IMS 2026

INNOVATIONS IN MATERIALS SCIENCE

PRISM

INTERNATIONAL CONFERENCE ON

INNOVATIONS IN MATERIALS SCIENCE

MAY 13-15, 2026 | DOUBLETREE SUITES BY HILTON ORLANDO – DISNEY SPRINGS AREA, USA

www.materialsinnovationconference.com

INSTRUCTIONS FOR SPEAKERS

1. **Keynote Talks:** Keynote speakers will be allotted 35 minutes to present their results, followed by a 5 minutes discussion period.
2. **Invited Talks:** Invited speakers will be allotted 22 minutes to present their results, followed by a 3-minute discussion period.
3. **Oral Talks:** Oral speakers will be allotted 17 minutes to present their results, followed by a 3-minute discussion period.
4. Please do not exceed the allotted time slot.
5. Speakers should have their presentations saved on a USB memory stick.
6. It is suggested to email a copy of the presentations to us as back up.
7. Please prepare the presentation in PPT files, PDF is not recommended.
8. **Basic AV setup will be provided:** laser pointer, cordless mike, desktop mike, sound system.
9. Laptops equipped with Windows 10, Office 2010 Pro English (Word, Powerpoint, Excel) and Adobe Reader are provided.
10. If your presentation files contain movies, please make sure that they are well formatted and connected to the main files. You may check your slides during the breaks.
11. Projectors are equipped with standard VGA connection ports. Mac users should bring their own adapter cord.
12. Please re-check this program prior to the conference to confirm if any changes have been made to your session.
13. Conference volunteers will move the mic during Q&A. Audience with questions may raise hand to receive the mic.

INSTRUCTIONS FOR E-POSTER

1. Poster must be prepared in PowerPoint (Max 2 slides).
2. Use high-resolution images and readable fonts.
3. Each presenter will have 7 minutes to briefly explain their poster during the poster session, Followed by 3 minutes for Q&A.

SPEAKER ZOOM GUIDELINES

How to Participate in a Zoom Meeting?

If you have trouble logging in to Zoom or any technical issues, please write to us at **chair@materialsinnovationconference.com or Call Us +61 390163202**

Join a Meeting

- Join a meeting by clicking on a Zoom link recevied from the organizers.
- Follow the prompts to download and run Zoom application
- Enter the meeting ID if prompted
- Click to join the audio.
- When you are in the meeting, click on the Start Video button to start your video.

If you already have Zoom software installed: Open the Zoom platform, click 'join' and enter the meeting ID and password.

Mute/Unmute & Audio Settings

You can mute and unmute your microphone. The host also can mute you. We recommend using a headset and/or micro-phone as it will lead to better sound quality than using your computer audio. Turn off all sound notifications on your device. Note: During the presentation we will unmute everyone except the speaker and the chairs.

Screen Share

You will be allowed to share your screen during your presentation. Your computer screen will become visible to all the participants once you start sharing your screen. Please close all other applications on your computer so that notifications do not appear during your presentation. Keep the PowerPoint slide open on your system before you click the 'Share Screen' button. You are recommen ded to share the specific PowerPoint slide and not your desktop.

Presentation Timings

Please note that all the timings mentioned in the program are as per the Orlando time zone (GMT+4). Do ensure that you check the time difference well in advance and join the meeting at least 30 minutes prior to your scheduled presentation time. If you need us to tell the specific time slot for your presentation (in local time zone), do let us know. (or) use world time buddy.com for the accurate time zone.

Join a Meeting:

https://zoom.us/j/93124509548?pwd=EathQ6enXfLnz6RxLISIcKEYnxrnDj.1 [Orlando time zone (GMT+4)]

CONFERENCE CHAIR

Roger Narayan

Professor
Department of Biomedical Engineering
University of North Carolina and North
Carolina State University, USA

Roger Narayan is a Distinguished Professor in the Joint Department of Biomedical Engineering at the University of North Carolina and North Carolina State University. He has authored over 300 publications and numerous book chapters focused on biomedical materials and advanced manufacturing. He serves on several editorial boards, including as Associate Editor of Applied Physics Reviews, and has edited major reference works such as Biomedical Materials (Second Edition), Materials for Medical Devices, and leading encyclopedias in sensors and biomedical engineering. He has also held key leadership roles in organizations including ASM International, The Minerals, Metals & Materials Society (TMS), and the American Ceramic Society. A recipient of multiple honors, including the NSF CAREER Award and the Office of Naval Research Young Investigator Award, he is a Fellow of AAAS, ASME, AIMBE, MRS, TMS, ASM International, and the American Ceramic Society.

DAY–1, 13 MAY, 2026

09:00-09:40	**Registrations**
09:40-10:00	**Opening and Welcome by Conference Chair: Prof. Roger Narayan**
	Session Chair: Sriparna Bhattacharya, Clemson University, USA
10:00-10:40	**Keynote talk:** Regenerative Biomaterials and Medical Devices for Reconstructive Surgery **Guillermo Ameer,** Northwestern University, USA
10:40-11:20	**Keynote talk:** High-Resolution Label-Free Detection of Alginate and Elastin in Tissue-Engineered Constructs Using Raman Spectroscopy **Alexander Khmaladze,** State University of New York, USA
11:20-11:50	**COFFEE BREAK**
11:50-12:30	**Keynote talk:** Advances in Styrenic Thermoplastic Elastomer Gels as Tunably Soft and Recyclable Materials **Richard John Spontak,** North Carolina State University, USA
12:30-13:10	**Keynote talk:** Wide-Bandgap Semiconductor Materials for Quantum Information (QI@RT) Room Temperature **Ian Ferguson,** Kennesaw State University, USA
13:10-14:00	**LUNCH BREAK**
	Session Chair: Roger Narayan, University of North Carolina and North Carolina State University, USA
14:00-14:40	**Keynote talk:** Diamond and Diamond-Like Carbon Materials for Medical Applications **Roger Narayan,** University of North Carolina and North Carolina State University, USA
14:40-15:05	**Invited talk:** Development of Thermal Diodes and Thermal Switches Using Unusual Thermal Conductivity of Silver Chalcogenides **Keisuke Hirata,** The University of Tokyo, Japan
15:05-15:30	**Invited talk:** Solid-State Engineered Boron Nitride Nanotube-Reinforced Aluminum Nanocomposites for Multifunctional Performance **Denny John,** Florida International University, USA
15:30-16:00	**COFFEE BREAK**
16:00-16:25	**Invited talk:** Phonon Anharmonicity in Thermoelectric Binary Chalcogenides **Sriparna Bhattacharya,** Clemson University, USA
16:25-16:50	**Invited talk:** Magnetostriction Effect in Ultra-Fine Grain Size Nickel **Robert Ntirelang Batane,** University of Botswana, Botswana
16:50-17:15	**Invited talk:** Interface-Driven Performance Enhancement in Energy Storage Systems **Cindy Rusly,** National Taiwan University, Taiwan
17:30 Onwards	**Cocktails & Networking**

DAY–2, 14 MAY, 2026

Session Chair: Sriparna Bhattacharya, Clemson University, USA

10:00–10:40 **Keynote talk:** Photopolymerization-Based 3D Printing of Medical Devices
Roger Narayan, University of North Carolina and North Carolina State University, USA

10:40–11:20 **Keynote talk:** Nanoceria: Small Materials, Big Impact
Sudipta Seal, University of Central Florida, USA

11:20–11:50 **COFFEE BREAK**

11:50–12:15 **Invited talk:** A New Perspective on Piezotronic and Thermoelectric Coupling: Flexible Platforms for Synergistic Energy Scavenging and Peltier-Caloric Effects
David L. Carroll, Wake Forest University, USA

12:15–12:40 **Invited talk:** Evaluating the Effectiveness of Camel Hair Filters in Wind Catchers for Air Quality Improvement and Natural Ventilation Comfort in Vernacular Saudi Architecture
Laila Amer Alkahtani, Interior Design Department, Princess Nourah Bint Abdulrahman University, Saudi Arabia

12:40–13:05 **Invited talk:** Multifunctional Nanomaterial Design for Heterogeneous Catalyzed C-O, N-H, C-H Functionalization
Md. Shahajahan Kutubi, Noakhali Science and Technology University, Bangladesh

13:05–14:10 **LUNCH BREAK**

Session Chair: Roger Narayan, University of North Carolina and North Carolina State University, USA

14:10–14:35 **Invited talk:** Electrochemical Evaluation of Polycarbazole-Supported $MnFe_2O_4$ Nanohybrids for Advanced Electrochemical Applications
Ufana Riaz, North Carolina Central University, USA

14:35–15:00 **Invited talk:** Reframing Materials Characterization: Integrating Design Thinking to Accelerate Insight in Complex Polymer and Composite Systems
Carolyn Carta, CArtLab Solutions, USA

15:00–15:30 **COFFEE BREAK**

E-Poster Presentations

15:30–15:40 **Title:** Dielectric and Magnetic Properties of the FE-$Tb_{0.3}Dy_{0.7}Fe_2O_{4.5}$ Multiferroic Composites
Dariusz Bochenek, University of Silesia in Katowice, Poland

15:40–15:50 **Title:** Dielectric and Magnetic Properties of PZT-Ferrite Multiferroic Composites
Dagmara Brzezińska, University of Silesia in Katowice, Poland

15:50–16:00 **Title:** Enhanced CO_2 Detection Using Schottky Conduction Mechanism in 2D MOF/MXene Hybrid Vertical Sensing Device
Syeda Batool, North Dakota State University, USA

16:00–16:10 **Title:** Seismic Strengthening Effect of Ultra-High-Molecular-Weight Polyethylene Fiber on Damaged Reinforced Concrete Column
Chunho Chang, Keimyung University, South Korea

16:10 **In-Person Closing**

DAY–3, 15 MAY, 2026
VIRTUAL PRESENTATIONS

Meeting Link:
https://zoom.us/j/93124509548?pwd=EathQ6enXfLnz6RxLISIcKEYnxrnDj.1 [Orlando time zone (GMT+4)]

09:00–09:25	**Invited talk:** Microstructure and Mechanical Behavior of $Al_{30}Ni_{30}Cr_{30}W_5Re_5$ Refractory High-Entropy Alloy Processed by Mechanical Alloying and Spark Plasma Sintering **D. Jeyasimman,** Periyan Maniammai Institute of Science & Technology (PMIST), India
09:25–09:50	**Invited talk:** Toward Intelligent Wearable Bioelectronics: Integrating Nanomaterials, Sensing, and Data-Driven Health Monitoring **Rahim Esfandyarpour,** University of California, USA
09:50–10:15	**Invited talk:** Pathways to 28% Efficiency: Material Optimization and Device Modelling of Perovskite/Kesterite Tandem Solar Cells **Sanaa Ammari,** University of Rabat (UM5), Morocco
10:15–10:40	**Invited talk:** AI for Materials Science and Engineering: Leveraging GNNs, LLMs, XAI, Nanocombinatorics and More **Ankit Agrawal,** Northwestern University, USA
10:40–11:05	**Invited talk:** AI and Computer Vision for Materials and Infrastructure Inspection in Intelligent Mobility **Rasool Seyghaly,** Spanish National Research Council, Spain
11:05–11:30	**COFFEE BREAK**
11:30–11:55	**Invited talk:** Spin Transistors Implemented with Quantum Materials **Supriyo Bandyopadhyay,** Virginia Commonwealth University, USA
11:55–12:20	**Invited talk:** Enhancing Antifouling Performance *via* Light-Induced Crosslinking of Ultrathin Polyzwitterionic Coatings **Charini Piumika Maladeniya,** Oak Ridge National Laboratory, USA
12:20–12:45	**Invited talk:** Securing Critical Materials for Energy Systems: A Portfolio and Investment Perspective **Javier Mauricio León Ortega,** MPA Columbia University, Colombia
12:45–13:10	**Invited talk:** Effect of Carbon Compounds Synthesized from Recycled Graphite (Recovered from LIB Batteries) on the Energy Density of Solid State Supercapacitors **Jorge Oliva,** Center for Applied Physics and Advanced Technology Lab, Mexico
13:10–13:35	**Invited talk:** Uncovering the Unique Properties of Ordered Nanostructures Using In Situ Studies and Numerical Simulations **Oomman K. Varghese,** University of Houston, USA
13:35–14:00	**Invited talk:** Advanced Functionalization of Polymer and Biodegradable Nanocomposites Using Antioxidant and Antibacterial Additives **Ahmad Al-Jabareen,** Al-Quds University, Palestine
14:00	**Closing**

NOTES

PRISM

PROFESSIONAL CONFERENCE ORGANIZERS

Prism Scientific Services Pty Ltd., a premier conference organizer, envisions a sustainable future for the Science and Engineering . Our goal is to unite experts and stakeholders through conferences, fostering collaboration and advancing sustainable practices. Committed to curating conferences on engineering and medical sciences, we catalyze the industry's development. Emphasizing interdisciplinary collaboration, our events address complex challenges. Dedicated to sustainability, we minimize footprints and promote eco-friendly venues, inspiring environmental responsibility. As catalysts for positive change, guiding the energy industry toward an innovative, environmentally responsible future in conferences that prioritize sustainable development.

If you are interested in forming a partnership with us for the planning and organization of conferences and events worldwide, please don't hesitate to contact us *via* email at **writeus@scientificprism.com** or by phone at **+61 416000202.** Our services extend to facilitating conferences anywhere in the world, and we look forward to the opportunity to discuss your specific needs and requirements.

WE WISH TO SEE YOU AT INNOVATIONS IN MATERIALS SCIENCE-2027

PRISM

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