REGISTRATION

Scan for course registration

DATES TO REMEMBER

Last date for online registration: May 15, 2026
Intimation about selection (by e-mail): May 20, 2026

ADDRESS FOR CORRESPONDENCE

Dr. Rajesh Joseph Abraham
Associate Professor
Department of Avionics
Indian Institute of Space Science & Technology,
Valiamala. PO, Thiruvananthapuram - 695 547, Kerala
Email: iistfdp@gmail.com
Mobile: 09497613880, Fax: 0471 2568406

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Indian Institute of Space Science and Technology

(Declared as Deemed to be University under Section 3 of the UGC Act, 1956)
(An Autonomous Institute under Department of Space, Govt. of India)
Valiamala, Thiruvananthapuram 695 547, Kerala

Five days Workshop
on

ADVANCED CONTROL SYSTEMS: THEORY, INNOVATION AND INDUSTRIAL APPLICATIONS

29-June to 03-July 2026

Organized by
Department of Avionics

ABOUT THE INSTITUTE

Indian Institute of Space Science & Technology (IIST) is Asia's first Space Institute and the first in the world to offer complete range of undergraduate, post graduate and doctoral programmes with specific focus to space science and technology. The Institute has the unique mandate of encouraging and equipping brilliant youngsters from all parts of the country to take up career as Scientist/Engineer in Indian Space Research Organization. IIST functions as an autonomous body under the Department of Space, Government of India.

ORGANIZING DEPARTMENT

The Avionics Department offers a four year B.Tech Programme in Electronics and Communication Engineering which gives technical excellence in all areas of Avionics Engineering such as Digital System Design, Digital communication, VLSI Design, Navigation, Guidance and Control, Digital System Design, Computer Technology and Power Electronics. In addition, the department offers M.Tech in RF and Microwave Communication, Digital Signal Processing, Control Systems, Power Electronics and VLSI & Microsystems. The Department also offers Ph.D program in various disciplines of Avionics like Electronics, Electrical Engineering and Computer Science.

TARGET AUDIENCE

The course is open to interested UG & PG students, Research Scholars, teachers from Engineering Colleges / Technical Universities / Deemed Universities, Research Scholars, Scientists, Engineers and other interested participants from Industries. A basic exposure to MATLAB/SIMULINK and Dynamic Systems is preferable.

COURSE FEE

Rs. 6,000 (including GST) for Academic participants
Rs. 10,000 (including GST) for Non-academic / Industrial participants.

WORKSHOP OBJECTIVES

Control Systems and its design is an indispensable part of any engineering system and is common to different disciplines of engineering like Aerospace, Aeronautical, Electrical, Mechanical, Electronics, Instrumentation, Chemical Engineering etc. The objective of this course is to provide an insight to advanced control systems and its applications, Guidance and Navigation for Aerospace Vehicles like Launch Vehicles, Missiles and UAVs etc. Most of the hours will be devoted for invited lectures by experts from reputed institutions like IIT, DRDO, IIST and ISRO labs. There will be hands on lab sessions involving MATLAB/SIMULINK programming.

List of Tentative Topics

- Dynamics and Automatic Control of Aerospace Vehicles
- Autopilot Design for Launch Vehicles
- Control System Design for Missiles
- Missile Guidance Systems
- Guidance and Control of Interplanetary lander missions
- Guidance Strategies for Launch Vehicles
- Navigation: From Basics to Advanced
- Control, Guidance and Navigation of UAVs
- Design and Development of a Full–Envelope Flight Controller for UAV
- Active Disturbance Rejection Control and its Applications
- Control Systems with MATLAB / SIMULINK

RESOURCE PERSONS

1. Mr. Rijesh M P, URSC, Bangalore/ISRO
2. Mr. Kapil Kumar Sharma, VSSC, Thiruvananthapuram/ISRO
3. Ms. Gifty Ernestina Benjamin, VSSC, Thiruvananthapuram/ISRO
4. Mr. Jitesh Sachdev, ADE, Bangalore/DRDO
5. Mr. Murali Mohan Gade, DRDL Hyderabad/DRDO
6. Mr. Ashwin Chander, ASL, Hyderabad/DRDO
7. Dr. Salahudden, PEC, Chandigarh
8. Dr. Yogesh Vijay Hote, IIT Roorkee
9. Dr. Rajesh Joseph Abraham, IIST Thiruvananthapuram
10. Mr. Kesav Brahmaji, IISU, Thiruvananthapuram/ISRO