

THE INSTITUTE

National Institute of Technology Durgapur (NITD) is a leading technical institute offering undergraduate, postgraduate and doctoral programmes in various disciplines of engineering, technology, science, social science and management. NITD was established as a Regional Engineering College (REC) in 1960 as a joint venture of the Government of India and Government of West Bengal. REC Durgapur was converted to NIT Durgapur under the full administrative and financial control of the Ministry of Human Resource Development of Government of India with a Deemed University status on 3rd July, 2003. Subsequently NITD has been given the status of a University by the UGC Act. The Institute was declared an Institute of National Importance by the Government of India on August 15, 2007.

The city of Durgapur is recognized as one of the fastest developing Tier-II cities in the national scenarios. Durgapur is situated at a distance of about 180 KMs from Kolkata. It is located right on the major railway and expressway (NH-2) connecting Kolkata to Delhi and Durgapur can be reached from Kolkata (and vice versa) in ~ 2 hrs. 30 minutes.

THE DEPARTMENT

The Electrical Engineering course was initiated along with the Institution in 1960. Besides UG and PG courses, the Department also offers Ph.D. program. A good number of Ph.D. degrees have been awarded under the supervision of the faculty members of the Department and a number of students are perusing for their Ph.D. degrees. The Department, over the years, has successfully completed a number of sponsored and consultancy projects. Theoretical and experimental investigations are being carried out in the areas like power systems, control systems, power electronics & machine drives, high voltage, instrumentation etc.

Since inception the department is continuously contributing novel and innovative ideas in Electrical Engineering to keep pace with the latest technological developments. The department regularly organizes invited lectures by experts from academic and R&D institutions as well as industries in various fields of Electrical Engineering. The Department is well equipped with highly sophisticated and modern laboratories.

ABOUT THE SHORT TERM COURSE

Computational Intelligence (CI) in general, is the ability of a computer to learn a given specific task from the available resources. The resources can be data, information, images, or experimental observation. More specifically, computational intelligence is developed with different nature-inspired approaches to address complex real-world problems to which mathematical or traditional modelling fails to provide satisfactory results. This may be due to the complexity and non-linearity, may be highly uncertain, or the process might be stochastic in nature.

Different techniques of computational intelligence are close to the human's way of reasoning and are being applied across all the disciplines, such as Electrical Engineering, Electronics Engineering, Computer Science & Engineering, Mechanical Engineering, Chemical Engineering, Civil Engineering, Instrumentation Engineering, Physics, Chemistry, and even in the area of Social Science and Language.

Traditionally, Computational Intelligence applies a combination of following complementary techniques. The fuzzy logic is useful for enabling the computer to understand natural phenomena. Evolutionary computing is inspired by the process of natural selection. The artificial neural networks used to learn a specific task from the training data. Finally, the learning theory and probabilistic methods of CI helps in dealing with uncertainty. Very recently, explosive research work is being performed in the extended version of artificial neural networks, this is being popularly known as Deep Learning. Nowadays, deep learning has become the core method for artificial intelligence. In fact, some of the most successful AI systems are based on computational intelligence.

TOPICS TO BE COVERED

The main focus of the course will be on the following topics:

- Measurement and Instrumentation
- Sensor and Sensor Technology
- Biomedical Instrumentation
- Soft Computing
- Machine Learning
- Intelligent Systems

CALL FOR PAPERS

In this programme, there will also be a scope of paper presentation (not mandatory) among the participants of CIA 2019 covering the theme of the course. No extra fee will be charged for paper presentation. The last date of paper submission: December, 20, 2019.

Prospective authors are invited to submit their original technical papers for publication in the course proceedings and for oral presentation. All submissions should be in standard IEEE format with a maximum paper length of four (4) printed pages. Authors should send PDF files only for review **by E-mail to: intellegentsensing@gmail.com**

Research papers are invited on (but not limited to) the following topics:

- Biomedical Systems,
- Electrical System
- Measurement and Instrumentation
- Computer Science and Information Technology
- Electronics and Communication
- Civil Engineering
- Mechanical Engineering

RESOURCE PERSONS

The resource persons constitutes of experts/faculty members from NIT Durgapur and guest speakers from other reputed institutions and industries including IIT's, JU, CU, ITER Bhubaneswar, IIT (ISM), IEST, CMERI, DSP, PGCIL etc.

WHO CAN ATTEND CIA 2020

CIA 2020 is aimed to attract and bring together Faculty Members, Scientists, Engineers, Technologists, Research Scholars and PG students from Academic and Research Institutions and Industries. The participants will get new insights and knowledge about the topic through close interactions/discussions with the Scientists and Experts of the respective field.

BOARDING & LODGING

Boarding, lodging and travel expenses shall be borne by the participants. Limited shared accommodations may be available in the Institute Guest House on first come first serve and on payment basis. Several budget hotels are available in and around Durgapur. Participants may contact directly or through the coordinator(s) for accommodation in hotels. No TA/DA will be paid to the participants by NIT Durgapur.

REGISTRATION FEES

Fees applicable for participants from

Industry: Rs. 3000.00

Academic / R& D Institution: Rs. 2000.00

Research Scholar: Rs. 1500.00

Post Graduate Student: Rs. 1000.00

Registration fee includes registration kit, study/lecture materials / proceedings, refreshment and lunch for 5 days during the course.

SPONSORSHIP

- Proceedings Back Cover : Rs. 2000.00
- Proceedings Inside Cover : Rs. 1000.00
- Proceedings Full Page : Rs. 5000.00
- Proceedings Half Page : Rs. 3000.00

Payment may please be made by **DRAFT** in favour of **CEP NIT DURGAPUR**, Payable at Durgapur.

REGISTRATION FORM

One week Short Term Course
on

**Computational Intelligence and
Applications**

(CIA 2020)

January 07 - 11, 2020

Dept. of Electrical Engineering,
National Institute of Technology, Durgapur –713209,
West Bengal, India

1. Name in Block Letters: _____
2. Designation: _____
3. Name of Organization: _____
4. Male /Female: _____
5. Mailing Address: _____

6. Mobile No. : _____
7. E-mail ID : _____
8. Amount of Registration fees: _____
9. Demand Draft No. _____
Date _____

(DD should be drawn in favour of “**CEP NIT
DURGAPUR**”, payable at Durgapur.)

9. Vegetarian / Non-Vegetarian: _____

N.B.: Photocopy of this form may also be used for registration.

Signature of the Applicant with date

The Applicant is hereby sponsored and will be permitted to attend the above short term course, if selected.

*Signature and Seal of the Sponsoring Authority/
Head of the Department/Organization*

ORGANIZING COMMITTEE

Patron: Prof. Anupam Basu, Director, NIT Durgapur

Advisory Committee:

Prof. I. Basak, Dean (Academic)
Prof. A. K. Meikap Dean (R & C)
Prof. S. S. Thakur, Dean (Faculty Welfare)
Prof. N. Banerjee, Dean (Alumni Affairs & Outreach)
Prof. B. Halder, Dean (Student Welfare)
Prof. N.K. Roy, Chairman (Planning)
Prof. K. C. Ghanta (Coordinator, TEQIP III)
Dr. S. N. Mahato (Nodal Officer ,TEQIP III)
Mr. S. Sen Sharma, Registrar

Chairman:

Prof. C. Koley, Head, EE Department, NIT Durgapur

Workshop Coordinators:

Dr. Partha Sarathee Bhowmik, Dr. Ciranjib Koley

Members:

Prof. S. Ghosh	Dr. Irfan Ahmed
Prof. S. Banerjee	Dr. T. K. Bera,
Prof. S. N. Mahato	Dr. A. Bhattacharya
Prof. T. K. Saha	Dr. A. K. Bohre
Dr. J. Dey	Dr. A. K. Dhara
Mr. J. C. Barman	Dr. B. K. S. Roy
Dr. S. Sarkar	Dr. A. Dey
Dr. S. Halder	Mr. R Dey

ADDRESS FOR CORRESPONDENCE

Dr. P. S. Bhowmik
Coordinator, CIA 2020

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M. G. Avenue, Durgapur 713 209, West Bengal, INDIA
Mobile: +91-9434788174 / Fax: 0343-2547375

E-mail: intellegentsensing@gmail.com

*Please send the completed application form together with
demand draft to the coordinator on or before December
20, 2019. Also send the scanned copy of the said
documents by E-mail to
intellegentsensing@gmail.com*

TEQIP-III Sponsored

One week

Short Term Course

on

**Computational Intelligence
and Applications**

(CIA 2020)

January 07-11, 2020

Organized by

Department of Electrical Engineering



Course Coordinators:

P. S. Bhowmik & C. Koley

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