

### FORMAT OF APPLICATION

**ELECTRONICS AND ICT ACADEMY**  
Faculty Development Programme on **INTELLIGENT ELECTRONIC SYSTEMS DESIGN USING BIO INSPIRED ALGORITHMS**  
(28<sup>th</sup> OCTOBER - 2<sup>nd</sup> NOVEMBER 2017)

1. Name : .....
2. Designation : .....
3. Institution : .....
4. Email : .....
5. DO No: ..... Bank: ..... Date: .....
6. Address for Correspondence: .....
7. Educational Qualifications with specialization: .....
8. Subjects taught so far: .....
9. No. of refresher courses/workshops attended: .....
10. Experience (in years)  
Teaching: ..... Research: ..... Industry: .....
11. Accommodation required: YES ..... NO .....
12. Do you belong to SC/ST YES ..... NO .....

#### DECLARATION

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.

Place: .....

Date: ..... Signature of the applicant

#### SPONSORSHIP CERTIFICATE

Dr. / Mr. / Ms. .... is an employee of our Institute / Organization and is hereby sponsored to participate in the FDP on **Faculty Development Programme (FDP) on Intelligent Electronic Systems Design Using Bio Inspired Algorithms** sponsored by Electronics & ICT Academy during **28<sup>th</sup> October - 2<sup>nd</sup> November 2017** at Electronics & ICT Academy, National Institute of Technology, Warangal.

Place: .....

Date: ..... Signature of Head of Institution  
(with seal)

### ADDRESS FOR CORRESPONDENCE

Post your application form with DD to  
**Dr. J Ravi Kumar,**  
Assistant Professor, Department of  
Electronics and Communication Engg  
National Institute of Technology Warangal  
WARANGAL - 506 004, Telangana State, India.

Mail the scanned copies of filled-in and duly signed application form with DD to  
**jrk.nitw@nitw.ac.in, jrk.nitw@gmail.com**  
For more information visit: <http://nitw.ac.in/eict/>  
**For any enquiry contact: Mobile: 0 8332969363,  
Land line: 0870 - 2462444**

#### COORDINATORS

**Dr. M. Siva Ganga Prasad**  
Professor & HOD, Department of E.C.E.  
KKR & KSR Institute of Technology & Sciences  
Vinjanampadu, Prattipada Mandal,  
Guntur - 522017, Andhra Pradesh, India.

**Dr. J. Ravi Kumar**  
Assistant Professor, Department of E.C.E.  
National Institute of Technology, Warangal - 506004,  
Telangana State, India.

**KITS**

[www.kitsguntur.ac.in](http://www.kitsguntur.ac.in)

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### KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES

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City Office: D# 3-28-21/1, Main Road, Brindavan Garden, Guntur - 6  
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Jointly organized by



**KITS**  
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### NATIONAL INSTITUTE OF TECHNOLOGY

WARANGAL - 506 004, Telangana State  
DeitY HRD Division, Ministry of ICT, Govt. of India SPONSORED.

### FACULTY DEVELOPMENT PROGRAMME (FDP) ON INTELLIGENT ELECTRONIC SYSTEMS DESIGN USING BIO INSPIRED ALGORITHMS



Jointly organized by

Electronics & ICT Academy (NIT - Warangal)

&

Department of Electronics and Communication Engineering  
KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES

**28<sup>th</sup> October - 2<sup>nd</sup> November 2017**

## PREAMBLE

"Electronics & ICT Academy" is being set up at NIT Warangal with financial assistance from Deity MCI, Govt. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka States and Puducherry, Andaman & Nicobar Islands and Lakshadweep UTs. 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.

Emerging and evolving systems are integrating intelligent attributes to enable the thrust towards making technology adaptive and functional as an aid to improve existing designs. Intelligent system integrates different techniques of genetic algorithms, artificial immune systems, particle swarm optimization, and hybrid models to solve many real-world problems. Now a days main challenge in data driven problem is getting optimal solutions in time, which can be overcome by application of bio-inspired algorithms. Bio-inspired algorithms are always research topics in artificial intelligence communities. This FDP provides theoretical and practical knowledge on the design and implementation of intelligent systems related to emerging areas of Electronic Systems, Communication, computer Vision, Mechanical Systems, Soft Computing and related issues. This course offers an applied approach driven by innovation, to facilitate intelligent design and implementation.

## MAJOR COURSE CONTENTS

- Intelligent Systems Design
- Genetic Algorithms
- Particle Swarm Optimization
- Differential Evolution
- Teacher Learning based Optimization Algorithm
- Neural Networks

## APPLICATIONS

- System Identification
- Channel Equalization
- Image processing
- Wireless Sensor Networks
- Design and synthesis of Antenna
- Speech Processing

## FACULTY CONDUCTING THIS PROGRAMME

The programme will be conducted by the faculty members from 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.

**Eligibility:** The programme is open to the Teachers of Engineering Colleges, MCA Colleges and other allied disciplines in Telangana, Andhra Pradesh, Karnataka states and Puducherry, Andaman and Nicobar Islands, Lakshadweep UTs. Industry personnel working at the concerned / allied discipline can also attend.

## REGISTRATION FEE PARTICULARS

**Faculty Members** Rs 2,500/- (SG/ST - Rs. 1,250/-) only

**Industry Participants** Rs. 6,000/- only

The participants need to send a crossed demand draft(DD) drawn in favour of "Director, NIT Warangal" and payable at SRH, NIT Warangal branch.

## 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 sheet in form of application in the prescribed format duly signed and sponsored by appropriate authorities (along with demand draft) should reach the coordinator by speed-post. It is also mandatory to send scanned application form and demand draft through e-mail to [rajivkumar@nitw.ac.in](mailto:rajivkumar@nitw.ac.in) as selection will be intimated only through mail.

## SELECTION CRITERIA

Selection will be done based on first-come-first-serve basis and the confirmed candidates will be notified immediately. The maximum number of participants will be 60 (60%). Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be notified in the institute web site [www.nitw.ac.in](http://www.nitw.ac.in) and also will be sent to their personal e-mail ids. In case a candidate is not selected, the demand draft will be sent back. A test will be conducted at the end of the course. Candidates will be issued certificates on successful completion of the course along with grades. Reservations are followed for selecting candidates as per ODC norms.

## IMPORTANT DATES

**Last date for submission of application** 18-10-2017

**Selection list intimation/display before** 20-10-2017

**Duration of Program** 28<sup>th</sup> Oct. - 2<sup>nd</sup> Nov. 2017

## LECTURE SCHEDULE

Date	9 am - 11 am	11:10 am - 01:10 pm	2 pm - 2 pm	4 pm - 5 pm
28.10.17	Registration	Genetic Algorithms and Particle Swarm optimization (Dr. J.Ravi Kumar, NITW)	Channel Equalization using FOC (Dr. J.Ravi Kumar, NITW)	LAB
29.10.17	Teacher Learning based Optimization algorithm (TLBO) (Dr. J.Ravi Kumar, NITW)	System Identification and Control system Design using LQR (Dr. J.Ravi Kumar, NITW)	LAB	Implementation of Algorithm using MATLAB
30.10.17	Differential Evolution (DE) (Prof. Swagatam Das, IIT Kharagpur)	Image Processing using Differential Evolution (Prof. Swagatam Das, IIT Kharagpur)	LAB	Implementation of Algorithm using MATLAB
31.10.17	Search Modeling of Transmission Algorithms (Prof. Swagatam Das, IIT Kharagpur)	How to Publish papers in Reputed JCR Indexed (Prof. Swagatam Das, IIT Kharagpur)	LAB	
01.11.17	VLSI Architecture for Machine Learning (Dr. A. Sureshbabu, CSPR-CSSRI, Phos)	VLSI Architecture for Machine Learning (Dr. A. Sureshbabu, CSPR-CSSRI, Phos)	LAB	IPDA Implementation
02.11.17	Neuroevolution based algorithm (NEO) (Prof. N.V.S. Sarma, NITW)	Antenna Design using PSO (Prof. N.V.S. Sarma, NITW)	Practical	Visitors

## SPEAKERS

- Dr. J. Ravi Kumar,** Assistant Professor, Dept of EEE, NITW  
<http://www.nitw.ac.in/faculty/1016300>
- Dr. Swagatam Das,** Assistant Prof. IIT, Kharagpur  
<http://www.iitkgp.ac.in/~swagatam/>
- Dr. Ravi Sathyanarayanan,** Principal Scientist, CSPR - Central Electronics Engineering Research Institute (CSPR-CSSRI),  
<http://cse.csis.gov.in/info/indianinformatics/home>
- Professor N.V.S. Sarma,** Professor, Dept. of ECE, NITW  
<http://www.nitw.ac.in/faculty/1016307/>

## ABOUT THE INSTITUTE, DEPARTMENT AND WARANGAL

National Institute of Technology (formerly Regional Engineering Colleges), Warangal is the first among 17 RECs set up as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier institution imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering and M.Tech. and Ph.D. programs in various specializations.

The Department of Electronics and Communication Engineering offers an Undergraduate program in ECE, VLSI and ACS Specializations. The Department has experienced faculty and well-equipped laboratories. The Department has fostered with reputed industries and R&D organizations like TRACO, ISRO ECL, Ansys Devices Bangalore and C-DAC. Department conducts various sponsored programmes throughout the year.

Warangal is known for its rich historical and cultural heritage. It is situated at a distance of 140km. from Hyderabad. Warangal is well connected by rail and road. National Institute of Technology campus is 2 Km. away from Kuppel junction and 12Km. away from Warangal station.