

# **F**ACULTY DEVELOPMENT PROGRAMME (FDP) ON



# METAHEURISTIC OPTIMIZATION ALGORITHMS IN ENGINEERING

 $6^{th} - 15^{th}$  May, 2019

# Organized by

CMR College of Engineering & Technology (Autonomous), Hyderabad
In association with

E & ICT Academy, NIT Warangal

(Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)

#### Preamble:

The Preamble: "Electronics & ICT Academy" was set-up at NIT Warangal with financial assistance from MeitY, Gol. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry, and Andaman & Nicobar Islands. This academy role is to offer faculty development programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice, and support for technical incubation and entrepreneurial activities

About the FDP: A metaheuristic is a higher-level procedure to find, generate, or select a heuristic (partial search algorithm) that may provide a sufficiently good solution to an optimization problem. The goal of metaheuristic is to efficiently explore the search space in order to find near-optimal solutions. These algorithms are found to be potential in search and optimization for complex engineering optimization problems. With the advent of computers, optimization has become a part of computer aided activities. Techniques which constitute metaheuristic algorithms range from simple local search procedures to complex learning processes.

### **Major Course Contents:**

- Direct Search Methods Gradient Based methods
- Simplex method and linear Programming
- Genetic Algorithms
- Particle swarm Optimization
- Differential Evolution, Bat Algorithm
- Teacher Learning based Optimization Algorithm
- Jaya Algorithm, Sine cosine algorithm
- Neural Networks Applications
- DC Motor Speed Control
- Robotic path Planning
- Channel Equalization
- System Identification
- Image processing
- Wireless Sensor Networks

## **Faculty conducting this programme:**

The programme will be conducted by the faculty members of **NIT Warangal**; Academicians in the concerned field from **IITs/NITs/IIITs** are invited to deliver lectures in the programme. Speakers from industries are also expected to deliver as part of the course.

### **Registration Fee Particulars:**

1. Faculty : 4000/2. Research Scholars : 4000/3. Industry : 12000/-

(Only faculty of SC/ST in mentioned states.: Rs: 3000/- and Research Scholars are not eligible for SC / ST concessions)

The entire registration fee is to be collected in the form of DDs/online transfer using the following details:

DD Details	Online Transfer Details
Demand Draft in favor of "E & ICT Academy, NIT	Account Name: Electronics & ICT
Warangal''	Academy NITW
payable at SBI NIT Warangal	Account No: 62423775910
	IFSC: SBIN0020149

## **Eligibility:**

The programme is open to the faculty of Engineering Colleges in India. Industry personnel working in the concerned /allied discipline can also attend.

#### **Accommodation:**

All the selected participants will be provided FREE boarding & lodging in the institute guest house. No TA will be paid for the participants

#### How to apply:

A filled in form of application in the prescribed format duly signed and sponsored by the appropriate authorities (along with demand draft) should reach the coordinator by speed-post. It is also mandatory to send scanned copy of application and demand draft through e-mail to <a href="mailto:nagarajunaik1976@cmrcet.org">nagarajunaik1976@cmrcet.org</a> as the selection will be intimated through e-mail only.

#### **Selection Criteria:**

Selection will be done based on first-come-first-serve basis to a maximum number of 50 (fifty). Additionally 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the DD will be sent back. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms.

**Important dates:** 

important dates.		
Last date (Application & DD)	03-05-2019	
Selection List by E- mail	04-05-2019	
Duration	6 <sup>th</sup> to 15 <sup>th</sup> May 2019	

### **About NIT Warangal & Department:**

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

## **About CMRCET:**

CMR College of Engineering & Technology is sponsored by MGR Educational society, which was established in 2002. The college is situated 20km from Secunderabad Railway station on (Medchal Hyderabad-Nagpur National Highway Telangana, India. The college is located in 10 acres of serene environment which is lush green and free of pollution. The insatute is approved by AICTE, New Delhi, ppermanently affiliated to JNTUH, and accredited by NAAC with 'A' grade and is UGC autonomous. The management is having 25 years of experience in educational field and committed in assuring quality educational services as part of the society. Our vision is to be a premier academic institution striving continuously for excellence in technical education, research and technological service to the Nation. The institute offers UG (B.Tech- CIVIL EEE, MECH, ECE and CSE) and PG(M. Tech & MBA) courses.



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<ol> <li>Name</li> <li>Designation</li> <li>Institution</li> </ol>	: : :		Dr. /Mr. /Ms is an employee of our Institute/Organization and is hereby sponsored to participate in the FDP on "Metaheuristic Optimization Algorithms in Engineering", sponsored by Electronics & ICT Academy during 6 <sup>th</sup> May to 15 <sup>th</sup> May 2019 at CMRCET.
5. DD No :	Bank:	Date:	
Amount:			•
6. Address for C	orrespondence:		Signature of Head of Institution (with seal)
7. Educational Qualification:			<u>Address for correspondence</u> Post your application form with DD to
8. Subjects taught so far:			Dr. M. Nagaraju Naik, Associate Professor, Dept. of ECE, CMR College of Engineering & Technology,
9. No. of refresher courses/workshops attended:		attended:	Hyderabad – 501401, Telangana, India.
<ol> <li>Experience (in Teaching: Research Industry</li> </ol>	-		E-mail: The scanned copies of filled application form along with DD to <a href="mailto:ravikumar@nitw.ac.in">ravikumar@nitw.ac.in</a> and <a href="mailto:nagarajunaik1976@cmrcet.org">nagarajunaik1976@cmrcet.org</a>
12. Do you belo	dation required: Year ong to SC/ST: YE specify and attach at the to claim the conce	copy of	For more details about Electronics & ICT Academy, NIT, Warangal, please visit: <a href="https://nitw.ac.in/eict">https://nitw.ac.in/eict</a> Further details contact FDP coordinators of CMRCET and NITW: 9441809595, 8332969363

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the Coordinator in case, I am unable to attend the course.

Signature of the Applicant

# **Coordinators**

Dr. M. Nagaraju Naik, Associate Professor, Dept. of ECE

CMRCET, Hyderabad, Ph: 9441809595

Dr. J. Ravi Kumar Associate Professor, Dept. of ECE

NIT Warangal, Ph: 08332969363/08702462444