International Online Faculty Development Program

On

Recent Trends in Control System Engineering

ReTreCSE-2021

Under the banner of

Electronics and ICT academy at National Institute of Technology Patna

31st May to 06th June, 2021

Patron

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NIT Patna

Organized by

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www.nitp.ac.in/ict/

Supported by

Ministry of Electronics and Information Technology (MeitY), Govt. of India.

About NIT Patna

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erstwhile Bihar College of Engineering Patna on 28.01.2004. NIT Patna marked its humble beginning in 1886 with the establishment of pleader's survey training school which was subsequently promoted to Bihar College of Engineering Patna in 1924. This made this institute the 6th oldest Engineering Institute of India. The Institute is situated on the south bank of holy river Ganges behind Gandhi Ghat (where the ash of father of the Nation, Mahatma Gandhi was offered in the river Ganges). The campus has a picturesque river view with historic buildings presenting a spectacle of architectural delight and natural beauty. The Institute imparts high level education training, research and development in science, engineering technology and humanities along with high quality education and values at UG, PG and Ph.D. level. At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. And Mechanical Engg. It also consists of well-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

Electronics and ICT Academy

The Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development of required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

Objective and Scope

This FDP on "Recent Trends in Control System Engineering" brings an opportunity for academicians, research scholars and PG/UG students across various engineering disciplines and mathematics to explore the field of control engineering. This program will help participants not only to grasp the various control engineering concepts but also their applications. In this era of interdisciplinary research and practice, control engineering concepts are widely used across other engineering domains as well. Therefore, knowing the basics and design techniques enables one to think, create and make efficient use of control engineering for solving problems in their respective domains. Therefore, this is an attempt to get experts related to control engineering from premier institutes of India and abroad to give participants a good exposure to the emerging trends in the field of control engineering.

Objectives of the Program

- To impart knowledge of principles and practices in control engineering for academicians, researchers and students
- To promote the use of control engineering concepts for problem solving in other engineering domains
- To introduce some cutting edge research trends in the field of control engineering

Topics to be covered

The following topics will be covered with possible simulation/experimental exposure: Introduction to Basic, Advanced and Nonlinear Control Engineering, Recent trends in PID control, Nonlinear estimation, Target tracking, Modern trends in modelling and control of chemical processes, Multi-model control

of nonlinear systems, Recent developments in Smith predictor, Advanced control of wastewater treatment plants, System modeling using fractional calculus, Optimization and control of network systems with applications in distributed learning, Power systems, bioinformatics and supply chain, Soft actuators and sensors using shape-memory polymer, Controller design for power electronics applications and more.

Resource Persons

1. Dr. Hassan K. Khalil, Michigan State Univ., USA
2. Dr. Francesco Bullo, UC Santa Barbara, USA
3. Dr. Manuel Mera Hernández, IPN Mexico
4. Dr. Simone Baldi, TU Delft, The Netherlands
5. Dr. Ramon Vilanova, Univ. of Barcelona, Spain
6. Dr. Utkal Mehta, Univ. of South Pacific, Fiji
7. Dr. Kazuto Takashima, Kyushu Inst. of Tech., Japan
8. Dr. Hanamoto Tsuyoshi, Kyushu Inst. of Tech., Japan
9. Dr. M. Shamsuzzoha, Norner AS, Norway
10. Dr. Shovan Bhoumik, IIT Patna
11. Dr. Sandip Ghosh, IIT (BHU) Varanasi
12. Dr. Rames Chandra Panda, CSIR-CLRI, Chennai
13. Dr. Shubhendu Bhasin, IIT Delhi
14. Dr. Sheshagiri Rao, NIT Warangal
15. Dr. Satnesh Singh, KNU, South Korea
16. Dr. Mayank Barawal, IIT Bombay
17. Dr. Manas Kumar Bera, NIT Silchar
18. Dr. Neeli Satyanarayana, MNIT Jaipur

One-week FDP includes

Seven Days Training will be taken by a group of experts from India and Abroad with the experience ranging from several years to several decades in delivering sessions in India and abroad. The training hour is 5-6 hours/ each day. Mode of training is Instructor-led live online.

- **40 Hours Instructor-led live online Hands-on based learning & Interactive Query Session.**
- Soft copy of study material, Training PPTs & Projects code
- Participants will get recorded sessions after completion of training
- E-Certificates will be given to participants who have attended more than 70% sessions in the workshop.

Who Can Participate

Faculty members, Research scholars of recognized Universities from both India and Abroad, Research scholars, Students and Industry personals. However, priority will be given to the faculty members.

Registration Fee

For Indian Nationals: Rs. 500/- (Faculty/ Research Scholar/Student), Rs. 1000/- (Industry)

For Foreigners: 60 US Dollars (Faculty/Research scholar/student), 80 US Dollars (Industry)

Registration Process

1. Registration fee should be paid through online mode, the account details for this purpose is
   Account Name: NIT Patna
   Account No.: 50380476798
   IFSC Code: IDIB000B810
2. Registration link: https://forms.gle/gvYBCw4YSzLjwgeW7
3. The brochure of the program may be downloaded from the Institute website www.nitp.ac.in.
4. **Registration deadline: 25 May 2021 11:59 PM (IST)**
5. A PDF file of the online filled registration form with proof of registration fee paid should be sent by email to **Dr. Lloyds Raja. (email: lloyds.ee@nitp.ac.in).**

Total 200 seats and the selection will be done on first-cum-first-serve basis.

http://www.nitp.ac.in/ict/

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REGISTRATION FORM

1. Name (block letter): ……..
2. Gender: ……
3. Caste:……
4. DOB:……
5. Designation ……..
6. Organization: ……..
7. Address for communication: ……

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   Pin code: …… Ph. No.: …….

   E-mail: …….
8. Highest Academic Qualification: …….
9. Specialization: ……
10. Experience (in years):

    (a) Teaching: …… (b) Industrial: ……
11. Aadhar No:……

DECLARATION : I do hereby agree to abide by the rules and regulations of the FDP.

Place: …….

Date:……..……..

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Signature of the Applicant