



**NEW HORIZON**  
**COLLEGE OF ENGINEERING**

# INTERNATIONAL CONFERENCE

on

# MULTIDISCIPLINARY RESEARCH IN TECHNOLOGY AND MANAGEMENT

Sponsored by



*Advancing Technology  
for Humanity*

IEEE Conference record #59777  
XPLORE Complaint Part Number - CFP23QZ5-ART  
ISBN:978-8-3503-0470-1

All accepted and presented papers will be submitted  
for inclusion into IEEE Xplore, subject to meeting IEEE  
Xplore's scope and quality requirements.

22<sup>nd</sup> - 23<sup>rd</sup> September 2023

Technical Co-Sponsored by



**MRTM**  
**2023**



**Conference Website:**

<https://newhorizonindia.edu/ieeenhceconferencemrtm23/>

**Venue:**

New Horizon College of Engineering  
Outer Ring Road, Near Marathalli, Kadubeesanahalli, Bellandur Post,  
Bengaluru - 560103, Karnataka, India

## About Conference

The New Horizon College of Engineering in India hosts the International Conference on Multidisciplinary Research in Technology and Management sponsored by IEEE and technical co-sponsored by IEEE Bangalore Section. The MRTM 2023 will be held for the first time on September 22<sup>nd</sup> and 23<sup>rd</sup>, 2023. Plenary talks, workshops, and invited papers by distinguished researchers and technologists, as well as contributed papers from academics and industry professionals, will be featured at the conference. The MRTM 2023 is a global platform for technologists, researchers, business leaders, and industry leaders to share their perspectives on emerging technologies and newer solutions that can guide and lead to a better tomorrow. The papers can only be presented in Hybrid (In-person and Virtual) mode by the authors. All the accepted and presented papers will be published in IEEE XPLORE Digital Library (Scopus Indexed)

## About NHCE

New Horizon College of Engineering (NHCE), established in 2001, a unit of the New Horizon Educational and Cultural Trust, offers quality education in both Engineering and Management programs. The college is permanently affiliated to Visvesvaraya Technological University (VTU), approved by the All India Council for Technical Education (AICTE), New Delhi. NHCE has the prestigious accreditation of NBA and NAAC with 'A' Grade and NIRF ranking. Our college has also reached one more milestone by achieving Autonomous Status from the Academic Year 2015-16 by VTU and Government of Karnataka.

## Objectives

The International Conference brings together researchers, practitioners and students to discuss and share their experiences, new ideas and research results on all aspects (theory, applications and tools) of Multidisciplinary Engineering, Research and Management. The Conference aims to bring together researchers from multidisciplinary backgrounds to emphasize dissemination of ongoing research in the fields of technology and management.

## Preamble

Communication, Networking and Broadcast Technologies, Components, Circuits, Devices and Systems, Computing and Processing, Engineering Profession, General Topics for Engineers, Robotics and Control Systems, Signal Processing and Analysis, Power, Energy and Industry Applications, Transportation.

## Chief Patron

**Dr. Mohan Manghnani**  
Founder Chairman, NHEI, Bengaluru

## Patrons

**Dr. Vidyashankar. S**  
Vice Chancellor, VTU, Belagavi

**Dr. Rangaswamy**  
Registrar, VTU, Belagavi

**Dr. T. N. Sreenivasa**  
Registrar (Evaluation), VTU, Belagavi

**Dr. Manjunatha**  
Principal, NHCE, Bengaluru

## International Advisory Committee

**Dr. Hui Helen Li**  
Florida State University, USA

**Dr. Fred C. Lee**  
Virginia Polytechnic Institute and State University, USA

**Dr. Pedro Rodríguez**  
Loyola University Andalusia, USA

**Dr. John Shen**  
Illinois Institute of Technology, USA

**Dr. Krishna Shenai,**  
Northwestern University, USA

**Dr. Taylor J**  
University of Toronto, Canada

**Dr. Yuriy V. Sentyabryov**  
Saint Petersburg State University, Russia

**Dr. Jian Sun**  
Rensselaer Polytechnic Institute, USA

**Dr. Lalitha Sankar**  
Arizona State University, USA

**Dr. Alexandra von Meier**  
University of California, USA

**Dr. Chester Frost**  
Stanford University, USA

**Dr. P. Sanjeevikumar**  
Aalborg University, Denmark

**Dr. Chung Shu hung Henry**  
City University of Hong Kong, Hong Kong

**Dr. Robert S. Balog**  
Texas A&M University, Qatar

**Dr. Udaya K. Madawala**  
University of Auckland, New Zealand

**Dr. Vassilios G. Agelidis**  
Technical University of Denmark, Denmark

**Dr. Petar J. Grbovic**  
University of Innsbruck, Austria

**Dr. Paolo Mattavelli**  
University of Padova, Italy

**Dr. Ashwin M. Khambadkone**  
National University of Singapore, Singapore

**Dr. Huang-Jen Chiu**  
National Taiwan University of Science and Technology, Taiwan

**Dr. Muhammad Irfan**  
Najran University, Saudi Arabia

**Dr. Ramesh Bansal**  
University of Sharjah, United Arab Emirates

# National Advisory Committee

**Dr. Debapriya Das**

Professor, Department of Electrical Engineering,  
Indian Institute of Technology, Kharagpur

**Dr. J. Ramkumar**

Professor, Department of Mechanical Engineering,  
Indian Institute of Technology, Kanpur

**Dr. Anup Kumar Panda**

Professor, Department of Electrical Engineering,  
National Institute of Technology, Rourkela

**Dr. Ashok S**

Professor, Department of Electrical Engineering,  
National Institute of Technology, Calicut

**Dr. Jyoti Prakash Mishra**

Associate Professor and Head, Department of Electrical Engineering,  
National Institute of Technology, Silchar

**Dr. B. V. Ravishankar**

Professor & Principal, Nagarjuna College of Engineering & Technology, Bengaluru

**Dr. Ramesh Babu**

Professor & Principal, RNS Institute of Technology, Bengaluru

**Dr. U. Shripathi Acharya**

Professor and Dean (Research and Consultancy),  
Department of Electronics and Communication Engineering,  
National Institute of Technology, Surathkal

**Dr. P N. Tekwani**

Professor, Department of Electrical Engineering,  
Nirma Institute of Technology, Ahmedabad

**Dr. Binoy Krishna Roy**

Professor, Department of Electrical Engineering,  
National Institute of Technology, Silchar

**Dr. Hitesh Dutt Mathur**

Professor, Department of Electrical and Electronics Engineering,  
Birla Institute of Technology & Science, Pilani

**Dr. Arabinda Das**

Professor, Department of Electrical and Electronics Engineering,  
Jadavpur University, Kolkata

**Dr. Nidul Sinha**

Professor, Department of Electrical Engineering,  
National Institute of Technology, Silchar

**Dr. Sindhu Thampatty K. C**

Associate Professor, Department of Electrical and Electronics Engineering,  
Amrita Vishwa Vidyapeetham Deemed to be University, Coimbatore

**Dr. S. Suja**

Associate Professor, Department of Electrical and Electronics Engineering,  
Coimbatore Institute of Technology, Coimbatore

**Dr. T. Sasilatha**

Professor & Dean, Department of Electrical and Electronics Engineering,  
Academy of Maritime Education and Training – Deemed to be University, Chennai

**Dr. C. Lakshminarayana**

Associate Professor, Department of Electrical Engineering,  
BMS College of Engineering, Bengaluru

**Dr. Shivarudraswamy R**

Associate Professor, Department of Electrical and Electronics Engineering,  
Manipal Institute of Technology, Manipal

**Dr. L. Ashok Kumar**

Professor, Department of Electrical and Electronics Engineering,  
PSG College of Technology, Coimbatore

**Dr. S. Suresh Kumar**

Vice-Principal and Professor, Department of Electronics and Communication Engineering,  
KGISL Institute of Technology, Coimbatore

**Dr. Suresh H. Jangamshetti**

Professor, Department of Electrical and Electronics Engineering,  
Basaveshwar Engineering College, Bagalkot

**Dr. Snehaprabha**

Director DSA & Professor, Department of Electrical and Electronics Engineering,  
Presidency University, Bengaluru

**Dr. Ciji Pearl Kurian**

Professor, Department of Electrical and Electronics Engineering,  
Manipal Institute of Technology, Manipal

## IEEE Bangalore Section ExeCom

**Dr. P. Deepa Shenoy**

Immediate Past Chair, IEEE Bangalore Section

**Mr. Raghavendra Prasad S G**

ExeCom, IEEE Bangalore Section

**Mr. Chengappa M R**

Architect, Hewlett Packard Enterprise  
Secretary IEEE Bangalore section

**Dr. Annappa B**

Professor, National Institute of Technology, Karnataka  
Past ExeCom, IEEE Bangalore Section - 2022

## Institution Advisory Committee

**Mrs. Malathi Madhusudhan**

Sr. Executive Director- Accounts & Finance, NHEI, Bengaluru

**Mr. H N Surya Prakash**

Registrar, NHEI, Bengaluru

**Prof. Gurucharan Singh**

Sr. Executive Director, NHEI, Bengaluru

**Ms. Manjula V**

Executive Director - HR, NHEI, Bengaluru

**Ms. Aruna Machani**

Executive Director - Admissions, NHEI, Bengaluru

**Dr. Anitha Suresh Rai**

Director - Library and Alumni Relations, NHEI, Bengaluru

**Dr. R J Anandhi**

Professor and Dean - Academics, NHCE, Bengaluru

## Organizing Chair

**Dr. Sanjeev Sharma**

Professor and Dean - QASDC, NHCE, Bengaluru

## Convener

**Dr. B. Rajalakshmi**

Professor and Head - CSE, NHCE, Bengaluru

## Institution Organizing Committee

**Dr. Aravinda Koithyar**

Professor and Head - ECE  
NHCE, Bengaluru

**Dr. N V Uma Reddy**

Professor and Head - AI & ML  
NHCE, Bengaluru

**Dr. Revathi V**

Professor and Head - Physics  
NHCE, Bengaluru

**Dr. Sridhar Kurse**

Professor and Head - ME  
NHCE, Bengaluru

**Dr. Niranjana P**

Professor and Head - Civil Engineering  
NHCE, Bengaluru

**Dr. Anasuya Devi V S**

Professor and Head - Chemistry  
NHCE, Bengaluru

**Dr. Mohan H S**

Professor and Head - ISE  
NHCE, Bengaluru

**Dr. Sujitha S**

Associate Professor and Head - EEE  
NHCE, Bengaluru

**Dr. Srinivasa G**

Professor and Head - Mathematics  
NHCE, Bengaluru

**Dr. Asha V**

Professor and Head - MCA  
NHCE, Bengaluru

**Dr. Sowmya Narayanan**

Professor and Head - Center for Life Skills & Life Long Learning  
NHCE, Bengaluru

**Dr. Vijilius Helena Raj**

Professor and COE - Controller of Examinations  
NHCE, Bengaluru



## Technical Program Chair

**Dr. Rajesh G**

Associate Professor, Dept of ECE, NHCE, Bengaluru

## Technical Program Co-Chairs

**Dr. Vinoth Kumar K**

Associate Professor, Dept of EEE, NHCE, Bengaluru

**Dr. P. Deepa Shenoy**

IPC, IEEE Bangalore Section

**Dr. Annappa. B**

Prof-NITK, Past ExeCom ExeCom, IEEE Bangalore Section-2022

**Dr. S.P Manikandan**

Prof and Head-CE, NHCE, Bengaluru

**Mr. Raghavendra. S G**

ExeCom, IEEE Bangalore Section

## Publication Chairs

**Dr. Priyabrata Adhikary**

Professor and Associate Head(R & D), NHCE, Bengaluru

**Dr. Ramachandra Naik**

Sr. Assistant Professor, Dept of R&D, NHCE, Bengaluru

**Dr. M S Raghu**

Associate Professor, Dept of R&D, NHCE, Bengaluru

## Finance Chair

**Mrs. Malathi Madhusudhan**

Sr. Executive Director - Accounts & Finance, NHEI, Bengaluru

## Finance Co-Chairs

**Mrs. Geetha S Nagaraj**

HoD, Accounts & Finance, NHECT, Bengaluru

**Mr. Chengappa M. R**

Secretary, IEEE Bangalore Section

# Major Events

1. Keynote Sessions
2. Paper presentation
3. Panel discussion
4. Technical talks

# Call for Papers

Original, unpublished papers in the following areas but not limited to, are invited:

Track 1: Smart Grid Technologies

Track 2: Energy Management & Green Engineering

Track 3: Pioneer Engineering with Advanced Technologies

Track 4: Automation and Manufacturing Technologies

Track 5: Management & Emerging Technologies

Track 6: Intelligent and Secure Communication

Track 7: Information Theory

Track 8: Applied Sciences & others



<https://newhorizonindia.edu/ieeenhceconferencemrtm23/tracks/>

# Submission Guidelines

- ★ All papers should be original, unpublished, not submitted to any other journal/conferences, in pdf format as per the guide lines and IEEE format given in the conference website:  
<https://newhorizonindia.edu/ieeenhceconferencemrtm23/guidelines-to-author/>
- ★ All submitted papers will be checked for plagiarism and papers which are not satisfying the criteria will be summarily rejected
- ★ All papers must be submitted in PDF or as a Microsoft Word Document via Microsoft Conference Management Toolkit:  
<https://cmt3.research.microsoft.com/MRTM2023>
- ★ The maximum number of pages is limited to 6, if additional page will attract additional fee of Rs. 500 / 10 USD per page
- ★ Notification of acceptance will be through email
- ★ Registration will be confirmed only after the payment of registration fee and at least one author must be present for the conference
- ★ **Note:- All accepted and presented papers will be submitted for inclusion into IEEE Xplore, subject to meeting IEEE Xplore's scope and quality requirements**

## Important Dates

Paper submission starts	:	27 <sup>th</sup> April, 2023
Paper submission closes	:	25 <sup>th</sup> July, 2023
Acceptance notification	:	25 <sup>th</sup> August, 2023
Registration opens	:	30 <sup>th</sup> August, 2023
Registration closes	:	10 <sup>th</sup> September, 2023

## Registration Details (Inclusion of GST)

Categories	IEEE Members	Non IEEE Members
Academicians / Industry	Rs. 5,500	Rs. 7,500
Research Scholars / Students	Rs. 5,000	Rs. 7,000
Foreign Authors	USD 90	USD 135

<https://newhorizonindia.edu/ieeenhceconferencemrtm23/registration-details/>

## Mode of Payment

Registration fee to be paid through NEFT as per the details given below:

Bank Name	:	INDIAN BANK
Branch	:	New Horizon College of Engineering, Bengaluru, India
Account Number	:	484700078
Account type	:	CURRENT A/C
IFSC Code	:	IDIB000N112

Note:- Only registered papers are eligible for presentation in MRTM 2023 and atleast one author must report for the conference.

## How to reach?

From City Railway Station / City Bus stand (KSRTC)

Walk to Majestic BMTc Bus stand

From Majestic BMTc Bus stand-15 km to NHCE

From KR Puram (Nearest Railway Station)-10 km to NHCE

Kempegowda International Airport (Nearest Airport)-47 km to NHCE

For details contact: [mrtm23@newhorizonindia.edu](mailto:mrtm23@newhorizonindia.edu)

## Places to visit in and around Bengaluru:

- Lalbagh
- Bannerghatta National Park
- Cubbon Park
- Bangalore Palace
- Chikmagalur (200 km from Bengaluru)
- Coorg (260 km from Bengaluru)

## Address for Communication

### Organizing Team – MRTM2023

New Horizon College of Engineering

Bellandur Main Rd, Kaverappa Layout, Near Marathahalli

Bengaluru - 560103

Karnataka, India

Email ID: [nhcemrtm2023@gmail.com](mailto:nhcemrtm2023@gmail.com) , [mrtm23@newhorizonindia.edu](mailto:mrtm23@newhorizonindia.edu)

<https://newhorizonindia.edu/ieeenhceconferencemrtm23/>

