

Enabling Technologies & Emerging Robotics Use Cases

An International Webinar Organized by PRIST University

20 July—22 July 2020



Patron

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Chancellor, PRIST University

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About the PRIST University



Ponnaiyah Ramajayam Institute of Science and Technology (PRIST) is a deemed university in Vallam, India. The institute was founded in 1985 by Prof. P. Murugesan. It was initially known as the Institute of Computer Science and Technology. Murugesan founded the institute to introduce computer education to the Thanjavur District. The institute offers undergraduate and postgraduate courses in Engineering, Science, Education, Management, Arts, and Law, as well as research programmes. The institute has campuses in Trichy, Kumbakonam, Puducherry, Chennai, and Madurai. The Thanjavur West Campus is the main campus. It covers more than 50 acres of land with a built-up area of over 1,500,000 square feet (or 150,000 square metres). The Thanjavur East Campus is located approximately 15 east of the main campus and covers 20 acres. It contains several blocks for undergraduate and postgraduate level courses in the fields of science, humanities, pharmacy and management, as well as a girls' hostel that houses over 1000 students. It contains a well-stocked library and many indoor and outdoor sports facilities.

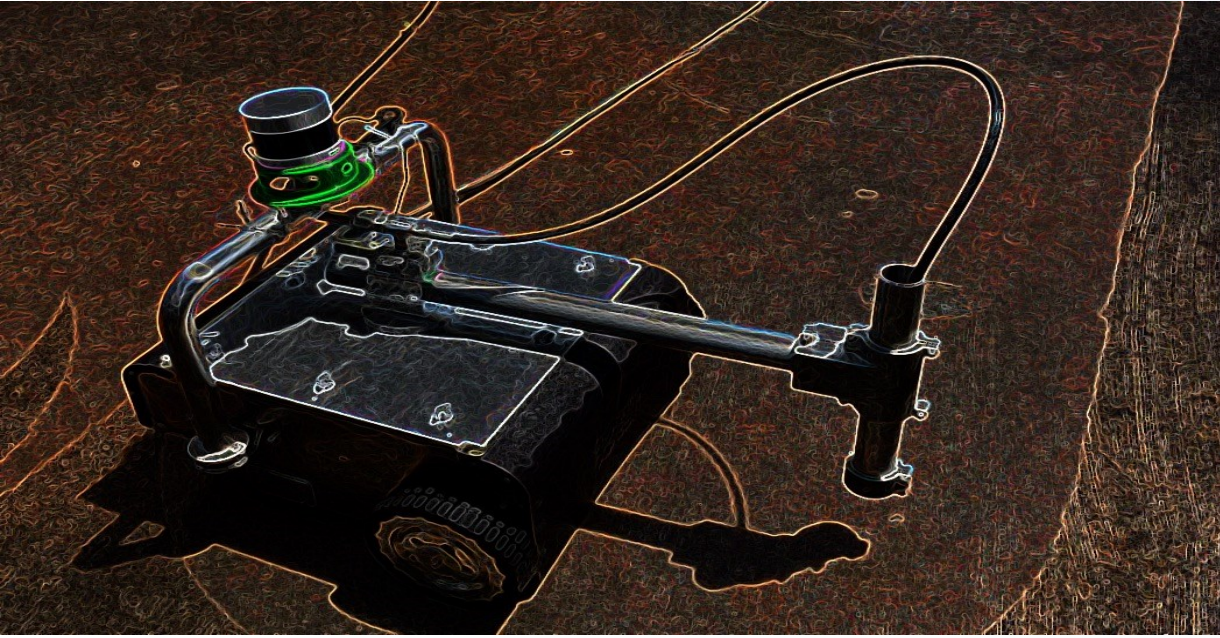
Chancellor's Message

Increasingly, PRIST University is recognized as a frontrunner in robotics research, development, and enterprise in India. With the support from the government, industrial partners, our PRIST fraternity, and local communities, we can continue to keep that innovative spirit alive and thriving. We ask you to join us in this robotics webinar, making that shared aspirational future possible.

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Enabling Technologies & Emerging Robotics Use Cases

With the ongoing Covid-19 situation impacting numerous industries, work processes and daily lives of individuals, a strategic opportunity exists to significantly advance fundamental research and development of robotic technologies greatly improving safety, and productivity in affected domains. Recent advancements in enabling technologies including novel mechanisms and materials, system of system design frameworks, component robotic technologies and theories for autonomous control unveil the potential innovation of such platforms. However, significant technology breakthroughs beyond the state-of-the-art are essential to realize robotic systems with mission profiles that provide substantial leaps in capability. This webinar will familiarize attendees with state of the art robotics efforts to this end from around the world.



Who Can Participate

Participants who wish to understand robotics technology in general. This includes prospective students, current students, researchers, faculty members, business leaders and industry professionals.

Registration link for the participants:

<https://bit.ly/pristwebinar>

The webinar registration is free. **Seats are limited**, reserve your spot today! E-certificates for the participants will also be given!









Scan for Registration

20 July—22 July 2020







Welcome note: by Dr. T. V. Christy, Dean, Academic Affairs
10:00 AM – 10:10 AM, IST

Prof. Dr. P. Murugesan, Chancellor Address, PRIST University
10:10 AM – 10:30 AM, IST





Schedule | 10:30 AM – 1:30 PM, IST

	Dr. Amy Eguchi University of California San Diego, USA	Robotics as a Learning Tool to promote STEM+C and AI learning	10:30 AM, IST
	Dr. Abdullah Aamir Hayat Singapore University of Technology and Design, Singapore	Taxonomy of Self-reconfigurable Robots	11:00 AM, IST
	Dr. Garrick Orchard Intel Labs, USA	Neuromorphic Computing for Robotics	11:30 AM, IST
	Dr. Madan Rayguru Singapore University of Technology and Design, Singapore	Control and optimization in Reconfigurable robots	12:00 PM, IST
	Dr. Kannan Thirugnanam Khalifa University, UAE	Renewable Charging Point for Robotics	12:30 PM, IST
	Dr. Arnab Sinha Tata Consultancy Services Innovation	Robotic Vision Past, Present, Frontier	1:00 PM, IST

Schedule | 01:30 PM – 4:30 PM, IST

	Prof. Sajid Nisar Kyoto University of Advanced Sciences, Japan	Toward realizing haptic-enabled surgical robots and human-assistance systems	1:30 PM, IST
	Dr. Rajesh Kannan Megalingam Amrita University, India	Robots for COVID-19 Pandemic: An overview of Robots at HuT Labs	2:00 PM, IST
	Mr. Madhukumar Kannan Oceania Robotics, Singapore	Transforming ship maintenance industry through robotic products	2:30 PM, IST
	Prof. Abhra Roy Chowdhury Indian Institute of Science, Bangalore, India	Enabling Technologies & Emerging Robotics Use Cases	3:00 PM, IST
	Prof. Douglas Wildgrube Bertol Universidade do Estado de Santa Catarina, Brazil	Advanced Control Techniques Applied to Mobile Robots	3:30 PM, IST
	Mr. Yokhesh Krishnasamy Tamilselvam University of Western Ontario, Canada	Facade cleaning robot with deep learning based crack detection	4:00 PM, IST

Schedule | 04:30 PM – 7:00 PM, IST

	Prof. Subir Kumar Saha Indian Institute of Technology Delhi, India	Robotics to Rural	4:30 PM, IST
	Dr. Acosta Calderon Carlos Antonio Singapore Polytechnic, Singapore	Enabling Technologies & Emerging Robotics Use Cases	05:00 PM, IST
	Dr. Anh Vu Le Ton Duc Thang University, Vietnam	Reconfigurable Tiling Robotics the Feasible Solution for Long-Term Area Coverage Autonomy	05:30 PM, IST
	Prof. Shunsuke Nansai Tokyo Denki University, Japan	Toward to Develop the Glass Facade Cleaning Robot System	6:00 PM, IST

Closing Address by Dr. T. V. Christy | 6:30 PM, IST

Note: Each speaker duration: 30 minutes which consists of **20 minutes** presentation followed by Q&A.









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Welcome note: Dr. Ashutosh Das, Director-CRD
10:00 AM – 10:10 AM, IST

Dr. N. Ethirajalu, Vice Chancellor Address, PRIST University
10:10 AM – 10:30 AM, IST





Schedule | 10:30 AM – 1:30 PM, IST

	Prof. Brad Adam Camburn Oregon State University, USA	Systems Design Innovation 10:30 AM, IST
	Prof. Mohan Rajesh Elara Singapore University of Technology and Design, Singapore	Research Commercialization: Lionsbot Experience 11:00 AM, IST
	Dr. Loulin Huang Auckland University of Technology, New Zealand	Stability control of a robotic wheelchair 11:30 AM, IST
	Dr. Rizuwana Parween Singapore University of Technology and Design, Singapore	Self-reconfigurable Drain Mapping Robot 12:00 PM, IST
	Prof. Sarath Kadagoda University of Technology Sydney, Australia	Robotics in sewers 12:30 PM, IST
	Prof. Srinivasan Venkataraman Indian Institute of Technology Delhi, India	Patents aid Creativity during Ideation 01:00 PM, IST

Schedule | 01:30 PM – 4:30 PM, IST

	Dr. Timo Roestenberg Demcon Robotic Systems, Netherlands	AI in robotics 01:30 PM, IST
	Dr. Srinivasan Aruchamy CSIR-Central Mechanical Engineering Research Institute, India	Enabling Technologies & Emerging Robotics Use Cases 02:00 PM, IST
	Dr. Jaichandar Kulandaideasan Sheba Singapore Polytechnic, Singapore	Interactive Therapeutic Pet Robot for Elderly Motivation. 02:30 PM, IST
	Prof. Sreekumar Indian Institute of Information Technology, Design, and Manufacturing, Kancheepuram, India	Enabling Technologies & Emerging Robotics Use Cases 03:00 PM, IST
	Prof. Zaki Saptari Saldi Prasetiya Mulya University, Indonesia	CFD-guided Design of Robot Applications: Challenges and Opportunities 03:30 PM, IST
	Dr. Karthikeyan Elangovan Singapore University of Technology and Design, Singapore	Bio inspired robots 04:00 PM, IST

Schedule | 04:30 PM – 7:00 PM, IST

	Prof. Ruwan Gopura University of Moratuwa, Sri Lanka	Robotic Exoskeletons for Assisting Lower Limb Motions 04:30 PM, IST
	Mr. Koppaka Ganesh Sai Apuroop Chang Gung University, Taiwan	Experiences with an Advanced Multi-Functional Autonomous Robot 05:00 PM, IST
	Dr. Sathishkumar Samiappan Mississippi State University, USA	Use of Unmanned Aerial System for low altitude remote sensing 05:30 PM, IST
	Dr. Manuel Vega Heredia Universidad de Occidente, Mexico	Robotic applications in hygiene and health 06:00 PM, IST

Closing Address by Dr. Ashutosh Das | 6:30 PM, IST

Note: Each speaker duration: 30 minutes which consists of **20 minutes** presentation followed by Q&A.



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Dr Latha Raman, IBM-ICE Coordinator, PRIST
8:45 AM – 9:00 AM, IST



Dr. N. Ramachandran, Advisor, PRIST University
10:10 AM – 10:30 AM, IST

Schedule | 9:00 AM – 12:30 PM, IST



Dr. Emma Stapleton	University of Iowa, USA
Respiratory effects of air pollution and advantages of continuous (real-time) particle monitoring	9:00 AM, IST



Mr. Nigel A. Jacob	Nebula Robotics, Mumbai, India
Robots for Automotive Applications	09:30 AM, IST



Dr. Balakrishnan Ramalingam	Singapore University of Technology and Design, Singapore
The Role of Deep Learning in Robotic Vision System	10:30 AM, IST



Dr. Veerajagadheeswar Prabakaran	Singapore University of Technology and Design, Singapore
Enabling Technologies & Emerging Robotics Use Cases	11:00 AM, IST



Prof. Ming Jiang	Peking University, Beijing, China
Perspectives of Image Similarity Measures for Joint Multimodality Image Reconstruction	11:30 AM, IST

Schedule | 12:30 PM – 2:30 PM, IST



Dr. Jayakumar Venkatesan	Synergy Moon, San Francisco, USA
Space Robotics and Artificial Intelligence	12:00 PM, IST



Dr. Rabinder Henry	STEM Zone, Pune, India
Robotics in STEM Education	12:30 PM, IST



Ms. Padmaja Padarthy	Academy Director and COO, NexGen3D, Chennai, India
Robotics in 3D Printing Part 1	01:30 PM, IST



Mr. L. Saikumar	NexGen3D, Chennai, India
Robotics in 3D Printing Part 2	02:00 PM, IST

Schedule | 03:00 PM – 05:00 PM, IST



Mr. Sourav Karmakar	Infinos Tech and Tedx Speaker, India
Perspectives of Human-Robotic Interaction	02:30 PM, IST



Dr. S. Jayakumar	Rinanu Semiconductors, India
Vision Enabled Robots : DLtrain to deploy vision intelligence in Robots	03:00 PM, IST



Dr. K. Damodaran	Apollo Hospital, Chennai, India
Robotics in Coronary Artery Diseases Management	03:30 PM, IST



Dr. Shadma Arshad	Jawaharlal Medical College and Hospital, AMU, India
Robotics in Ear, Nose and Throat (ENT) surgery	04:00 PM, IST

Closing Address by Dr. Latha Raman | 4:30 PM, IST



Note: Each speaker duration: 30 minutes which consists of **20 minutes** presentation followed by Q&A sessions.

Please check your local timing according to the Indian Standard time mentioned.



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