. Hari Prasad, Prof. A. Ramachandraiah
7	Instructional Strategies of Physical Methods in Chemical Analysis with Hands-On Experiments	2nd – 7th March, 2020	46	Prof. K. Laxma Reddy, Dr. Raghu Chitta, Dr. Jugun Prakash Chinta
8	Teaching & Learning of Functional Materials and Devices Through Hands-on Experience	9th – 14th March, 2020	42	Dr. D. Paul Joseph, Dr. K. Thangarju, Dr. V. Jayalakshmi, Dr. Kusum Kumari
9	Pedagogy Skills in Teaching Methods and Strategies in Higher Education	9th – 14th March, 2020	43	Dr. K. Madhavi, Dr. D. Bhargavi
10	Teaching and Learning Practices of Data Analysis through Hands-on Experience	9th – 14th March, 2020	33	Dr. M. Sandhya, Dr. P. Shyam, Dr. S. Ravichandra

TOTAL NUMBER OF ACTIVITIES ORGANIZED BY THE TEACHING LEARNING CENTRE

S. No.	Activity	Total No. of Programmes Conducted	Total No. of Training Days	Total No. of Faculty Trained
1	Faculty Development Programs conducted (FDPs)	58	282	2720
2	Online Faculty Development Programs conducted (FDPs)	6	35	471
3	Four-Week Induction Training Programs conducted (ITPs)	3	90	128
4	Four-Day Faculty Training Programs (FTP)	3	12	350
5	Conferences	1	2	72
	Total	71	421	3741

GLIMPSES OF THE ACTIVITIES CARRIED OUT BY THE TEACHING LEARNING CENTRE (2019-2020)


No Society
is Wiser
than Its
Teachers
-Matthew
Arnold

NATIONAL SERVICE SCHEME (NSS)
FROM 01.04.2019 to 31.03.2020

Dr. B. Srinivas — **NSS Coordinator**

Dr. T. Vinay Kumar — **Programme Officer**

The NIT Warangal, Telangana state has 02 NSS Units with 200 volunteers from all branches of the engineering. The NSS volunteers of NIT Warangal were actively participated in NSS activities during the year 2019-20. The NSS activities included Mega blood donation camp, Orphanage visits, Plantation of Ornamental Plants, Sanitation programmes, Awareness programme, Clean and Green programmes, Swatchh Bharath Programmes, Social Awareness Programmes etc.

- **Total No. of volunteers enrolled in 2019-20 are 200.**

S.No.	Activity	Place at which the programme conducted	No. of Volunteers involved	Remarks
1.	Mega Blood Donation Camp during Youth Fest-2020 in association with student council	NITW	180	1205 blood units were collected and distributed to Red Cross Society and MGM Hospital Warangal. Appreciation certificates have been issued to all the volunteers.
2.	Celebrated 'National Girl Child Day' with the theme '*Beti Bachao, Beti Padhao*'	NITW	80	Gave awareness on Gril Sex Ratio (GSR) and a walkathon was organized.
3.	Celebrated ''Mahatma Gandhi 150th Birth Anniversary''	NITW	42	A cycle rally was conducted with slogans ''Go Green''. Sketching, and quiz competitions were conducted and distributed the prizes.

4.	Paper collection drive	NITW	180	A total of worth Rs. 35,000/- collected for social service on selling the waste paper.
5.	Visited 'Orphanage home'	''Maa Illu Prjadarana'', Orphanage home, at Zaphargadh, Warangal district.	50	Books, pens, buckets and regular use things have been distributed to orphan students. Career guidance programmes were conducted.
6.	Sapling plantation programme	Muddanuru village, Warangal District	84	150 saplings planted
7.	Celebrated ''National Unity Day''	From NITW to Collectorate	150	A rally was conducted with slogans ''Ek Bharat, Shreshta Bharat''.
8.	Social Awareness	NITW	80	Essay writing, elocution and Craft making events were conducted

Chief guest Sri.Prashanth Jeevan Patil, Collector, Warangal (urban) district inaugurating the Mega Blood Donation Camp. Prof. N. V. Ramana Rao, Director, NITW, Prof. LRG Reddy, Prof. J. V. Ramana Murthy, Deans, Student Welfare, Sri. Goverdhan Rao, Registrar have participated in the event.

Registrar NITW Sri.Goverdhan Rao addressing the student gathering during the National Girl Child Day on the theme ‘’Beti Bachao, Beti Padhao’. Prof. J. V. Ramana Murthy, Dean Student welfare and other faculty members have participated in the program.

NIT-Warangal students light joy at orphanage on Diwali

In this connection, NIT-W students spent their time with the students at the orphanage.

By TelanganaToday | Published: 28th Oct 2019 7:06 pm

NIT-W students with the children at the orphanage in Warangal

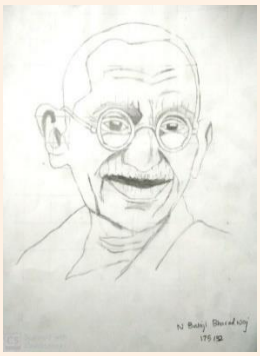
Warangal Urban: As part of NSS programme, volunteers of NIT-Warangal campus organised a social service program on Diwali at an orphanage called 'Maa Illu-Prajsdharana orphanage' situated at Zaffargadh in the district on Sunday.

In this connection, NIT-W students spent their time with the students at the orphanage. They conducted various sports for them. Through 'money collection drive' conducted at the campus, the NSS volunteers bought some household articles such as buckets, mugs, brushes, hair oil, washing and bathing soaps, snacks and play items like carrom boards, chess boards etc. and donated to the orphanage students. Volunteers also presented gifts to the students who won in the games held there.

The volunteers celebrated the Diwali festival and shared their happiness with the orphan kids. As part of this program, they conducted counselling sessions on career guidance. NSS coordinator Dr. Basavoju Srinivas, general secretary Nomalatha and secretary Akhil Reddy and 50 NSS volunteers participated in the programme.

As part of NSS programme, volunteers of NIT-Warangal campus organised a social service program on Diwali at an orphanage home ‘Maa Illu-Prajadharana’ situated at Zaffargadh in the Warangal district. The volunteers celebrated the Diwali festival and shared their happiness with the orphan kids. They conducted counselling sessions on career guidance and conducted various sports for them. NSS volunteers donated some household orphanage students and presented gifts to the students.



NSS NITW celebrated 10th birth anniversary Mahatma Gandhi. A cycle rally was conducted with 'GO GREEN' slogans with enthusiastic volunteers with a motive to bring awareness among people to reduce the use of automobiles. A sketching competition was conducted with the theme being portrait of Mahatma Gandhi. Students made different kinds of portraits of Mahatma Gandhi with all their hearts as shown above. A quiz competition was conducted to test the historical knowledge of students with the theme being "History of India". Students actively participated in the competition and tested their skills.

Technozion-2019

Technozion-19 is the newer edition of the annual celebration of engineering science and technology organized solely by a core team of 55 members in 10 departments, represented by the student coordinator, U.Nikhil Chowdary and an associate team of nearly 500 sub cores, workforce, event managers and volunteers under the guidance of faculty advisor, Dr. L. Anjaneyulu. Technozion-19 provided a great technical platform for the budding engineering professionals and upheld the enthusiasm of the previous editions.

Started in the year 2006, technozion has been expanding its horizons ever since to emerge as one among the biggest technical fests of south India hosting more than 55 events, guest lectures, 13 workshops in various fields including technology and other expanding arenas. With enormous participation from all over, Technozion has become home to more than 3500 participants.

Every year Technozion shows up with a new face mesmerizing everyone. The face of Technology reflected in a mirror of Innovation that brings up Enthusiasm in every heart. Every theme has carved to depict a better understanding of Technozion.

The previous year, TZ deciphered a collaboration of ideas that bloom out to be the vision of tomorrow. A breeding place of Tech Marvel that did bring out the best out of students. Encontro it was.

Humans were always fascinated to build something NEW. So this year we set up our tribute to the thirst of humans to make the globe a better place to live, because the science of today is the technology of tomorrow. With the same spirit we aim to model this Tzasba platform for innovation.

We therefore proudly introduce to you the essence of **NOVUS** that drives us ahead, that sets our pace and shows us annew path to solve the problems of the modern day. And this path, as we choose today is Innovation that pushes us past our barriers and builds a new and better world for all the generations up ahead.

NOVUS (New) being the theme, the main objectives of this year's Technozion include:

1. Disruptive technologies that change the world.

Through Novus, we aim at garnering the thoughts and anticipating the technologies that may drive the future.

2. Technologies that make health more affordable.

With the technological revolution that is going on, the adverse effects, if any, are to be considered before imbibing a technology into existence and hence, we focus on the technologies that are healthy to us.

3. Technologies that transform rural India.

Through different initiatives this year, we are all set to drive technology into the nook and corner of villages that surround us. 'Digitalize to revolutionize' will be one of our mottos for this year.

4. Sustainable technologies that transform the future.

Sustainability is not just a part of humans but it is also an important parameter which defines the efficiency and potency of a technology. If a technology can sustain, it has the power to transform our future and this will be of prime importance throughout the fest.

5. Smart cities.

As the cost of living has been increasing since the advent of technology, we aspire to act smart and develop our surroundings as such. Technozion shall be a smart city in itself and aims to be an epitome of the same.

6. Additive manufacturing/ IOT/ AI.

The more is our interaction with artificial intelligence, the simpler our life gets. Technozion strives to establish this connection every year and this year is nothing less than all its bygone years.

7. Space Technologies.

Space and time have always been best of buddies for Technozion. This year, Novus shall host the contortion of space and time as a tribute to Stephen Hawking.

8. Nanotechnology.

As the elements in a technology grow smaller, the intricacies involved in dealing the nano particles increases. Technozion shall strive to contort this enigma and address the intricacies involved when dealing with nanotechnology.

9. Big Data Analytics.

As the technology is growing, the way we handle the information and the way we process it for further updates in the existing system, we need a tool to decipher the data and bring things to our finger tips. Technozion shall be a hub for nurturing such techniques and put them to use.

Scrupulously planned events, segregated as department events, attractions and general events, spotlights, attracted enthusiastic participation from the crowd. The events are planned and organized by event managers with the guidance of faculty members, imparting technical knowledge in a fun-filled way. Spotlight events such as Avion E, Jahaaz, Hovermania and Wreckage have witnessed stupendous participation.

Workshops that mainly focused on emerging technologies have attracted participants in Technozion-19. 13 workshops on varied fields conducted by renowned tech companies such as Wingfotech, EI Systems, etc. on Artificial Intelligence, Machine Learning, Humanoid Robotics, Blockchain essentials, Digital Marketing, etc. gained a popularity among the participants.

Enticing guest lectures and video conferences delivered by the best people of various fields have made Technozion-19 extravagant. Jeff Demain, CEO Hantheon; Srinidhi Anantharaman, Founder of Geodesic Solutions; Kalpesh Karnik, Product developer at ATE's HMX division; Brigadier P Ganeshan, founder of PalleSrujana and a specialist in armored fighting vehicles; Jignesh Talasila, Co-Founder and CEO of Loop Reality; Chandra Pinapala, Head, GSI business-India, Amazon Internet Services and Kartikeya Gummakonda, an eminent alumnus of NIT Warangal have delivered motivating and inspiring guest lectures in their fields of success emphasizing on the latest developments and the need for innovation.

Technozion-19 has also taken a big step inn encouraging cultural events from the students of NIT Warangal, backing the musical show and dance performances by the Music Club and Dance and Dramatics Club respectively. A Pro Show featuring the famous overnight star and singing sensation, Shirley Setia has been a major attraction of Technozion-19. Attractions like game dome, electroween, elenchos, etc. were also major crowd pullers.

Technozion-19 has taken initiatives with the ideal of motivating society through plantation drive, orphanage visit, Ujwala, etc. On the occasion of Gandhi Jayanthi, NIT Warangal has adopted a village, Muddunooru in the district of Warangal. To practically test the advanced technologies they've learnt in their courses, team Technozion (Technical Fest of NIT Warangal) accompanied by their faculty have visited the village and have solved various problems encountered by the villagers using the following techniques.

1. The students have installed a mobile phone controlled water motor to help the farmers whose farms were far away from their houses. Notably this system doesn't need an Android phone to work.

2. They collected plastic bags from every family in the village and supplied the villagers with hundreds of eco friendly bags.

3. The students voiced out for the village on a national level for the water awards competition, to felicitate the villages, which used water most efficiently.

4. The students have also pitched various schemes put forth by the government for better employment, health, and opportunities.

5. They have also installed smart street lights for saving electricity.

A cluster of unique ideas and implementations has made Technozion-19 stand out as one among the best technical fests in south India for the year 2019.

Technozion fest to showcase new innovations

HANS NEWS SERVICE

Student Welfare Dean LRG Reddy (centre) speaking to media persons on NIT campus in Warangal on Wednesday. Technozion in-charge Dr L Anjaneyulu and Student Coordinator Nikhil Choudhary also seen

Warangal: The National institute of Technology, Warangal, (NITW) to host the four-day Technozion, second biggest Technical Fest in South India, from October 31. Disclosing the details to media persons on the NITW campus, the Student Welfare Dean LRG Reddy said the annual technical fest is a massive platform for the students to learn and showcase technological advancements. He said that nearly 5,000 students from across the country are expected to attend the fest. Stating that the theme of the fest is based on 'Novus' (new innovations in Latin), he said that the focus of the Technozion would be on 'Emerging Technologies'. He said that the event would have workshops, guest lectures and exchange of ideas by the eminent technology experts.

Technozion in-charge Dr L Anjaneyulu said that workshops on advanced humanoid robot building, Internet of Things, electrical cars designing are a clear indication of the pace at which Indian students are upgrading their skills to the most happening technologies of the modern day. With various competitions like Avion E, Wreckage, RC boats see to it that students not just understand and learn concepts but build machines that soar high in the air dive deep in the water and roar on the roads. To help students understand the perspective of the real industry, technocrats leading top industries are visiting the campus to talk to the students and drive them on a path of building their own firms, he added.

Student Coordinator Nikhil Choudhary said that N Divakar, recipient of Padma Shri for science in 2004, will preside over the event as the chief guest Director and CEO of Adroitec Engineering Solutions Ayush Nadimpalli will interact with the students on the inaugural day. Apart from the technical aspects in the day, the students get to enjoy Proshows performed by top singers of the country. As a whole, Technozion promises India that the future is in safe hands with amazing brains building creative technologies.

Thu, 31 October 2019
https://epaper.thehansindia.com/c/45208233

Pictures of Miyawaki mini forest created in 2019

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