PRESIDENCY UNIVERSITY

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

School of Engineering

Departments of Electronics and Communication Engineering & Electrical and Electronics Engineering

2024 IEEE
INTERNATIONAL CONFERENCE ON
RECENT INNOVATION IN SMART AND SUSTAINABLE TECHNOLOGY

MARCH 15-16, 2024

IEEE ICRISST | Presidency University, Bengaluru, Karnataka, India

IEEE Conference Record #59181

www.icrisst2023.in

ABOUT THE PRESIDENCY UNIVERSITY

Presidency University, Bengaluru, is a prestigious institution renowned for its commitment to providing quality education and holistic development to its students. Founded in 2013 by the Presidency Group of Institutions, the university has quickly emerged as a leading center for higher education in India. With a focus on innovation, research, and experiential learning, Presidency University has become a preferred destination for aspiring students seeking academic excellence and personal growth. The University takes pride in its academic programs that span diverse disciplines such as engineering, management, law, design, commerce, and media studies. The university follows a modern and industry-centric approach to education, blending theoretical knowledge with practical application. Highly qualified faculty members, with a perfect balance of academic expertise and industry experience, are instrumental in nurturing a conducive learning environment.

ABOUT THE CONFERENCE IEEE ICRISST-2024

"Smart" has become the buzz of ongoing technological developments leading to new possibilities. Recent innovations that simplify our daily lives and provide more efficient services or production processes are on the rise. The bourgeoning field of smart puts a predominant focus on enabling sustainability through the use of innovation.

The conference aims to bring together researchers, academicians, scholars, and experts from various fields of electronics and communication, telecommunication, electrical, computer science, and information science engineering and will provide an opportunity to share and discuss recent innovations in smart and sustainable technology both locally and internationally.

CONFERENCE TRACKS

The scope of the conference covers publishing high-quality contributions on novel methodologies and the implementation of innovative concept-based scientific work for submission on the following major themes:

- Intelligent and secure mobile and wireless networks
- VLSI and Embedded Systems, IoT, and Computational Intelligence Systems
- Smart City for Sustainable Development
- Image/Video/Multimedia Signal Processing
- Optical Communication Networks and RF/Microwave Devices
- MEMS and nanotechnology
- Applications for DERs and EVs Integrated into the Grid
- Soft computing techniques in power systems
- Power Electronics and Energy-Efficient Drives

CHIEF GUEST

Dr. Narayan Panigrahi
Scientist 'G' & Associate Director
Center for AI Robotics (CAIR)
Defense Research and Development Organization (DRDO),
Laboratory in Bangalore, India

GUESTS OF HONOR

Dr. Muthukumaran Packirisamy
Professor and Concordia Research Chair on
Optical-Bio Microsystems,
Department of Mechanical Engineering,
Concordia University, Canada

Dr. Ahmed Abdelgawad
Professor of Computer Engineering,
Central Michigan University, USA

Dr. Hee Yong Youn
College of Software, Sungkyunkwan University
Suwon, Korea

KEYNOTE SPEAKERS

Dr. Asutosh Kar
Associate Professor
Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.

Dr. Jagdish H Godihal
Professor, School of Engineering
Presidency University, Bengaluru

INVITED SPEAKERS:

NAME OF THE SPEAKER	TALK	DATE & TIME	TITLE
Dr. Narayan Panigrahi Defense Research and Development Organization (DRDO), laboratory in Bangalore, India.	Plenary	15-03-2024 10:00 am-10.30 am	Cognitive Science and Brain Computer Interface
Dr. Ahmed Abdelgawad Professor of Computer Engineering, Central Michigan University, USA.	Plenary	15-03-2024 10:30 am-11.00 am	Internet of Things (IoT): Opportunities and Challenges
Dr. Muthukumaran Packirisamy Professor and Concordia Research Chair on Optical-Bio Microsystems, Department of Mechanical Engineering, Concordia University, Canada.	Keynote	15-03-2024 11:15 am-12:00 pm	Convergence of Nano and Microsystems: Synthesis and Biological Applications, including Cancer Diagnosis
Dr. Asutosh Kar Associate Professor Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India.	Keynote	15-03-2024 02:00 pm-02:40 pm	Optimization in Acoustic Signal Processing Using Applied Machine Learning.
Dr. Hee Yong Youn College of Software Sungkyunkwan University Suwon, Korea.	Plenary	16-03-2024 09:15 am-09:45 am	Collective Intelligence for Mobile Edge Computing and AIoT
Dr. Jagdish H Godihal, Professor, Department of Civil Engineering, and Deputy Dean- Academic Research Presidency University, Bengaluru.	Keynote	16-03-2024 09:45 am-10:30 am	Leveraging Technology for Inclusive and Sustainable Smart Cities: Governance Perspectives

SESSION CHAIRS

Dr. K. Nagamani
Professor, IEEE Senior Member,
Department of Electronics and Communication
Engineering, R. V. College of Engineering, Bengaluru.

Dr. Jagdish H Godihal
Professor, Department of Civil Engineering, and Deputy
Dean-Academic Research,
Presidency University, Bengaluru.

Dr. Mahesh Chandra
Professor, Department of Electronics and Communication
Engineering, Reva University, Bengaluru.

Dr. Mahendra B M
Associate professor,
School of Computational and Data Science
Vidyashilp University, Bengaluru.

Dr. Shwetha M
Assistant Professor-Senior Grade, Department of Electronics and Communication
Engineering, MIT Bengaluru.
Assistant Director-Research, MAHE, Bengaluru Campus.

Dr. Shivakumar Aradhya
Additional Director, CPRI, Bengaluru Karnataka, India.

Dr. Puneeth
Director, Taqanal Energy Pvt. Ltd., Bengaluru.

CONFERENCE COMMITTEES

CHIEF PATRON
Dr. Nissar Ahmed
Hon'ble Chancellor, Presidency University.

PATRONS

Dr. Anubha Singh
Vice Chancellor
Presidency University.

Dr. Abdul Sharief
Professor and Dean, School of Engineering,
Presidency University.

Dr. Surendra Kumar A. M.
Pro Vice-Chancellor
Presidency University.

Dr. C. S. Ramesh
Professor and Dean,
Research & Innovations, Presidency University.

Dr. Sameena Noor Ahmed Panali
Registrar,
Presidency University.

Dr. K. R. Murali Mohan
Director, Incubation and Sponsored Research,
Presidency University.

Dr. Mrinmoy Biswas
Registrar- Accreditation and
Corporate Relations, Presidency University.

Dr. Shrishail B. Anadinni
Professor and Associate Dean,
School of Engineering, Presidency University.

Dr. Amir Ullah Khan
Strategic Advisor
Development Economist, Presidency University

CONFERENCE CHAIR

Dr. Sivaperumal S
Director, International Relations, Presidency University.

TECHNICAL PROGRAM CHAIR

Dr. Rajiv Ranjan Singh
Professor & HoD, Department of Electronics and Communication Engineering, Presidency University, Bengaluru.

TECHNICAL CO-PROGRAM CHAIR

Dr. K Nagamani
Professor, Department of Electronics and Communication Engineering, R. V. College of Engineering, Bengaluru.

Dr. Parameshachari B. D.
SAC Chair, IEEE Bangalore Section Professor, Department of Electronics and Communication Engineering, Nitte Meenakshi Institute of Technology, Bengaluru.

GENERAL CHAIR

Dr. Shilpa Mehta
Professor and Dean of Academics, Presidency University.

PUBLICATION CHAIR

Dr. V. Joshi Manohar
Professor, Department of Electrical and Electronics Engineering, Presidency University.

Dr. Anilloy Augustine Frank
Professor, Department of Electronics and Communication Engineering, Presidency University.

ORGANIZING CHAIR AND INFORMATION CONTACT

Dr. M. S. Divya Rani
Head Innovative Projects & Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

TECHNICAL SESSION AND EXHIBIT CHAIR

Dr. Ashutosh Anand
Assistant Professor & Coordinator Innovative Project, Department of Electronics and Communication Engineering, Presidency University.

REGISTRATION CHAIR

Dr. Muthupandi G
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Sekar R
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Vanithalakshmi M
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

REVIEW COMMITTEE HEAD

Dr. Veena C. S
Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. K. Rafeeq Ahmed
Professor, Department of Electronics and Communication Engineering, Presidency University.

CONFERENCE TREASURER

Dr. Sreenivasappa B. V.
Professor, Department of Electronics and Communication Engineering, Presidency University.

CONFERENCE STEERING COMMITTEE MEMBERS

Dr. Aloknath
Chair 2023, IEEE Bengaluru Section.

Dr. Deepa Shenoy
Chair 2022, IEEE Bengaluru Section.

Mr. Ayan Datta
Chair, IEEE Circuits and System Society, Bengaluru Chapter.

Mr. Shailesh Sakri
Chair, IEEE Signal Processing Society, Bengaluru Chapter.

Dr. Chengappa M R
Secretary, IEEE Bengaluru Section.

CONFERENCE ORGANIZING COMMITTEE MEMBERS

Dr. Snehaprabha T. V.
Professor, Department of Electrical and Electronics Engineering, Presidency University.

Dr. Joseph Anthony Pratap
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Dharmesh Kumar Srivastava
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Safinaz S
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. K. Bhanu Rekha
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Azra Jeelani
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Sandhya Dass
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Vinutha C. B.
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Imtiyaz Ahmed B. K.
Associate Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Balaji K. A.
Assistant Professor, Selection Grade, Department of Electronics and Communication Engineering, Presidency University.

Dr. Sumantra Chaudhuri
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Mohammed Mujahid Ulla Faiz
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Prabhu T
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Ajit Kumar
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Noel Prashant Ratchagar
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Abhirup Bhawal
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Ravi V. Angadi
Assistant Professor, Department of Electrical and Electronics Engineering, Presidency University.

Dr. K. Sreekanth Reddy
Assistant Professor, Department of Electrical and Electronics Engineering, Presidency University.

Dr. Manikandan M.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Manikandan T.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. K. Gowri
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Saurav Ganguly
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Mohammed Aarif K O.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. Vijaya Krishna
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Dr. K. Shoukath Ali
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Renuka Bhagwat
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Mr. Tirumalai Vasu G
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. G. Swetha
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Samreen Fiza
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Ashwini B.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Amrutha V
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Aruna M
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Natya S
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Maitrayee Konar
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Srilaksmi K. H.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Anupama Sindgi
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Mr. Tony Aby Varkey M.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Kehkeshan Jalall S
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Mr. Syed Abrar Ahmed
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Akshatha K
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Annapurna H. S
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Mr. Kiran Kale
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Pallabi Kakati
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Manaswini R
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Aruna Dore
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Sowmya C. S
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Mr. Nipun Sharma
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Ms. Varalakshmi K. R.
Assistant Professor, Department of Electronics and Communication Engineering, Presidency University.

Mr. Jisha L K
Assistant Professor, Selectin Grade, Department of Electrical and Electronics Engineering, Presidency University.

Mr. Bishakh Paul
Assistant Professor, Department of Electrical and Electronics Engineering, Presidency University.

Mr. Sunilkumar A. V.
Assistant Professor, Department of Electrical and Electronics Engineering, Presidency University.

ADVISORY COMMITTEES

NATIONAL ADVISORY COMMITTEE

Dr. Mohammed Zafar Ali Khan
Professor, Indian Institute of Technology, Hyderabad.

Dr. P. Deepa Shenoy
Chair, IEEE Bengaluru Section.

Dr. Vignesh V
Assistant Professor, Indian Institute of Technology, Tirupati.

Dr. Pradeep Kumar Yemula
Associate Professor, Electronics and Communication Engineering, Indian Institute of Technology, Hyderabad.

Dr. Nisha Gupta
Professor,
Department of Electronics and Communication Engineering, Dean (PGS), Birla Institute of Technology, Mesra, Ranchi.

Dr. Srikanta Pal
Professor, Former HOD, Department of Electronics and Communication Engineering, Birla Institute of Engineering, Mesra, Ranchi

Dr. Sandeep Singh Solanki
Professor and HoD, Electronics and Communication Engineering, Birla Institute of Technology, Mesra, Ranchi.

Dr. S.S. Sahu
Associate Professor, Birla Institute of Technology, Mesra Ranchi.

Dr. Neela Chattoraj
Associate Professor, Birla Institute of Technology, Mesra, Ranchi

Dr. Asutosh Kar
Associate Professor, Department of Electronics and Communication Engineering, Dr. B. R. Ambedkar NIT, Jalandhar.

Dr. Manesh B. Kokare
Professor and Dean Academics, Department of Electronics and Telecommunications Engineering, Shri Guru Gobind Singhji Institute of Engineering and Technology.

Dr. Mallikarjun S. Holi
Professor & Dean (Academic), Professor & Dean (Academic), Electronics & Instrumentation Engineering, University BDT College of Engineering, Davangere, Karnataka.

Dr. Nirmal D.
Associate Dean, School of Engineering, &
Professor, Electronics and Communication Engineering, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu, India.

Dr. Sivakumar. P
Professor, Department of Electronics and Communication Engineering, Dr. NGP Institute of Technology, Coimbatore, India.

Dr. Zachariah C. Alex
Professor HAG, School of Electronics Engineering, Vellore University, Vellore, Tamil Nadu

Dr. P. Vijayakarthik
Principal, R. L. Jalappa Institute of Technology, Bengaluru.

Dr. Mahesh Chandra
Professor, REVA University, Bengaluru.

Amitabha Datta
Ph.D., SMIEEE, CEng (India), Senior Scientist and Assistant Professor (AcSIR), CSIR-National Aerospace Laboratories, Bengaluru, India.

Dr. Venkatesha M
Professor and HOD, Department of Electrical and Electronics Engineering, Sai Vidya Institute of Technology, Bengaluru.

Dr. S. Senthil Kumar
Global Senior IP counsel, Hitachi ABB Power Grids, Bengaluru.

Dr. S. N. Deepa
Associate Professor, Department of Electrical and Electronics Engineering, NIT, Meghalaya.

Dr. P Srinivasa Rao Nayak
Associate Professor, Department of Electrical and Electronics Engineering, NIT, Trichy, Tamil Nadu

Dr. Sujatha
Professor, Department of Electrical and Electronics Engineering, JNTU College of Engineering, Ananthapur.

Mr. Deepesh Kumar
Co-Founder and Director, EV Retron Energies Pvt. Ltd., Hyderabad.

Mr. Kashyap Kompella
CEO of RPA2AI Research, Bengaluru.

Mr. Deepak Aravind
Technology Leader, Physical Digital Systems, ELGI, Coimbatore.

Dr. Tapas Chakravarty
Principal Scientist, TCS Research, Tata Consultancy Services, Kolkata, India.

Dr. Amitabha Dutta
Senior Scientist, CSIR- National Aerospace Laboratories, Bengaluru, India.

INTERNATIONAL ADVISORY COMMITTEE

Prof. Ahmed E. Kamal
Professor, Willard and Leitha Richardson, Professor, Department of Electrical & Computer Engineering, Iowa State University.

Prof. Aiman El-Maleh
Professor, Chairman, Department of Computer Engineering, King Fahd University of Petroleum & Minerals.

Dr. Hamdi Yahyaoui
Associate Professor, Computer Science Department, Kuwait University.

Prof. Ala Al-Fuqaha
Professor and Director, NEST Research Lab, College of Engineering and Applied Sciences, Computer Science Department, Western Michigan University.

Prof. S. Sanjeewa Nishantha Perera
Professor and Chair, HOD, Research and Development Centre for Mathematical Modelling University of Colombo, Sri Lanka.

Dr. Pradeep Kumar
Associate Professor, School of Engineering, University of KwaZulu-Natal (UKZN), South Africa.

Dr. Sukhpal Singh Gill
Assistant Professor, Queen Mary University of London.

Mr. Mohammed Sajid Ali
Head of Section - Electrical and Electronics Section, University of Technology and Applied Sciences - Al Mussanah, Muladdah, Sultanate of Oman.

Dr. Majid Abdulateef Abdullah
Department of Electrical and Electronics Engineering Technology,
University of Hafr Al Batin, Saudi Arabia.

Dr. Md. Ahsanul Alam
Department of Electrical and Electronics Engineering, Green University of Bangladesh,
Dhaka, Bangladesh.

PUBLICATION

All papers presented at the conference will be submitted for inclusion in the IEEE Xplore Digital Library.

IEEE Xplore® Digital Library

PROUD SPONSORS

simelabs   FAR FENWICK AND RAVI