

# TELANGANA STATE SCIENCE CONGRESS (TSSC-2018)

22<sup>nd</sup> -24<sup>th</sup>, December, 2018

## PROGRAMME

(Legend to the acronyms is given at the last page)

DAY 1 : 22-12-2018					
08.30 -10.00	REGISTRATION			AUDITORIUM	
10.00 – 11.30	INAUGURAL FUNCTION				
11.30 – 11.45	HIGH TEA				
11.45 – 13.15	PLENARY SESSION	<b>Chairperson:</b> Prof. N.V. Ramana Rao, Director, NIT Warangal <b>Co-Chairperson:</b> Prof. K. V. Jayakumar, Dean, IRAA, NIT Warangal			DBRALC
		11.45 – 12.15	<b>Distinguished Lecture 1</b> <i>Joyful Story of Doing Useful Science</i> Dr. T. Ramasami, Former Secretary, DST		
		12.15 – 12.45	<b>Distinguished Lecture 2</b> <i>On the Ramanujan-Selberg Conjecture</i> Prof. T.N. Venkata Ramana, TIFR, Mumbai		
		12.45 – 13.15	<b>Distinguished Lecture 3</b> <i>Science &amp; Technology for an All Round and Sustainable Development of the Telangana State</i> Dr. Prahlada Ramarao, Former Director, DRDL		
13.15 – 14.15	LUNCH			PANDAL	
14.15 – 15.50	THEMATIC PARALLEL SESSIONS			SHC	
14.15 to 15.50	PHYSICAL AND MATHEMATICAL SCIENCES	<b>Chairperson:</b> Prof. P. Venugopal Reddy, Vice-President, TAS <b>Co-Chairperson:</b> Prof. R. L. N. Sai Prasad, NIT Warangal			RAMANUJAN HALL
		14.30 – 15.00	<b>Invited Lecture:</b> <i>Innovations in Some of the Indigenous Sensor Technologies</i> Dr. N. R. Munirathnam, Director General, C-MET		
		15.00 – 15.50	<b>Oral Presentations: PMS-O-1 to PMS-O-4</b> (4 x 10 min)		
	ENGINEERING & TECHNOLOGY	<b>Chairperson:</b> Sri R. N. Jayaraj, Former Chairman, NFC, Hyderabad <b>Co-Chairperson:</b> Prof. T.D. Gunneswara Rao, NIT Warangal			BOSE HALL
		14.30 – 15.00	<b>Invited Lecture:</b> <i>Nuclear Fuel Complex - Vision 2028: (Challenges, Expertise &amp; Innovative Technologies)</i> Dr. Dinesh Srivastava, Chief Executive, NFC, Hyderabad		
		15.00 – 15.50	<b>Oral Presentations: ET-O-1 to ET-O-4</b> (4 x 10 min)		
	CHEMICAL SCIENCES	<b>Chairperson:</b> Dr. R.B. N. Prasad, IICT, Hyderabad <b>Co-Chairperson:</b> Prof. Ms. P. V. Srilakshmi, NIT Warangal			RAMAN HALL
		14.30 – 15.00	<b>Invited Lecture:</b> <i>Innovative Process Technologies for Commercial Drugs</i> Dr. A. Veera Reddy, Suvenlife Sciences, Hyderabad		
		15.00 – 15.50	<b>Oral Presentations: CS-O-1 to CS-O-4</b> (4 x 10 min)		

14.15 to 15.50	LIFESCIENCES & AGRICULTURAL SCIENCES	Chairperson: Prof. P. Appa Rao, Vice Chancellor, Univ. Hyderabad Co-Chairperson: Dr. Onkara Perumal, NIT Warangal		HOMI BHABHA HALL	
		14.30 – 15.00	Invited Lecture: <i>Fungal Diversity in Sustainable Development of Telangana State: Opportunities and Challenges</i> Prof. A. K. Pandey, Chairman, MPPURC		
		15.00 – 15.50	Oral Presentations: LSAS-O-1 to LSAS-O-4 (4 x 10 min)		
	MEDICAL, HEALTH & PHARMACEUTICAL SCIENCES	Chairperson: Prof. G. Achaiah, Kakatiya Univ, Warangal Co-Chairperson: Prof. A. Sarath Babu, NIT Warangal		CHANDRASEKHAR HALL	
		14.30 – 15.00	Invited Lecture: <i>Indian Pharmaceutical Industry Achievements and Expectations</i> Prof. C.K. Kokate, Former Vice Chancellor, KU, Warangal		
		15.00 – 15.50	Oral Presentations: MHPS-O-1 to MHPS-O-4 (4 x 10 min)		
	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES	Chairperson: Prof. K.V. Jayakumar, Dean, IRAA, NIT Warangal Co-Chairperson: Dr. P. Hari Prasad Reddy, NIT Warangal		KHURANA HALL	
		14.30 – 15.00	Invited Lecture: <i>Ozone, Ozone Everywhere</i> Prof. S. B. Jonnalagadda, Univ.KwaZulu-Natal, South Africa		
		15.00 – 15.50	Oral Presentations: EOAES-O-1 to EOAES-O-4 (4 x 10 min)		
	<b>SPECIAL THEME SESSION</b>				DBRALC
	INTERACTION OF STUDENTS WITH SCIENTISTS	Coordinator: Prof. A. Ramachandraiah, NIT Warangal			
		Speakers	Dr. Ch. Mohan Rao, Former Director, CCMB, Hyderabad Prof. K. Byrappa, Former Vice Chancellor, Mangalore University Prof. B. V. Appa Rao, Emeritus Research Fellow, TLC, NIT Warangal Prof. D. Prasad Rao, Chairman, Indo-US Suer Speciality Hospital, Hyd'bad		
15.50 – 16.05	<b>TEA BREAK</b>			PANDAL	
16.05 – 17.35	<b>THEMATIC PARALLEL SESSIONS – II</b>			SHC	
16.05 – 17.35	PHYSICAL AND MATHEMATICAL SCIENCES	Chairperson: Prof. T. Amarnath, Univ. Hyderabad Co-Chairperson: Prof. P. Malla Reddy, KU, Warangal		RAMANUJAN HALL	
		16.15 – 16.45	Invited Lecture: <i>Divergence free vector fields in viscous incompressible flows with special reference to Oseen equations</i> Prof. B. Sri Padmavathi, Univ. Hyderabad		
		16.45 – 17.35	Oral Presentations: PMS-O-5 to PMS-O-8 (4 x 10 min)		
	ENGINEERING AND TECHNOLOGY	Chairperson: Prof. M. Sydulu, NIT Warangal Co-Chairperson: Prof. K. Anand Kishore, NIT Warangal		BOSE HALL	
		16.15 – 16.45	Invited Lecture: <i>Mathematical Modelling and Simulation in Chemical &amp; Bio-Chemical Engineering</i> Prof. M. Chidambaram, Emeritus Professor, NIT Warangal		
		16.45 – 17.35	Oral Presentations: ET-O-5 to ET-O-8 (4 x 10 min)		
	CHEMICAL SCIENCES	Chairperson: Prof. Ch. Sanjeeva Reddy, Vice-President, TAS Co-Chairperson: Dr. Vishnu Shanker, NIT Warangal		RAMAN HALL	
		16.15 – 16.45	Invited Lecture: <i>Use of Light for Treatment of Cancer: Challenges &amp; Opportunities</i> Dr. D. Ramaiah, Former Director, RRL, Jorhat		
		16.45 – 17.35	Oral Presentations: : CS-O-5 to CS-O-8 (4 x 10 min)		
LIFESCIENCES AND AGRICULTURAL SCIENCES	Chairperson: Prof. S. M. Reddy, Editor, Publications, TAS Co-Chairperson: Dr. Ms. G. Shamitha, KU, Warangal		HOMI BHABHA HALL		
	16.15 – 16.45	Invited Lecture: <i>Biotechnological production of chitooligosaccharides for plant immunization</i>			
	16.45 – 17.35	Oral Presentations: LSAS-O-5 to LSAS-O-8 (4 x 10 min)			

	MEDICAL, HEALTH AND PHARMACEUTICAL SCIENCES	Chairperson: Prof. C. K. Kokate, Former Vice Chancellor, KU, Warangal Co-Chairperson: Dr. P. Srinivasa Rao, NIT Warangal		CHANDRASEKHAR HALL
		16.15 – 16.45	Invited Lecture: <i>Science and Technology for Enhancing Quality of Life</i>  Dr. S. N. Hegde, Former Vice Chancellor, Mysore University	
		16.45 – 17.35	Oral Presentations: MHPS-O-5 to MHPS-O-8 (4 x 10 min)	
	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES	Chairperson: Prof. S. B. Jonnalagadda, Univ.KwaZulu-Natal, SA Co-Chairperson: Prof. M. Chandrasekhar, NIT Warangal		KHURANA HALL
		16.15 – 16.45	Invited Lecture: <i>Waste Biorefinery: Renewable Chemicals and Fuels in Closed Loop Integrated Format</i>  Dr. S. Venkata Mohan, IICT, Hyderabad	
		16.45 – 17.35	Oral Presentations: EOAES-O-5 to EOAES-O-8 (4 x 10 min)	
<b>SPECIAL THEME SESSION</b>				
INTERACTION OF STUDENTS WITH SCIENTISTS	Coordinator: Prof. A. Ramachandraiah, NIT Warangal		DBRALC	
	Speakers	Dr. Ch. Mohan Rao, Former Director, CCMB, Hyderabad Prof. K. Byrappa, Former Vice Chancellor, Mangalore University Prof. B. V. Appa Rao, Emeritus Research Fellow, TLC, NIT Warangal Prof. D. Prasad Rao, Chairman, Indo-US Suer Speciality Hospital, Hyd'bad		
17.30	<b>GENERAL BODY MEETING, TAS</b>			BOSE HALL
17.30-19.00	<b>POSTER PRESENTATION</b>			SHC
19.00-20.30	<b>CULTURAL PROGRAMME</b>			AUDITORIUM
20.30	<b>DINNER</b>			PANDAL

## DAY 2: 23-12-2018

08.00-09.00		<b>BREAKFAST</b>		
09.00-11.00		<b>SUB-THEME PARALLEL SESSIONS-I</b>		
09.00-11.00	SMART CITIES	Chairperson: Prof. C. S. R. K. Prasad, NIT Warangal Co-Chairperson: Prof. R. B. V. Subramanyam, NIT Warangal		DBRALC
		9.00-9.40	Speakers: Dr. B. Janardhan Reddy, IAS, Commissioner, HMDA, Hyderabad Sri. Jeyash Ranjan, IAS, Principal Secretary, IT, GoT	
		9.40-10.20 10.20-11.00	Discussions	
	RENEWABLE ENERGY SOURCES	Chairperson: Prof. P. Anand Raj, Dean, P & D, NIT Warangal Co-Chairperson: Prof. S. Srinivasa Rao, NIT Warangal		BOSE HALL
		9.00-9.40	Invited Lecutre1: <i>Renewable Energy Sources</i> Prof. K. Ramanuja Chary: Rowan University, USA	
		9.40-10.20 10.20-11.00	Invited Lecture 2: Metal Fluorides for Electrochemical Energy Storage Prof. M. Anji Reddy, Germany Discussions	
11.00-11.15		<b>TEA BREAK</b>		
				SHC

11.15-13.00		SUB-THEME PARALLEL SESSIONS-II		
11.15 – 13.00	SCIENCE IN THE SERVICE OF SOCIETY	<b>Chairperson:</b> Dr. Ch. Mohan Rao, Former Director, CCMB <b>Co-Chairperson:</b> Prof. B. V. Appa Rao, NIT Warangal <b>Speakers:</b> Prof. D. Balasubramanian, former Director, CCMB, Hyderabad Dr. T. V. Venkateswaran, Director, Vigyan Prasar, DST, GoI		DBRALC
	INCLUSIVE ROLE OF WOMEN IN SCIENCE AND TECHNOLOGY	<b>Chairperson:</b> Dr. Ms. K. Padma, NIT Warangal <b>Co-Chairperson:</b> Dr. Ms. H. P. Rani, NIT Warangal <b>Speakers:</b> <i>Women In Science – is it any different?</i> Dr. Saroja Saibaba, Scientific Officer, Kalpakkam <i>A Socio Cultural Historical Perspective of Women Power in India.</i> Dr. J. Kedaeswari, Curator, Salarjung Museum, Hyderabad		BOSE HALL
13.00-14.00		LUNCH		PANDAL
14.00-15.30		THEMATIC PARALLEL SESSIONS – III		SHC
14.00 – 15.30	PHYSICAL AND MATHEMATICAL SCIENCES	<b>Chairperson:</b> Prof. M. N. Chary, OU <b>Co-Chairperson:</b> Prof. L. R. G. Reddy, NIT Warangal		RAMANUJAN HALL
		14.10-15.10	<b>Invited Lectures</b> <i>Physics and Applications of Functional Materials and Nanostructures</i> Prof. M. S. Ramachander Rao, IIT Madras Severe Thunderstorms over India and special reference to Telangana Prof. K. Krishna Reddy, YVU, Kadapa	
		15.10 -15.30	<b>Oral Presentations: PMS-O-9 and PMS-O-10 (2 x 10 )</b>	
	ENGINEERING AND TECHNOLOGY	<b>Chairperson:</b> Dr. G. Madhusudhan Reddy, TAS <b>Co-Chairperson:</b> Prof. P. Bangaru Babu, NIT Warangal		BOSE HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Heisenberg Principle and Sustainable Development in Geotechnical Engineering Practice</i> Prof. M. R. Madhav, IIT, Kanpur (Retd)	
		14.40-15.30	<b>Oral Presentations: ET-O-9 to ET-O-13 (5 x 10)</b>	
	CHEMICAL SCIENCES	<b>Chairperson:</b> Prof. S. SriHari, Kakatiya Univ, Warangal (Retd) <b>Co-Chairperson:</b> Prof. A. Venu Vinod, NIT Warangal		RAMAN HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Indigenizing Material Technologies (From laboratory to the market)</i> Dr. T. N. Rao, ARCI, Hyderabad	
		14.40-15.30	<b>Oral Presentations: : CS-O-9 to CS-O-12 (4 x 10)</b>	
	LIFESCIENCES AND AGRICULTURAL SCIENCES)	<b>Chairperson:</b> Prof. M. Singaracharya, Kakatiya Univ, Warangal <b>Co-Chairperson:</b> Prof. E. Venkata Ratnam, NIT Warangal		HOMI BHABHA HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Science and Technology for Doubling Farmers Income in Telangana State through Integrated Farming Approach</i> Prof. M. P. Thakur, IGKV, Raipur	
		14.40-15.30	<b>Oral Presentations: LSAS-O-9 to LSAS-O-12 (4 x 10)</b>	
	MEDICAL, HEALTH AND PHARMACEUTICAL SCIENCES	<b>Chairperson:</b> Prof. K. Jeevan Rao, EC Member, TAS <b>Co-Chairperson:</b> Dr. Prakash Saudagar, NIT Warangal		CHANDRASEKHAR HALL
		14.10-14.40	<b>Invited Lecture:</b> <i>Involvement of sorbitol-mediated signaling mechanisms in neuronal and retinal degeneration associated with metabolic syndrome</i> Dr. G. Bhanuprakash Reddy, NIN, Hyderabad	
		14.40-15.30	<b>Oral Presentations: MHPS-O-9 to MHPS-O-12 (4 x 10)</b>	

	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES	Chairperson: Prof. N. V. Umamahesh, NIT Warangal Co-Chairperson: Dr. K. Venkata Reddy, NIT, Warangal		KHURANA HALL
		14.10-14.40	Invited Lecture: <i>Geo-Technical Splendour of the Kakathiyas</i> Prof. M. Pandu Ranga Rao, NIT WARANGAL (Retd)	
		14.40-15.30	Oral Presentations: EOAES-O-9 to EOAES-O-12 (4 x 10)	
15.30-15.45	TEA BREAK			SHC
15.45-17.15	THEMATIC PARALLEL SESSIONS – IV			
15.45-17.15	PHYSICAL AND MATHEMATICAL SCIENCES	Chairperson: Prof. Y. N. Reddy, NIT, Warangal Co-Chairperson: Prof. D. Srinivasacharya, NIT Warangal		RAMANUJAN HALL
		15.55-16.25	Invited Lecture: On <i>"On Absolutely Norm Attaining Operators"</i> Prof. G. Ramesh, IIT, Hyderabad	
		16.25-17.15	Oral Presentations: PMS-O-11 to PMS-O-14 (4 x 10)	
	ENGINEERING AND TECHNOLOGY	Chairperson: Prof. P. Ravi Kumar, Member Secretary, TSCOST, Telangana Co-Chairperson: Prof. S. Srinivasa Rao, EEE, NIT Warangal		BOSE HALL
		15.55-16.25	Invited Lecture: <i>Incremental Sheet Forming: Predictive Capabilities</i> Prof. N. Venkata Reddy, IIT, Hyderabad	
		16.25-17.15	Oral Presentations: ET-O-14 to ET-O-17 (4 x 10)	
CHEMICAL SCIENCES	Chairperson: Prof. D. Ashok, OU Co-Chairperson: Dr. S. Jyothi, KUC		RAMAN HALL	
	15.55-16.25	Invited Lecture: <i>Electrical Discharge Plasma: An Advanced Oxidation Process the Mitigation of Air and Water pollutants</i> Prof. Ch. Subramanyam, IIT, Hyderabad		
	16.25-17.15	Oral Presentations: : CS-O-13 to CS-O-16 (4 x 10)		
LIFESCIENCES AND AGRICULTURAL SCIENCES	Chairperson: Prof. K. Janardhan Reddy , EC Member, TAS Co-Chairperson: Dr. K. Narasimhulu, NIT Warangal		HOMI BHABHA HALL	
	15.55-16.25	Invited Lecture: <i>Transition in Indian Agriculture (From Green Revolution to Gene Revolution)</i> Prof. N. Venugopal Rao, ANGRAU, Tirupati (Retd)		
	16.25-17.15	Oral Presentations: LSAS-O-13 to LSAS-O-16 (4 x 10)		
MEDICAL, HEALTH AND PHARMACEUTICAL SCIENCES	Chairperson: DR. G. Bhanuprakash Reddy, EC Member, TAS Co-Chairperson: Dr. S. Srinath, NIT Warangal		CHANDRASEKHAR HALL	
	15.55-16.25	Invited Lecture: The Science of Resuscitation-Best Practices to Improve Survival from Cardiac Arrest  Dr. R. Srinivas, Cardiologist, Warangal		
	16.25-17.15	Oral Presentations: MHPS-O-13 to MHPS-O-16 MHPS, O 13-16 (4 x 10)		
	EARTH, OCEAN, ATMOSPHERIC AND ENVIRONMENTAL SCIENCES	Chairperson: Y. Pydisetty, Dean, Academic, NIT Warangal Co-Chairperson: Dr. Ms. C. Vanitha, NIT Warangal		KHURANA HALL
		15.55-16.25	Invited Lecture: Relevance of Environmental Flows in Indian Context Prof. K. V. Jayakumar, CED, NIT Warangal	
		16.25-17.15	Oral Presentations: EOAES-O-13 to EOAES-O-16 (4 x 10)	
17.15-17.30	TEA BREAK			SHC
17.30-19.00	POSTER PRESENTATIONS			
19.00-20.30	CULTURAL PROGRAM			AUDITORIUM
20.30-21.30	DINNER			

## DAY 3: 24-12-2018

<b>08.00-09.30</b>		<b>08.00-09.30 hrs: Annual General Body Meeting, TAS (For Fellows only)</b>		Dean, IRAA
		<b>BREAKFAST</b>		PANDAL
<b>09.30-11.10</b>	<b>PLENARY SESSION-II</b>	<b>Chairperson:</b> Dr. S. Chandrasekhar, Director, IICT, Hyderabad <b>Co-Chairperson:</b> Prof. A. Venu Gopal, NIT Warangal		<b>DBRALC</b>
		<b>9.40-10.25</b>	Distinguished Popular Lecture-1 <i>Science for Sustainability: Emerging Challenges and New Opportunities</i> Prof. A.R. Reddy, Former Vice Chancellor, Yogi Vemana Univ., Kadapa	
		<b>10.25-11.10</b>	Distinguished Popular Lecture-2 <i>The Role of Nature and Science in Engineering Sustainable Buildings</i> Prof. N.V. Ramana Rao, Director, NIT Warangal	
<b>11.10-11.25</b>		<b>TEA BREAK</b>		PANDAL
<b>11.25-13.00</b>		<b>SPECIAL THEME PARALLEL SESSIONS-III</b>		SHC
	<b>YOUNG SCIENTISTS MEET</b>	<b>Chairperson:</b> Prof. M. Vittal, OU (Retd) <b>Co-Chairperson:</b> Dr. A. Veereshbabu, NIT Warangal		<b>BOSE HALL</b>
		<b>Speakers</b>	Dr. S. Chandrasekhar, Director, IICT, Hyderabad Prof. M. Chidambaram, Emeritus Professor, NIT Warangal Dr. G. Ramesh, IIT Madras, Chennai	
	<b>STRENGTHENING SCIENCE EDUCATION: ROLE OF TEACHERS</b>	<b>Chairperson:</b> Prof. D.V.S.S. Siva Sarma, Dean, FA, NIT Warangal <b>Co-Chairperson:</b> Dr. P. V. Rao, NIT Warangal		<b>DBRALC</b>
		<b>Speakers</b>	Dr. Ch. Mohan Rao, Former Director, CCMB Prof. B. V. Appa Rao, Emeritus Research Fellow, TLC, NIT Warangal Dr. P. M. Satyasai, Visiting Faculty, NIT Warangal	
<b>13.00-14.00</b>		<b>LUNCH</b>		PANDAL
<b>14.00-15.30</b>	<b>PANEL DISCUSSION</b>	<b>Panellists:</b> Sri. Ajay Mishra, IAS, Commissioner, S&T, GoTelanagana Prof. A. R. Reddy, Former Vice Chancellor, Yogi Vemana Univ., YVU, Kadapa Dr. Martha N. Reddy, Associate Director, DRDO, Delhi (Retd) Dr. Ch. Mohan Rao, Former Director, CCMB, Hyderabad Prof. K. Narasimha Reddy, President, TAS Dr. S. Chandrasekhar, Director, IICT, Hyderabad & Hon'Sec., TAS Dr. N. V. Ramana Rao, Director, NIT, Warangal Prof. M. Panduranga Rao, NIT WARANGAL (Retd) <b>Moderator:</b> Prof. L.R.G. Reddy, Dean, SA, NIT Warangal		<b>DBRALC</b>
<b>15.30-16.00</b>		<b>VALEDICTORY FUNCTION</b>		DBRALC
<b>16.00</b>		<b>HIGH TEA</b>		PANDAL

(Legend: **NIT**= National Institute of Technology; **TAS** = Telangana Academy of Sciences; **DST** = Department of Science and Technology; **TIFR** = Tata Institute of Fundamental Research; **IICT** = Indian Institute of Chemical Technology; **NFC** = Nuclear Fuel Complex; **DRDL** = Defence Research and Development Laboratory; **DRDO** = Defence Research and Development Organisation; **CCMB** = Centre for Cellular and Molecular Biology; **IIT** = Indian Institute of Technology; **YVU** = Yogi Vemana University; **ARCI** = International Advanced Research Centre for Powder Metallurgy and New Materials; **KU** = Kakatiya University; **C-MET** = Centre for Materials for Electronics Technology; **IGKV** = Indira Gandhi Krishi Vishwavidyalaya; **NIN** = National Institute of Nutrition; **MPPURC** = Madhya Pradesh Private University Regulatory Commission; **GoT** = Government of Telangana; **ANGRAU** = Acharya NG Ranga Agricultural University; **GoI** = Government of India; **TLC** = Teaching Learning Centre; **DBRALC** = Dr Babasahab Ambedkar Learning Centre; **SHC** = Seminar Hall Complex; **PMS** = Physical and Mathematical Sciences; **ET** = Engineering and Technology; **CS** = Chemical Sciences; **LSAS** = Life Sciences and Agricultural Sciences; **MHPS** = Medical, Health and Pharmaceutical Sciences; **EOAES** = Earth, Ocean, Atmospheric and Environmental Sciences; **-O-** = Oral; **-P-** = Poster)