

## National Level

### SELF FINANCED SHORT TERM TRAINING PROGRAMME ON

## Soft Computing Techniques and It's Applications

June 22-26, 2015

Under  
Continuing Education Cell



### CHAIRPERSON

**Dr. S. Ghosh**

*Head of the Department*

### CO-ORDINATORS

**Dr. Anamika Yadav**

**Dr. N.D. Londhe**

### ORGANIZED BY:

Department of Electrical Engg.  
National Institute of Technology, Raipur  
Raipur (C.G.) - 492 010, INDIA.

## About the Institute



### **National Institute of Technology, Raipur**

(Formerly Government Engineering College Raipur), situated in the capital of a newly incepted state of Chhattisgarh, has proven to be 'avant-grade' in the field of science and

technology over past few decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14<sup>th</sup> September 1956. The institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by our Prime Minister Hon'ble Pt. Jawahar Lal Nehru on 14th March 1963. From 1st December 2005, the institute has become the National Institute of Technology. It is well connected with Mumbai, Delhi, Hyderabad, Kolkata, Bhopal, Ahmedabad, Bangalore, Chennai and Chandigarh by regular flights and railway route.

## About Department

- The **Department of Electrical Engineering** came in existence since 1958.
- National level research projects are sanctioned.
- National and International research papers are contributed by all faculty members every year.
- Offers undergraduate as well as postgraduate programs.
- The department provides an outstanding research environment and offers academic program leading to the award of Ph.D. degree.

## Introduction:

Soft computing is a collection of methodologies that aim to exploit the tolerance for imprecision and uncertainty to achieve tractability, robustness, and low solution cost.

Its principal constituents are neural network, fuzzy logic, genetic algorithms, machine learning, and probabilistic reasoning. Soft computing is likely to play an increasingly important role in many application areas, including software engineering. The role model for soft computing is the human mind. Earlier computational approaches could model and precisely analyze only relatively simple systems. More complex systems arising in biology, medicine, engineering, management sciences, and similar fields often remained intractable to conventional mathematical and analytical methods.

That said, it should be pointed out that simplicity and complexity of systems are relative, and many conventional mathematical models have been both challenging and very productive. Soft computing deals with imprecision, uncertainty, partial truth, and approximation to achieve practicability, robustness and low solution cost. As such it forms the basis of a considerable amount of machine learning techniques. Recent trends tend to involve evolutionary and swarm intelligence based algorithms and bio-inspired computation.

## Objective

The objective of this programme is to train the faculty members, research scholars, young scientists, and post graduates students of various organizations. The objectives of programme is to provide a platform for interaction and exchange of ideas on recent trends in the field of soft computing techniques and its applications in various fields.

## Theme/Scope

The goal of this training programme is to bring together the scientists, scholars, and students from universities, research institutes, and industry from all around the nation to exchange new ideas face to face, to establish research or business relations and to find opportunities for future collaboration.

## Course Outline:

The following topics will be covered in this STTP:

The short term training programme will cover the most recent, cutting-edge research on a broad range of topics in the area of soft computing techniques, including Artificial Neural Networks, Support Vector Machines, Fuzzy Logic, Evolutionary computation and genetic algorithms, ant colony optimization, and Machine Learning. applications of soft computing to various fields including power system, protection, control, optimization problems, classification, pattern recognition, signal and image processing.

## Venue

**E-Class Room and Deptt. of Electrical  
Engg., NIT Raipur (CG) – 492 010, INDIA**

### Course Content:

- Overview of Soft Computing Tools and Techniques.
- Artificial Neural networks.
- Fuzzy Logic.
- Neuro-fuzzy inference system.
- Genetic Algorithm, PSO.
- Application of Soft Computing techniques in various fields including power system & protection.
- Application of Soft Computing techniques in various fields of control & optimization problems.
- Application of Soft Computing techniques in signal and image processing.

### IMPORTANT DATES

Last date of receipt of application: 15.06.2015

Notification about selection (By Email): 16.06.2015

### Eligibility

Participation in this Short Term Training Programme (STTP) is open to the under-graduate & post-graduate students, faculty members, Engineers, Researchers, Scientists, Managers and other Executives working on diverse fields in Electronics Engineering, Computer Engineering, Electrical Engineering, Instrumentation Engineering, Biomedical Engineering, Biotechnology, Civil Engineering, and Mechanical Engineering.

### Selection

Since the number of seats is limited to 30, the selection will be made on first cum first basis and intimation will be sent to the candidates by email as per the schedule. Certificates will be issued to the participants only after attending the complete course. No TA/DA will be paid to the participants. Accommodation may be provided on availability and payment basis at institute guest house and relevant hostels of NIT provided request for the same is made in the registration form.

**CHIEF PATRON**  
**Dr. Sudarshan Tiwari**  
*Director, NIT Raipur*

**PATRON**  
**Dr. S. Sanyal**  
*Dean Research and Consultancy, NIT Raipur*

### ADDRESS FOR CORRESPONDENCE

**DR. ANAMIKA YADAV**  
**CO-ORDINATOR**  
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### ORGANIZING COMMITTEE

Dr. Anamika Yadav, Assistant Professor, NIT Raipur  
Dr. N. D. Londhe, Assistant Professor, NIT Raipur  
Dr. S.Ghosh, Assistant Professor, NIT Raipur

### REGISTRATION FEE

|                                         |                   |
|-----------------------------------------|-------------------|
| <b>For Industrialists</b>               | <b>Rs. 5000/-</b> |
| <b>For Faculty members</b>              | <b>Rs. 4000/-</b> |
| <b>For Students / Research Scholars</b> | <b>Rs. 3000/-</b> |

### Note:

- (i) Only Breakfast, Lunch and Tea will be provided.
- (ii) Fee is non-refundable.

### REGISTRATION FORM

## **National Level Self Financed Short Term Training Programme On Soft Computing Techniques and It's Applications**

22 -26, June 2015

Under  
Continuing Education Cell

Organized by  
Department of Electrical Engineering  
National Institute of Technology, Raipur, C.G.

Full Name (Block Letter): .....  
.....  
Name of College/Institution/Organization: .....  
.....  
Qualification: .....  
Designation: .....  
Address: .....  
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Pin code: .....  
Phone No.: .....  
Mobile No.: .....  
E-mail: .....  
Do you need accommodation: ( Yes/ No ):

I have enclosed the registration fee of  
Rs.....by D.D. No .....  
Dated.....in favour of "Director, NIT,  
Raipur" payable at SBI, GCET Branch, Raipur.  
Place:  
Date:

Signature of the participant  
Duly filled registration form must reach to Department of  
Electrical Engineering, NIT-Raipur before last date of  
receipt of registration form by post/by hand along with  
registration fee (D.D).