

One Week
Short Term Course
on
“Recent Industrial trends in Control and Optimization
(RICO-2023)”
(Self-Sponsored)
May 01-05, 2023
(Virtual Mode)



Organized by

Department of Instrumentation and Control Engineering

Dr. B.R. Ambedkar National Institute of Technology Jalandhar, Jalandhar, Punjab

About NIT Jalandhar

Dr. B. R Ambedkar National Institute of Technology Jalandhar was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology by the Government of India on October 17, 2002 under the aegis of Ministry of Human Resource Development, New Delhi. As an Institute of National Importance, it imparts high quality technical education in Engineering, Technology and Science to produce competent technical manpower for the country. The institute offers Bachelor of Technology (B.Tech.) Programme in eleven disciplines of Engineering and Technology. This institute recently started the center of energy and environment in collaboration with collaboration from Sardar Swaran Singh National Institute of Bio-Energy, Kapurthala and Centre of Artificial Intelligence. NITJ also offer with the Research Programmes leading to Master of Technology (M.Tech.) and Doctor of Philosophy (Ph.D).

About Department of Instrumentation and Control Engineering

The Department of Instrumentation and Control Engineering commenced its Bachelor of Technology (B. Tech.) degree programme and M Tech (Full Time and Part Time) Degree Programme. The Ph.D. Programme has also been offered since 2005 in various specializations. The Department aims at providing organizations with engineers who are a best fit for the organization's needs. The department always strive to build such skills among the students in a systematic manner. Research in the department is at the leading-edge of technological innovations and encompasses all major areas of Instrumentation and Control Engineering. The department has unique research facilities that enable leading-edge research in many areas such as Robotics and Automation, Process Control, Biomedical Instrumentation, Sensors & Wireless Networking and Intelligent Control Systems. These facilities provide an excellent opportunity for graduate students and research scholars to be trained and gain valuable experience.

About the Short Term Course

Recently, advanced control design (data-driven control and optimization based control) is in demand due to highly non-linear and complex nature of systems. The key objective of the course is to familiar the participants regarding academia and industry involvement in current R&D activities. Further, it is to introduce the fundamental on machine learning and its application in control domain as well as active disturbance rejection control (ADRC), internal model control (IMC) and modern control approaches (Event-triggered control (ETC) and sliding mode control (SMC)). In addition, the applications of the above control design in various engineering domains (Power System, Renewable Energy Systems, Process Plants, Biomedical Control, Autonomous Systems, Robotics, and Electric Vehicles).

Contents of the Short Term Course

Advanced Control Theory	Learning based Control Design
ADRC Design	Machine Learning
IMC Design	Model Predictive Control
Data-driven Control	Event-triggered Control
AI in Control Design	Autonomous Systems
Nature-Inspired Optimization and their Applications	

Chief Patron

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Assistant Professor
Dr. Deblina Biswas
Assistant Professor

INSTRUCTIONS FOR REGISTRATION

- Registration Fee: Rs. 200/- + 18% (GST) for all UG, PG, PhD, faculty and industry persons.
- Participates are required to register himself/herself first as mentioned on the registration link.
- Link of the registration and payment:
https://www.nitj.ac.in/events_registration/stc_rico2023/login
- Shortlisted students will get an email from the organizing team.
- Single registration is required to attend all lectures **on or before 30.04.2023**.
- Prior registration is mandatory to attend STC.
- E-certificate will be issued to the registered participants on successful participation of the course.
- STC meeting link and other instructions will be shared via e-mail/WhatsApp group to all registered participants.

For any query regarding STC feel free to contact us at:

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[Link/QR Code for the Online Registration and Payment](https://www.nitj.ac.in/events_registration/stc_rico2023/login)

https://www.nitj.ac.in/events_registration/stc_rico2023/login

Resource Person

Dr. Yogesh Vijay Hote
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Mr. Soumyadeep Bose
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