

KARYASHALA

(High End Research Training Programme)
Under SERB Accelerated Vigyan Program GOI

“MECHATRONICS – RECENT TRENDS AND FUTURE PROSPECTS”

In association with:

Department Of Electrical, Electronics And Communication Engineering,
Department Of Mechanical Engineering

&

Department Of Automotive And Aeronautical Engineering

Ramaiah University of Applied Sciences, Bengaluru-560058, India

(Sponsored by Science and Engineering Research Board, Government
of India)

Date: 20th July 2023 to 26th July 2023

Venue: Ramaiah University of Applied Sciences

Ramaiah Technology Campus, Peenya, Bengaluru – 560 058

India

ABOUT THE RUAS:

M.S. Ramaiah University of Applied Sciences (RUAS) is a Private University established by an Act of the State of Karnataka, India in December 2013. RUAS is an innovative University that emphasizes Outcome Based Education and focuses on Academics (UG, PG, and Ph.D.); Sponsored Research; Training, Skill Development, and Life Long Learning and Techno Centre for offering consultancy; Product Design and Development and Entrepreneurship Development. The University has established Faculties in Engineering and Technology, Art and Design, Management and Commerce, Hospitality Management and Catering Technology, Medical Sciences, Dental Sciences, Pharmacy, Mathematical and Physical Sciences Life & Allied Health Sciences, Social Sciences, and Law. The University's programs are Inter and Multi-disciplinary in nature and are designed to train students to be creative, innovative, and imaginative graduates. The Faculties of RUAS offer an enriched curriculum drawn from the strong interactions between Academia and Industry as well as business. The academic and research initiatives of RUAS have benefitted Government, Public and Private Sectors in solving contemporary problems.

ABOUT THE PROGRAMME

Mechatronics field is synergistic combination of mechanical, electrical, electronics and computer engineering. Mechatronic applications are common in all Automation systems, Control systems and Robotics. The scientific developments in computer engineering, simulation and modelling, electromechanical motion tools, power electronics, computers and informatics, micro-electro- mechanical systems (MEMS), microprocessors, and distributed system platforms have brought in huge opportunities to develop better mechatronic systems. The future of mechatronics is towards adaptation of emerging technologies to produce better, cheaper, smarter and scalable, multifunctional goods in the broad application areas like automotive, aeronautics, robotics, healthcare and consumer products.

OBJECTIVES OF THE PROGRAMME

The objective of this programme is to provide an understanding of design, fabrication and characterization of mechatronics systems. Emphasis is on the learning design principles and various techniques for development of mechatronics systems and its applications of engineering interest. Further, the workshop aims to address the needs of a wide range of participants including multi-disciplinary professionals from both academics and industries by bringing them together for sharing experiences, and initiate efforts towards collaborative opportunities.

TECHNOLOGIES COVERED

- Introduction to mechatronics system
- Basics of Proximity sensors, switches, solenoid valve working, actuators, motors and selection criteria
- Digital and Analog electronics, Filters, Amplifiers, Drives and controls, Data acquisition
- Hydraulic and pneumatic actuators
- Modelling and simulation of Mechatronics system and applications
- Microcontroller, PLC and ladder Programming
- Interfacing Between PLC & various field devices, Computer vision
- AI and ML for mechatronics system
- IoT and Industry 4.0
- Advances in Robotics and automation

Proposed Resource Persons

Dr. Shuvam Pawar, ECE department, National Institute of Technology, Warangal

Dr. Sunanda Ambulkar, ECE department, National Institute of Technology, Puducherry

Dr. Malaya Kumar Nath, ECE department, National Institute of Technology, Puducherry

M. Mohan Kumar, Senior Principal Scientist, Structural Integrity Division, CSIR-National Aerospace Laboratories, Bangalore

Mr. Sreekanta Aradhya. B , Head of Business - Industry 4.0, Bosch Global Software Technologies Pvt. Ltd. Bengaluru

Dr. Sathish Kumar V. C, Associate Professor, Symbiosis university, Pune

Dr. K. S. S. Ravi Kumar, Deputy Director, NPTI Bangalore

Mr. R. Senthil Kumar, Assistant Director, NPTI Bangalore

Dr. Suresh R, Professor, MME, RUAS

Dr. Punithavathi D, Professor, EECE, RUAS

Dr. Sunil Y, Associate professor, EECE, RUAS

Dr. Ananth Iyengar, Assistant Professor, MME, RUAS

Patron

Dr. M. R. Jayaram, Hon'ble Chancellor, RUAS

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Dr. Nagaraja Rao Sulake, EECE
Dr. Shashank Vadlamani, AAE
Mr. Ambresh, EECE

Mr. Praveen Kittali, MME
Mr. Abhilash N, MME

OBJECTIVE

To groom students (primarily from universities, Collages, Private academic institutions, and newly established institutions) in their career pursuits by developing dedicated research skills in selected disciplines of “MECHATRONICS – RECENT TRENDS AND FUTURE PROSPECTS”

Nature of support

The workshop will be given for meeting daily Necessary expenses (stationary, consumables, accommodation, food, etc.) and will not contain any stipend for them. The Participants will be eligible for TA reimbursement for their journey to the host institute from their home institute, both ways, as per GOI norms.

Eligibility

Highly motivated research-oriented regular PG students and research scholars from mechatronics and allied sciences.

The applicants should produce a letter of authentication from supervisor / Head of the department / Head of the institute indicating their association with the institute and “No Objection certificate (NOC)” for allowing their student to undergo workshop if selected.

Certification

A certificate regarding the successful completion of workshop shall be issued to the participants by the coordinators and head of the concern department on satisfactory completion of the workshop and on submission of the assignment report.

**Hurry up! A limited number (25) of
applicants will be selected for
workshop**

Scan for
Registration



Last Date for
Registration
17th July 2023

www.msruas.ac.in

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RAMAIAH TECHNOLOGY CAMPUS, BENGALURU