

About Q-MDS

The inaugural edition of the International Conference on Quantum Materials, Devices, and Systems (Q-MDS-2024) is a significant milestone in the advancement of quantum technologies. Organized into three tracks—Quantum Materials, Quantum Devices, and Quantum Systems—the conference provides a comprehensive exploration of the latest developments in the field. In the Quantum Materials track, researchers delve into novel materials with unique quantum properties, including topological insulators, superconductors, and quantum dots. The Quantum Devices track focuses on the design, fabrication, and optimization of quantum devices for practical applications, spanning spintronic devices, quantum photonics, emerging quantum devices, and single electron devices. Meanwhile, the Quantum Systems track explores the intricate realm of quantum phenomena and its implications for system-level applications, encompassing quantum heat engineering, sensors, quantum communication, and information theory. Key insights highlight opportunities and challenges in advancing quantum technologies, underscoring the importance of interdisciplinary collaboration, robust materials design, and scalable device architectures. Future research directions include the exploration of new quantum materials, refinement of device fabrication techniques, and development of quantum algorithms for real-world applications. The conference sets a solid foundation for further advancements in quantum science and technology.

Important Dates

Manuscript submission: 1st – 30th August 2024

Notification of Acceptance of Manuscript: 20th September 2024

Last Date for Submission of Camera Ready Paper: 30th September 2024

Early Bird Registration: 20th October 2024

Last Date for Registration: 13th December 2024

Registration

Delegate Category	On or before 15th Nov 2024		After 15th Nov 2024	
	Indian Delegate	Foreign Delegate	Indian Delegate	Foreign Delegate
UG/PG Student (Full Time)	₹3500	\$200	₹4500	\$250
Graduate/Research Student (Full Time)	₹4500	\$200	₹5500	\$250
Faculty/Post Doc	₹6000	\$250	₹7000	\$300
Industry/R&D	₹8000	\$300	₹9000	\$350
Accompany Person	₹1500	\$100	₹1500	\$100

Steps to be followed for registration and the link for registration is available on www.q-mds.com

Themes

Theme: Quantum Materials

- Quantum structures (Quantum dots, Nanorods, Nanosheets)
- Quantum Energy Materials
- Quantum Sensing Materials
- Semiconductor Quantum Materials
- Quantum Electronic Materials
- Spin Active Materials
- Computational Quantum Materials
- Two Dimensional Materials

Theme: Quantum Devices

- Spintronic Devices
- Quantum and Spin Photonics
- Emerging Quantum Devices
- Single Electron Devices
- Interferometric Devices
- Quantum Heterostructure Devices
- Quantum Architectures

Theme: Quantum Systems

- Atomic Heat Engineering
- Quantum Sensors and Atomic Clocks
- Quantum Entangled System
- Quantum Communication and Information theory
- Quantum Machine Learning
- Interfacing electronics for quantum elements
- Ultra – Fast Processes
- Ultra Cold atoms: Systems and Dynamics

ORGANISING COMMITTEE

Chief Patron: Prof. Shreepad Karmalkar, Director, IIT BBS

Patron: Prof. V. Pandu Ranga, Dean Continuing Education, IIT BBS

Convener: Dr. Satchidananda Rath, School of Basic Sciences, IIT BBS

Co-Convener: Dr. Sayan Dey & Dr. Akshay K, School of Electrical Sciences, IIT BBS

ORGANIZING COMMITTEE

Prof. Rajan Jha, SBS, IIT Bhubaneswar, India
Dr. M. K. Bandyopadhyay SBS, IIT Bhubaneswar, India
Dr. Niharika Mohapatra, SBS, IIT Bhubaneswar, India
Dr. Shyamal Chatterjee, SBS, IIT Bhubaneswar, India
Dr. Hemant Kumar, SBS, IIT Bhubaneswar, India
Dr. Jiarul Midya, SBS, IIT Bhubaneswar, India
Dr. Indresh Yadav, SBS, IIT Bhubaneswar, India
Dr. Avijit Kumar, SBS, IIT Bhubaneswar, India
Prof. P. K. Sahu, SES, IIT Bhubaneswar, India
Dr. Nijwm Wary, SES, IIT Bhubaneswar, India
Dr. Himanshu P Padole, SES, IIT Bhubaneswar, India

ADVISORY COMMITTEE

Prof. Ioannis (John) Kymissis, Columbia University, USA
Dr. Saptarshi Das, Penn State University, USA
Dr. Suprem R Das, Kansas State University, USA
Prof. Gautam Vemuri, Indiana University, USA
Prof. Vinod Menon, City University New York, USA
Prof. G.S. Agarwal, Texas University, USA
Prof. Durga Mishra, New Jersey Institute of Technology, USA
Jr- Prof. Anindya Nag, TU Dresden, Germany
Prof. Wojciech Pacuski, Warsaw University, Poland
Prof. M. Mitsuishi, Tohoku University, Japan
Prof. Puru Jena, Michigan State University, USA
Prof. Arindam Ghosh, IISc, Bangalore, India
Prof. Umakant D Rapol, IISER Pune, India
Prof. K. K. Nanda, IOP Bhubaneswar, India
Prof. Prasanta Kumar Panigrahi, CQST, SOA University Bhubaneswar, India
Prof. Sanatan Chattopadhyay, University of Calcutta, Kolkata, India
Prof. Achintya Ghosh, Bose Institute, Kolkata, India
Prof. Samit Kumar Ray, IIT Kharagpur, India
Prof. Mandar Deshmukh, TIFR Mumbai, India
Prof. Swaroop Ganguly, IIT Bombay, India
Prof. Saroj Kumar Nayak, SBS, IIT Bhubaneswar, India
Prof. P. V. Satyam, SBS, IIT Bhubaneswar, India
Prof. S. R. Samantaray, SES, IIT Bhubaneswar, India

CONTACT DETAILS

Convenor, Q-MDS

School of Basic Sciences, IIT Bhubaneswar, Argul, Jatni, Odisha-752050
Tel: +91-674-713-6628/5744/6616; Email: q-mds@iitbbs.ac.in

International Conference on Quantum Materials, Devices and Systems (Q-MDS-2024)

December 14 – 16, 2024



Organized by

Indian Institute of Technology Bhubaneswar

