

# CALL FOR PAPERS

# 23<sup>rd</sup> IBCAST - 2026

International Bhurban Conference  
On Applied Sciences & Technology

Murree Hills, Pakistan

17 - 20 August 2026

## CONFERENCE TRACKS

ADVANCED MATERIALS

AEROSTRUCTURES

AI & SOFTWARE TECHNOLOGIES

CONTROL & SIGNAL PROCESSING

MEDICAL SCIENCES\*

UNDERWATER TECHNOLOGIES

WIRELESS COMMUNICATION & RADAR



Technical Co-Sponsor



Organized By

Centres of Excellence in Science & Applied  
Technologies (CESAT), Pakistan

### KEY DATES

10 May 2026

Paper Submission Deadline

15 June 2026

Participants Registration Deadline

30 June 2026

Paper Acceptance Notification

\*Activity of Medical Sciences track will be held in Islamabad



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## 23<sup>rd</sup> IBCAST 2026

### Conference Committee

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Dr. Raza Samar

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#### Medical Sciences

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Dr. Zeeshan Perwaiz

#### Underwater Technologies

Dr. M. Asim Ismail

Syed Ali Abbas

#### Wireless Communication & Radar

Dr. Naveed Ahsan

Dr. Abdul Mueed

## Topics of Conference Tracks

### 1. Advanced Materials

- Polymers & Polymer / Fiber Composites
- Nanomaterials and Nanotechnology
- Adhesives and Sealants
- Energetic Materials
- Electro-chemical Materials for Batteries
- Magnetic and Ferro-materials
- Photonic and Optical Materials
- Semiconductor Materials and Technology
- Peizo-ceramics & Peizo-composites
- Thin Film Coating and Surface Technology
- Materials for EMI and Microwave Shielding
- Science and Engineering of Meta-materials
- Ceramics and Ceramic Matrix Composites (CMC)
- Powder Metallurgy, Alloys and Metal Matrix Composites (MMC)
- Emergent Materials
- Modeling and Simulation of Materials
- Self-healing Materials
- Smart and Soft Materials
- Additive Manufacturing Materials

### 2. Aerostructures

- Additive and Innovative Manufacturing Techniques
- Supersonic and Hypersonic Propulsion Design
- Structural Integrity, Durability and Maintenance
- Aerothermal Heating - Challenges and Solutions
- Multi-disciplinary Design Optimization
- Cutting-edge Computational Techniques
- Advanced Materials Application for Aerospace Structures
- Aeroelastic, Morphing and Adaptive Structures
- Structural Health Monitoring (SHM)
- Machine Learning & Data-Driven Methods in Structural Design
- Mechanical Design Aspects for Avionic

### 3. Artificial Intelligence & Software Technologies

- AI and Data Engineering
- Indigenization in Robotics and AI
- Generative AI and Recommenders Systems
- Large Language Models
- Generative AI for Image, Cyber Security, Robotics and related Fields
- Agentic AI
- Advancements in Software Reliability
- Automated Software Engineering and System Development
- Architectural Design, Patterns & Frameworks and User-centered Designs
- Software Quality Assurance and Process Improvement
- Real-time Systems and Domain Applications
- Formal & Model-based Engineering of

- Critical Systems
- Software Project and Product Management
- Software Fault Tolerance and Fault Containment
- Virtual and Augmented Reality
- AI at the Edge and Swarm Robotics
- High-integrity Systems and Reliability
- AI in Control Systems: Hybrid Fuzzy Control
- AI in Healthcare
- Software Verification and Validation
- Meta and Lifelong Learning

### 4. Control & Signal Processing

#### Control:

- Nonlinear Systems and Control
- Adaptive and Robust Control
- Optimal and Model Predictive Control
- Safety Critical Resilient Control Systems
- Control of Hybrid and Discrete Time Systems
- Modeling and Simulation
- System Identification and Parameter Estimation
- Explainable AI for Fault-tolerant Control
- Perception, Guidance, Navigation and Control
- AI Based Model Predictive Control
- Deep Reinforcement Learning for Adaptive Control
- Swarm Optimization Algorithms
- Control of Renewable Power Generation Systems and Smart Grids
- Quantum Systems and Control

#### Signal Processing:

- Computer Vision and Graphics
- Statistical Methods and Learning Algorithms
- Remote Sensing
- Big Data and Image/ Audio/ Text/ Analytics
- Pattern Recognition, Bagging and Boosting Classifiers
- Image Recognition and Tracking
- Adversarial Attack Mitigation
- Single Shot Learning
- Medical Imaging Applications for Diagnostics and Pathology
- Multidimensional Signal Processing and Speech Recognition
- Sensor Networks
- Hyperspectral and Multispectral Imaging
- 3D Point Cloud Sensing and Processing
- Video Processing and Compression
- Algorithmic Implementation on FPGA/ ASIC/ Embedded Systems
- DSP Related RTOS Issues
- Quantum Signal Processing

### 5. Medical Sciences

#### Theme:

"Innovating Metabolic Surgery: Novel Research Frontiers in Bariatric Surgery, Metabolic Syndrome, and Women's Health".

## Topics of Conference Tracks

The theme is dedicated to advancing in cutting-edge research, translational innovation, and evidence-based practices in bariatric and metabolic surgery. This year's program emphasizes novel scientific work addressing the growing global burden of obesity, metabolic syndrome, and gender-specific metabolic health challenges, with a special focus on women's health across the life course. As metabolic disorders increasingly intersect with reproductive health, endocrinology, cardiovascular risk, and long-term quality of life.

### Topics:

- Innovation in Bariatric & Metabolic Surgery
- Novel Surgical Techniques and Procedural Refinement
- Minimally Invasive and Endoscopic Metabolic Interventions
- Enhanced Recovery and Outcome Optimization
- Metabolic Syndrome & Surgical Science
- Surgical Impact on Diabetes, Dyslipidaemia, Hypertension and NAFLD
- Long-term Metabolic Outcomes and Disease Remission
- Precision Medicine and Patient-specific Metabolic Strategies
- Women's Health & Metabolic Surgery
- Bariatric Surgery in Reproductive-age Women
- PCOS, Fertility, Pregnancy Outcomes, and Metabolic Health
- Menopause, Bone Health, Micronutrients, and Long-term Risk Reduction
- AI, Digital Health and Metabolic Outcome Prediction
- Registries, Real-world Evidence and Outcome Benchmarking

Aim is to foster scientific dialogue, encourage quality research, and stimulate innovative thinking that reshapes metabolic surgery practices. By integrating surgical excellence with metabolic science and women-centered research, this program aspires to define the future direction of metabolic healthcare.

Research presented meeting the quality requirements, will be considered for publication separately.

## 6. Underwater Technologies

- Underwater Acoustics
- Acoustic Metamaterials and Measurements
- Underwater Communication and Networking
- Networked Underwater Robotic Systems
- Underwater Sensors and Transducers
- Sonar Systems (Active & Passive)
- Array Signal Processing and Sonar Imaging
- Autonomous and Unmanned Underwater Vehicles (AUVs, UUVs)
- Navigation Technologies for Underwater Vehicles
- Hydrography and Seafloor Mapping
- Marine Environment, Oceanography and Offshore Monitoring

- Machine Learning and Big Data Analytics for Underwater Applications
- Embedded Systems and Software-defined Modems for Underwater Use
- Security and Challenges in Underwater Wireless Sensor Networks
- Underwater Systems Reliability and Life Cycle Measures

## 7. Wireless Communication & Radar

### Radar:

- AESA Radar
- Radar Performance Modeling / Measurement
- Radar Signal Processing (Algorithms & Hardware)
- Phased Array Radar Calibration
- Multifunction Phased Array Radar
- Bistatic / Multi-static Radars
- Analog / Digital Beam Forming
- Ultra Wide Band Radar
- Ground Penetrating Radar (GPR)
- MIMO Radars
- Synthetic Aperture Radars SAR/ ISAR
- Space Time Adaptive Processing (STAP)
- RF / Microwave Circuit Design
- RFICs & MMICs
- Reconfigurable Front-ends
- Active / Passive Device Modeling and Circuits
- Computational Electromagnetics
- Radio Imaging including mm-wave and THz Imaging Systems
- RCS Reduction / Stealth Design
- Antenna Design
- Near Field and Far Field Antenna Characterization
- EMC/EMI

### Wireless Communication:

- Software defined Radios
- Satellite & Space Communication
- Emerging Wireless Mobile Applications
- Network Centric Warfare
- Electromagnetic Scattering, Channel / Interference Modeling
- Adhoc Networks
- Wireless Technologies in Electro Medical Devices
- Metamaterials, FSSs and Electromagnetic Bandgap Structures
- Communication Systems Simulation
- Integrated Transceivers
- Wireless Power Transfer and Energy Harvesting
- Smart Antennas
- MIMO Systems
- Antenna Systems: Theory, Modeling and Measurement
- IoT near Body Communication

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## Submission Guidelines

All full length submissions to IBCAST are passed through the blind review process by the committee of experts. Accepted and presented papers meeting the quality requirements are also reviewed by IEEE before the final submissions to IEEE Xplore. Papers can be submitted using Easy Chair Link:

<https://easychair.org/account/signin>

## Special Issue

Publishing with Special Issue on IEEE-out-of-scope papers, will be announced later. This issue will be supervised by the Program Coordinators of Advanced Materials and Aerostructures Tracks. For updates keep visiting conference website: [www.ibcast.org.pk](http://www.ibcast.org.pk)

The MS track will also offer a separate issue on selected papers.

## Registration Fee

Rs. 25,000

Pakistani Participants

Rs. 15,000

Students from Pakistani Universities\*

MS Track Participants

US Dollars 500

Foreign Participants

US Dollars 300

Students Presenters from Foreign Universities

IEEE members will be discounted by 20%

\*Accommodation at Murree for the paper presenters from Pakistani Universities is limited to presentation day only.

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## 23<sup>rd</sup> IBCAST 2026

### Conference Venue

Murree is a popular hill station with glorious views of lush green landscapes and mountains. It is situated on the southern slopes of the Western Himalayan foothills. Tourist attractions include Kashmir Point, Patriata, Dunga Gali, Pipeline Track, Bhurban and Nathiagali resorts.

Activity of Medical Sciences track will be held in Islamabad



### Glimpses of Last IBCAST

