

MATERIALS  
DIVISION

# ASME Materials Division 2024 News

## MESSAGE FROM THE CHAIR



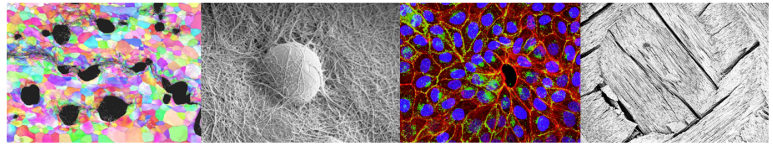
Caglar Oskay, Chair (2023-2024)  
ASME Materials Division  
Vanderbilt University

Greetings to the ASME Materials Division community! As my tenure as the Chair of the Executive Committee (EC) of ASME Materials Division comes to an end, I would like to take this opportunity to thank fellow members of the EC for their hard work and contributions over the past year: Professor **Hanqing Jiang** (Vice Chair) from Westlake University (China) chaired the Division Awards Committee; Professor **Curt Bronkhorst** (Program Chair) from University of Wisconsin and Professor **Huck Beng Chew** (Program Vice Chair) from the University of Illinois, Urbana Champaign have organized the MD Track at IMECE 2024; Professor **Yue Qi** (EC Secretary) from Brown University has kept the records of all our meetings, and

Professor **Erdogan Madenci** (EC Member-at-Large) from University of Arizona has put together this newsletter. It has truly been a great pleasure to be part of this distinguished group of researchers who have dedicated their valuable time and effort over the past year. I also would like to recognize the leaders of the MD Technical Committees for their contributions and service to the Materials Division and to the community as a whole.

Some of the highlights of our activities during 2023-24 are described below.

**IMECE 2024:** ASME International Mechanical Engineering Congress and Exposition (IMECE) is the focal point of Materials Division's activities and the primary venue in which the MD community gets together. Through its Technical Committees, the Materials Division continues to play a very active role in the organization of symposia and plenary lectures at IMECE each year. In IMECE 2024, the Materials Division organized Track 4 "Advanced Materials: Design, Processing, Characterization and Applications". In total, MD sponsored/co-sponsored 29 symposia with a total of 152 presentations and 15 posters. The list of Track 4 symposia and symposium organizers is provided in this newsletter. The Materials Division has also launched a new Student Symposium (scheduled 5-6:45 PM on Tuesday, November 19) and an associated student competition. I hope



that this symposium continues to grow in the years to come and become a primary venue that highlights the outstanding work the students are doing.

We are looking forward to the two MD-sponsored *plenary lectures* for Track 4 by Dr. **Narayana Aluru**, Cockrell Family Regents Chair and Professor at the University of Texas at Austin, and Dr. **Suresh Babu**, Governor’s Chair for Advanced Manufacturing and Professor at the University of Tennessee, Knoxville. The titles and abstracts of these two plenary talks are provided in this newsletter. Please make sure to join us for these two plenary lectures.

**Division and Society Awards:** Every year, the Materials Division seeks nominations to select the most deserving candidates for the MD-sponsored society and division level awards. This year, the list of awardees is as follows:

*Nadai Medal:* Professor **Julia Greer**, California Institute of Technology

*Materials Division Centennial Mid-Career Award:* Professor **Yashashree Kulkarni**, University of Houston

*Sia Nemat-Nasser Early Career Award:* Professor **Ruikun (Renee) Zhao**, Stanford University

*Orr Family Early Career Award:* Professor **Xiang Zhang**, University of Wyoming

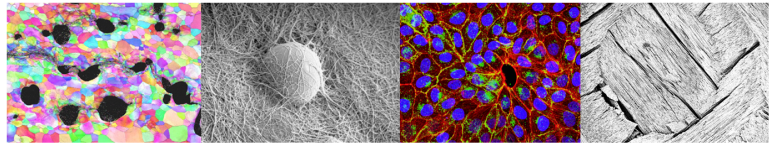
These and other awardees (including the winner of the new student competition) will be recognized during two consecutive award sessions on Wednesday, November 20, 2:00PM-3:45PM and 4:05PM-5:50PM.

**Journals:** The Materials Division sponsors two ASME journals – the [Journal of Engineering Materials and Technology](#) (JEMT) and the [Journal of Engineering and Science in Medical Diagnostics and Therapy](#) (JESMDT). I encourage the MD community to submit their high-quality work to these journals.

JEMT, led by the Editor-in-Chief Dr. **Abigail Hunter** from Los Alamos National Laboratory, is a premiere venue for experimental, computational, and theoretical studies on the mechanics of materials. JEMT promotes new fundamental understanding of the behavior of metals, polymers, ceramics, composites, biomaterials, and nanostructured materials at multiple scales.

JESMDT, led by the founding Editor-in-Chief Professor **Ahmed Al-Jumaily** from Auckland University of Technology in New Zealand, bridges the gap between engineers and non-engineers and translate engineering knowledge into clinical applications to accelerate biomedical innovation, trials, and commercialization.

**Technical Committees:** The Materials Division has eight Technical Committees who have been essential in organizing the many important and timely mini symposia within Track 4 at IMECE 2024. The list of MD Technical Committees and their leaders is provided in this newsletter. I encourage each member of the MD community to join and be active in the technical committees of their interest.



In closing, I would like to recognize and thank some of the ASME staff members who have contributed significantly to the continued success of MD over the past year. A special thanks go to **April Tone**, who is the Senior Manager, Technical & Engineering Communities (TEC) Operations at ASME and our liaison with the ASME Headquarters. I also would like to thank **Leila Persaud** and **Wilfred Haywood**, who, as Administrators of Honors & Fellows at ASME, have been very helpful during the award selection process.

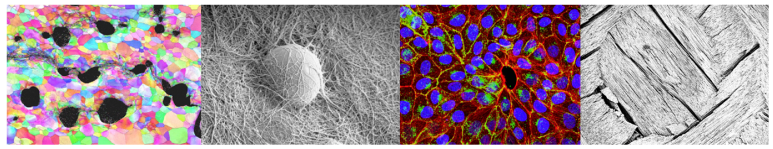
Professor **Hanqing Jiang** will take over as the Chair of the MD Executive Committee shortly after IMECE 2024. I am convinced that the Materials Division will be in excellent hands under his leadership and that of the members of the Executive Committee.

Please enjoy the accomplishments of our community with this newsletter and hope to see you all in Portland soon!

Caglar Oskay, Chair  
ASME Materials Division, 2023-2024







## 2024 Materials Division Awards Winners

**Nadai Medalist:** The **Nadai Medal** is awarded in recognition of significant contributions and outstanding achievements which broaden the field of materials engineering.

The 2024 Nadai Medalist is **Professor Julia Greer**, Ruben F. and Donna Mettler Professor of Materials Science, Mechanics, and Medical Engineering at California Institute of Technology, as well as the Fletcher Foundation Director of the Kavli Nanoscience Institute, *for groundbreaking contributions to the fabrication, synthesis, and characterization of hierarchical materials through additive manufacturing (AM) techniques, and for advancing the understanding of their mechanical, biochemical, electrochemical, and chemo-mechanical properties in relation to their architecture, constituent materials, and microstructural features.*

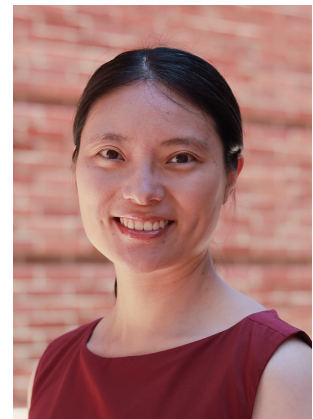


Nadai Award Lecture: **Intelligentsia of Nano-Architected Hierarchical Materials**

Wednesday, Nov. 20, 2024, 4:40 PM – 5:25 PM

**Sia Nemat-Nasser Early Career Awardee (2023):** The Sia Nemat-Nasser Award is to recognize a researcher within 10 years of completing the terminal degree, working in experimental, computational, or theoretical mechanics and materials, with an emphasis on under-represented groups.

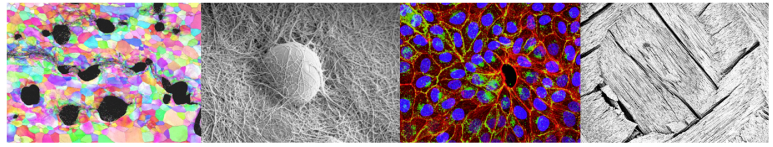
The 2023 Sia Nemat-Nasser Awardee is **Lihua Jin** Assistant Professor in the Department of Mechanical and Aerospace Engineering, at the University of California, Los Angeles, *for unraveling coupled non-equilibrium processes in stimuli-responsive soft materials to achieve programmable shape morphing and actuation, developing novel mechanical metamaterials for reusable energy absorption and reversible shape transformation, and providing mechanistic understanding of stretchability of electronic materials and devices..*



Sia Nemat-Nasser Early Career Award Lecture: **Functional architected materials by harnessing structure instabilities**

Wednesday, Nov. 20, 2024, 3:10-3:40 PM





**Sia Nemat-Nasser Early Career Awardee (2024):** The Sia Nemat-Nasser Award is to recognize a researcher within 10 years of completing the terminal degree, working in experimental, computational, or theoretical mechanics and materials, with an emphasis on under-represented groups.

The 2024 Sia Nemat-Nasser Awardee is **Renee Zhao**, an Assistant Professor of Mechanical Engineering, a Terman faculty fellow, and a Gabilan faculty fellow at Stanford University, for *developing magnetically actuated origami robots capable of crawling and swimming, designed for efficient locomotion and targeted drug delivery in highly confined spaces and aqueous environments*



Sia Nemat-Nasser Early Career Award Lecture: **Multifunctional Magnetic Origami Robots**

Wednesday, Nov. 20, 2024, 2:40-3:10 PM

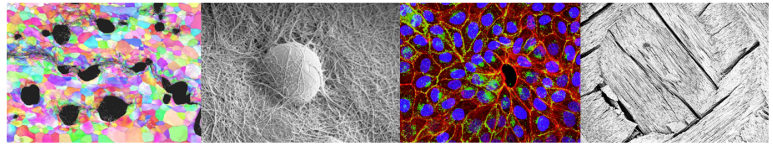
**Materials Division Centennial Mid-Career Awardee:** The Centennial Mid-Career Award is given to a researcher between 10 and 20 years of his/her terminal degree who has made impactful contributions in a technical area at the interface of materials and mechanics.

The 2024 Centennial Mid-Career Awardee is **Yashashree Kulkarni**, the Bill D. Cook Professor in the Department of Mechanical and Aerospace Engineering at University of Houston, for *utilizing non-equilibrium statistical mechanics to elucidate the role of activity in determining the size distribution of vesicles, which serve as key modes of communication and transport in cell biology, and for employing atomistic simulations to monitor thermal fluctuations of crystalline interfaces, offering a computational microscope to study the kinetics of grain boundaries.*



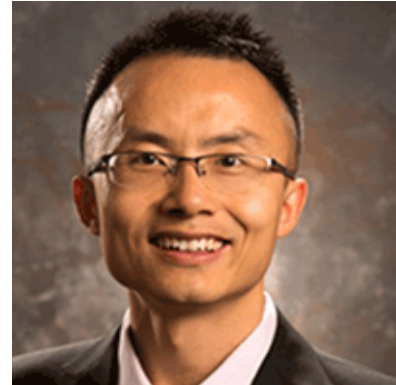
Centennial Mid-Career Award Lecture: **Statistical Mechanics of Membranes: Applications from Materials Science to Biology**

Wednesday, Nov. 20, 2024, 4:05-4:40 PM



**Materials Division Orr Early Career Awardee:** The Orr Family Early Career Award is to recognize early career research excellence within 7 years of terminal degree in the areas of experimental, computational, or theoretical fatigue, fracture, or creep.

The 2024 Orr Early Career Awardee is **Xiang Zhang**, Assistant Professor of Mechanical Engineering at the University of Wyoming, *for development of an efficient multiscale reduced order modeling technique based on the eigendeformation-based reduced order homogenization model (EHM) enabling efficient coupling to a structural simulation.*



Orr Early Career Award Lecture: **Multiscale Reduced Order Modeling and Design of High-Performance Materials: from Metal Fatigue Prediction to Composite Microstructure Design Involving Damage**

Wednesday, Nov. 20, 2024, 2:10 – 2:40 PM

## Materials Division Plenary Lectures at IMECE 2024

The Materials Division will sponsor two plenary lectures during IMECE 2024. The plenary lectures feature two of the foremost experts in mechanics and materials.

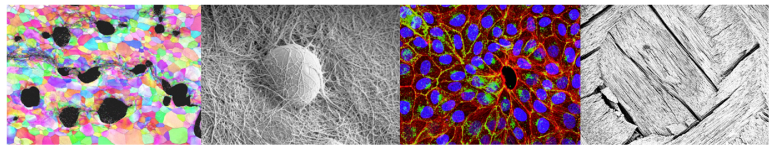
Plenary Talk I: **Towards Part Specific Qualification of Additively Manufactured Metallic Components**

**Suresh Babu**, Professor of Mechanical, Aerospace, and Biomedical Engineering at the University of Tennessee, Knoxville, and a member of the National Science Board, appointed by the President of the United States for a six-year term beginning in 2020



Tuesday, Nov. 19, 2024, 9:45 – 10:30 AM

In the last decade, additive manufacturing (AM) has become a viable pathway for making metallic components for aerospace and energy applications. Although the feasibility of AM to make complex geometric components has been demonstrated, the ability to qualify these components for critical applications remains elusive. This challenge is related to spatial and temporal variations of thermal, mechanical, and chemical signatures within a single component that are quite different from traditional manufacturing. As a result, coupon-based qualification of AM



parts may not be applicable in all cases. In this talk, an overview of the existing qualification methods that are based on extensive testing, as well as emerging techniques that are based on in-situ monitoring, computational modeling, machine learning and artificial intelligence will be presented. The application of these tools will be demonstrated with case studies of qualifying metallic components produced by AM for energy and aerospace applications. The case studies will span various powder bed fusion and directed energy deposition processes for titanium, nickel, and stainless steels. In addition, efforts to transfer these hardware and software technologies to industries will also be discussed. Finally, the future directions of AM to arrive at site-specific properties and incorporation of sensors through solid-state additive manufacturing will be highlighted.

**Plenary Talk II: Twist, Memory, and Coulomb Drag in Hard/Soft Matter Interfaces**

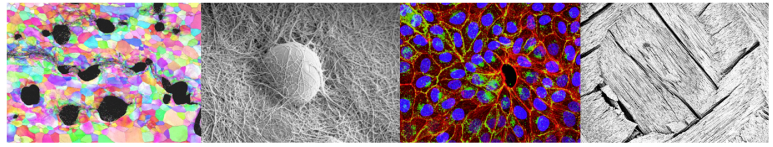
**Narayana Aluru**, Professor of the Walker Department of Mechanical Engineering at the University of Texas at Austin, and a core faculty member in the Oden Institute for Computational Engineering and Sciences.



Wednesday, Nov. 20, 2024, 8:00 – 8:45 AM

Materials and their interfaces play an important role in many societally important applications such as energy, separations, and sensing. In this talk, we will discuss our recent work in three interrelated topics – twist, memory, and Coulomb drag. First, we will consider materials interfaces between an electronically active material and an interfacial soft matter. Specifically, dynamically manipulating interfacial properties of soft matter (e.g. liquids) by tuning the electronic correlations in a hard material is an area of significant interest. Twisted bilayer graphene, particularly at the magic angle, has garnered attention for its unconventional superconductivity and correlated insulator behavior due to strong electronic correlations. The impact of the electronic properties of moiré patterns in twisted bilayer graphene on structural and dynamic properties of interfacial water remains largely unexplored. Computational challenges, stemming from simulating large unit cells using density functional theory, have hindered progress. In the first part of the talk, we will discuss deep learning studies to understand how a twist in a bilayer graphene affects the interfacial properties of liquids. Second, we will discuss memory effects in electrolyte transport through nanoporous materials. We show that asymmetry in transport properties due to ordering in confinement leads to hysteresis in current-voltage characteristics. Finally, we discuss the quantum coupling between electrons in a solid and interfacial molecule. Specifically, we show Coulomb drag effects where moving electrons in a solid induce forces on interfacial molecules causing them to undergo significant electromigration.





## Materials Division Track at IMECE 2024

The Division Track Program, shown below, is organized by **Curt Bronkhorst** (Program Chair) and **Huck Beng Chew** (Program Vice Chair). Some Technical Committees have collaborated with the organizers from other Divisions to minimize replication of topics and maximize attendance. There are 31 technical sessions sponsored by the Division in Track 4: Advanced Materials: Design, Processing, Characterization and Applications, with 152 presentations and 15 posters.

We are very grateful for the considerable dedication of the organizers of the symposia sponsored by the Division, in Track 4 and others. Track 4 symposia and their organizers are recognized below:

### Track 4: Advanced Materials: Design, Processing, Characterization and Applications

#### MONDAY

##### 04-01-01: Advanced Materials for Energy

Monday, November 18, 3:45 PM - 5:30 PM

**Session Chairs:** Pei Dong

##### 04-02-01: Modeling, Simulation, and Design of Multifunctional Materials

Monday, November 18, 10:20 AM – 12:05 PM

**Session Chairs:** Ling Liu, Lin Zhang

##### 04-02-02: Modeling, Simulation, and Design of Multifunctional Materials

Monday, November 18, 1:40 PM - 3:25 PM

**Session Chairs:** Jun Li, Ling Liu

##### 04-04-01: Dynamics of Advanced Functional Materials and Structures

Monday, November 18, 3:45 PM - 5:30 PM

**Session Chairs:** Jun Xu, Yan Li

##### 04-11-01: Advanced Materials Processing and Property Characterization

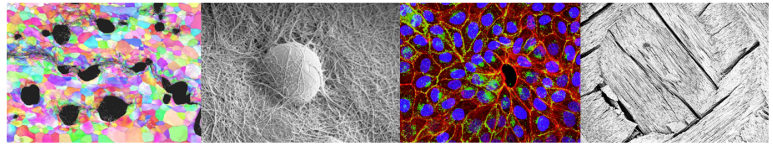
Monday, November 18, 10:20 AM - 12:05 PM

**Session Chairs:** Anil Saigal, Sridhar Santhanam

##### 04-11-02: Advanced Materials Processing and Property Characterization

Monday, November 18, 1:40 PM - 3:25 PM

**Session Chairs:** Ram V Mohan, Anil Saigal



04-11-02: Advanced Materials Processing and Property Characterization

Monday, November 18, 3:45 PM - 5:30 PM

**Session Chairs:** Ram V Mohan, Adrian Sabau

04-19-01: Towards Understanding Plasticity, Damage, and Fracture in Materials Across Different Length Scales and Environments: A Materials Division Symposium Honoring Eliot Fang

Monday, November 18, 10:20 AM - 12:05 PM

**Session Chairs:** Brian Jordon, Paul Allison

04-19-02: Towards Understanding Plasticity, Damage, and Fracture in Materials Across Different Length Scales and Environments: A Materials Division Symposium Honoring Eliot Fang

Monday, November 18, 1:40 PM - 3:25 PM

**Session Chairs:** Paul Allison, Brian Jordon

04-19-03: Towards Understanding Plasticity, Damage, and Fracture in Materials Across Different Length Scales and Environments: A Materials Division Symposium Honoring Eliot Fang

Monday, November 18, 3:45 PM - 5:30 PM

**Session Chairs:** Benoit Revil-Baudard, Oana Cazacu

**TUESDAY**

04-06-01: Electrochemo-Mechanics of Energy Materials and Structure-Processing-Property Relationship of Hybrid Organic-Inorganic Materials for Energy Applications

Tuesday, November 19, 5:00 PM - 6:45 PM

**Session Chairs:** Jun Xu, Qing Tu

04-08-01: Printed Hybrid Multifunctional Electronics and Energy Devices

Tuesday, November 19, 5:00 PM - 6:45 PM

**Session Chairs:** C. Chase Cao, Xiangyang Dong

04-11-04: Advanced Materials Processing and Property Characterization

Tuesday, November 19, 10:45 AM - 12:30 PM

**Session Chairs:** Raghu V Prakash, Sridhar Santhanam

04-11-05: Advanced Materials Processing and Property Characterization

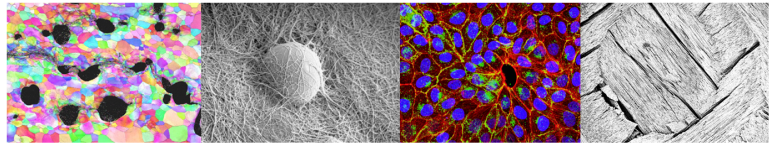
Tuesday, November 19, 3:00 PM - 4:45 PM

**Session Chairs:** Ram V Mohan, Adrian Sabau

04-13-01: Material Processing of Flexible/Emerging Electronics, Sensors, and Devices

Tuesday, November 19, 10:45 AM - 12:30 PM

**Session Chairs:** Shanshan Yao, Aaron Mazzeo



04-13-02: Material Processing of Flexible/Emerging Electronics, Sensors, and Devices

Tuesday, November 19, 3:00 PM - 4:45 PM

**Session Chairs:** Aaron Mazzeo, Shanshan Yao

04-15-01: Nanoengineered, Nano Modified, Hierarchical, Multi-Scale Materials and Structures

Tuesday, November 19, 3:00 PM - 4:45 PM

**Session Chairs:** Rauf Shah, Titan Paul

04-18-01: Student Symposium for the Materials Division

Tuesday, November 19, 5:00 PM - 6:45 PM

**Session Chairs:** Weiyi Lu, Majid Minary

04-19-04: Towards Understanding Plasticity, Damage, and Fracture in Materials Across Different Length Scales and Environments: A Materials Division Symposium Honoring Eliot Fang

Tuesday, November 19, 10:45 AM - 12:30 PM

**Session Chairs:** Mark Horstemeyer, Paul Allison

04-19-05: Towards Understanding Plasticity, Damage, and Fracture in Materials Across Different Length Scales and Environments: A Materials Division Symposium Honoring Eliot Fang

Tuesday, November 19, 3:00 PM - 4:45 PM

**Session Chairs:** Oana Cazacu, Benoit Revil-Baudard

04-19-06: Towards Understanding Plasticity, Damage, and Fracture in Materials Across Different Length Scales and Environments: A Materials Division Symposium Honoring Eliot Fang

Tuesday, November 19, 5:00 PM - 6:45 PM

**Session Chairs:** Oana Cazacu, Benoit Revil-Baudard

**WEDNESDAY**

04-14-01: Modeling and Experiments of Materials Subject to Ballistic, Blast, and High-Strain-Rate Events

Wednesday, November 20, 9:05 AM - 10:50 AM

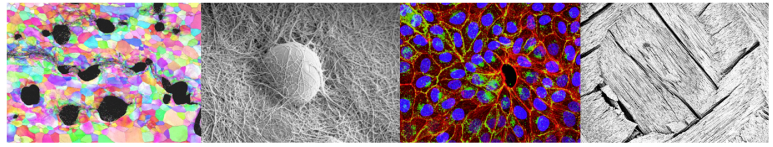
**Session Chairs:** Andrew Bowman, Mei Chandler

04-14-02: Modeling and Experiments of Materials Subject to Ballistic, Blast, and High-Strain-Rate Events

Wednesday, November 20, 2:00 PM - 3:45 PM

**Session Chairs:** William Lawrimore, DeBorah Lockett





04-14-03: Modeling and Experiments of Materials Subject to Ballistic, Blast, and High-Strain-Rate Events

Wednesday, November 20, 4:05 PM - 5:50 PM

**Session Chairs:** Mei Chandler, Andrew Bowman

04-20-01: Design of Engineered Materials and Components for Additive Manufacturing

Wednesday, November 20, 9:05 AM - 10:50 AM

**Session Chairs:** Alireza V. Amirkhizi

04-22-01: Design of Engineering Materials

Wednesday, November 20, 2:00 PM - 3:45 PM

**Session Chairs:** Sara Adibi

04-23-01: Functional Soft Composites - Design, Mechanics, and Manufacturing

Wednesday, November 20, 4:05 PM - 5:50 PM

**Session Chairs:** Jerry Qi

04-24-01: Advancing Composite Materials through Integrated Multiscale Modeling and Experimental Techniques

Wednesday, November 20, 4:05 PM - 5:50 PM

**Session Chairs:** Kedar Kirane

04-25-01: Thin-Film Materials/Electronics for Advanced Biochemical and Biophysical Sensing

Wednesday, November 20, 9:05 AM - 10:50 AM

**Session Chairs:** Jinghua Li

04-26-01: Advanced Material Innovations in Wearable Biomedical Devices and Structures

Wednesday, November 20, 2:00 PM - 3:45 PM

**Session Chairs:** Baoxing Xu, Hangbo Zhao

04-28-01: Bioinspired Materials, Structures and Applications

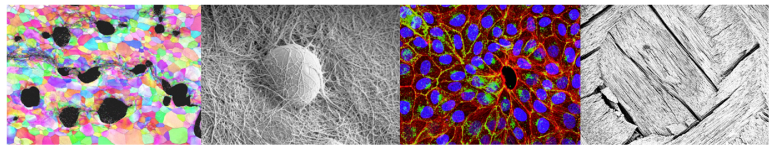
Wednesday, November 20, 9:05 AM - 10:50 AM

**Session Chairs:** Travis Shihao , Minchul Shin

04-29-01: Multifunctional Composite/Safety Materials

Wednesday, November 20, 4:05 PM - 5:50 PM

**Session Chairs:** Weiyi Lu, Baoxing Xu

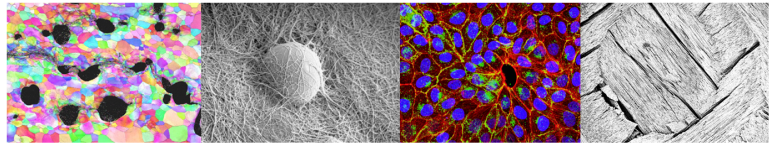


For future meetings and to be involved with the technical committees, the technical committee meetings are listed here.

<b>Materials Division Technical Committee</b>	<b>11/19/2024</b>	<b>Location</b>
Materials for Biomimetic and Medical Applications Meeting	Tuesday, 4:00 ~ 5:00 PM	Willamette 1B, level 2
Composites and Heterogeneous Materials	Tuesday, 5:00 ~ 6:30 PM	Willamette 1B, level 2
Advanced Materials for Energy	TBD	TBD
Electronic Materials	Monday, 5:00 ~ 6:00 PM	Columbia 1, level 3
Materials Processing	Monday, 6:00 ~ 7:00 PM	Willamette 1, level 2
Multifunctional Materials	Tuesday, 8:00 ~ 9:00 PM	Columbia 5, level 3
Design of Engineering Materials	Tuesday, 2:00 ~ 3:00 PM	Columbia 3, level 3

<b>AMD/MD Joint Committee</b>	<b>11/20/2024</b>	<b>Location</b>
Constitutive Equations	Wednesday, 4:00 ~ 5:00 PM	Columbia 4, level 3

<b>Materials Division</b>	<b>11/21/2024</b>	<b>Location</b>
Joint Executive Committee and Technical Committee Meeting (Open Meeting)	Thursday, 10:30 AM ~ noon	D139
Executive Committee Meeting (Closed Meeting)	Thursday, 1:30 ~ 3:00 PM	TBD



## Spotlights on Journals

### *ASME Journal of Engineering Materials and Technology (JEMT)*

**Abigail Hunter**, Los Alamos National Laboratory (LANL), was recently appointed the new Editor-in-Chief of the **ASME Journal of Engineering Materials and Technology (JEMT)**.



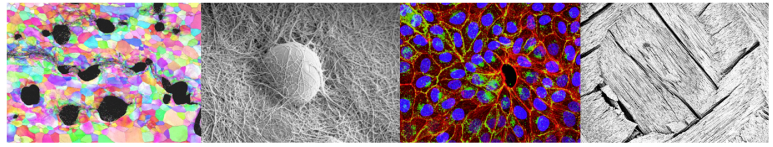
The scope of the journal covers a broad spectrum of issues regarding experimental, computational, and theoretical studies of mechanical properties of materials, as well as mechanics of materials issues in metals, polymers, ceramics, composites, biomaterials, and nanostructured materials. The journal's major objective is to continue to publish research of the highest quality and of lasting significance in areas related to engineering materials, mechanics of materials, and materials technology. The scope is broad, since it encompasses interdisciplinary research that spans fundamental knowledge, which is related to mechanics of materials, materials science, mathematics, and applied physics, and technological applications, which are related to engineering innovations and applications. The journal will include research articles, technical notes, book reviews, and special issues related to emerging areas. The acceptance rate for the journal is about 20% for 2023 and demand for the journal remains strong, with issues already confirmed into 2024. Our impact factor is 1.5. If there are suggestions for special issues, review articles, or editorials, please contact me.

2023 marks the 50<sup>th</sup> Anniversary of the founding of the ASME JEMT. The journal has been in existence since 1973 and is associated with the Materials Division of ASME. Thus, JEMT is one of the oldest science and engineering journals focused on mechanics of materials and materials science. The previous Editor-in-Chief, Dr. Mohammed Zikry, North Carolina State University, recently published an editorial in JEMT discussing some of our history. Congratulations to ASME JEMT as it celebrates its golden jubilee!

It is my honor to serve the research community and work to promote new fundamental scientific and engineering knowledge. I look forward to further enhancing the journal's reputation through publication of ground-breaking, original research on engineering materials and technology. Great thanks go to the previous editors, especially Dr. Mohammed Zikry, associate editors, and ASME staff for their hard work and effort in maintaining and advancing ASME JEMT. As you can also see from our list below for Associate Editors on the website, we have a diverse and internationally recognized board from leading global researchers, as we extend the reach of JEMT to a worldwide audience. The journal is always looking for new Associate Editors who can contribute to the stated mission and aims of the journal.

The JEMT website can be found at:





<http://materialstechnology.asmedigitalcollection.asme.org/journal.aspx>

**Editorial Board of ASME Journal of Engineering Materials and Technology (as of 10/2024)**

**ASSOCIATE EDITORS**

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**Lei Cao, Ph.D. (2026)** University of Nevada - Reno, USA

**Khalil I. Elkhodary, Ph.D. (2025)** The American University in Cairo, Egypt

**J. Brian Jordon, Ph.D. (2026)** Baylor University, USA

**Jaehyung Ju, Ph.D. (2026)** Shanghai Jiao Tong University, China

**Ram Mohan, Ph.D. (2025)** North Carolina A&T State University, USA

**Pania Newell, Ph.D. (2026)** The University of Utah, USA

**Erkan Oterkus, Ph.D. (2026)** University of Strathclyde, UK

**Kiran Solanki, Ph.D. (2026)** Arizona State University, USA

**Ankit Srivastava, Ph.D. (2026)** Texas A&M University, USA

**Andrey Voevodin, Ph.D. (2026)** University of North Texas, USA

**Xiaoding Wei, Ph.D. (2027)** Peking University, China

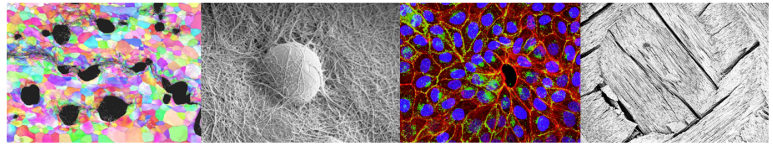
**George Youssef, Ph.D. (2026)** San Diego State University, USA

***ASME Journal of Engineering and Science in  
Medical Diagnostics and Therapy (JESMDT)***

**Ahmed Al-Jumaily**, Professor of Biomechanical Engineering (Auckland University of Technology, New Zealand) serves as the Editor-in-Chief of the **ASME Journal of Engineering and Science in Medical Diagnostics and Therapy**.



The [journal](#) seeks to bridge the gap between engineers and non-engineers and translate engineering knowledge into clinical applications in order to accelerate biomedical innovation, trial and commercialization. The Journal publishes original research focused on implementation of engineering and science principles in medical diagnostics, imaging, characterization, and therapy. It spans four primary areas where engineering impacts applied biomedicine: biotechnology in pharmaceuticals; clinical applications of biomaterials; biotechnology in clinical systems; and imaging, diagnostics, and therapeutics. We do encourage colleagues from the Materials Division to join the Editorial Board. The Journal has completed seven successful years with 7 volumes. The journal has been cited by several indices, including Scopus and Engineering Index.



The JESMDT website can be found at:

<https://journaltool.asme.org/home/JournalDescriptions.cfm?JournalID=32&Journal=JESMDT>

## ASSOCIATE EDITORS

**Samson Adejokun, Ph.D. (2027)** Science Corp., USA

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**Amir Ali Amiri Moghadam, Ph.D. (2026)** Kennesaw State University, USA

**Christopher A. Bashur, Ph.D. (2026)** Florida Institute of Technology, USA

**Belkacemi Djelloul, Ph.D. (2027)** UDES/CDER, Algeria

**Shailesh Ganpule, Ph.D. (2025)** Indian Institute of Technology Roorkee, India

**Zhili Hao, Ph.D. (2025)** Old Dominion University, USA

**Shigehiro Hashimoto, Ph.D. (2025)** Kogakuin University, Japan

**Peyman Honarmandi, Ph.D. (2026)** Manhattan College, USA

**Reuben Kraft, Ph.D. (2025)** The Pennsylvania State University, USA

**Maurizio Manzo, Ph.D. (2026)** University of North Texas, USA

**Kunal Mitra, Ph.D. (2027)** Florida Institute of Technology, USA

**Subramanian Narayanan, Ph.D. (2027)** Indian Institute of Technology Dhanbad, India

**Szymon Nitkiewicz, Ph.D. (2026)** University of Warmia and Mazury in Olsztyn, Poland

**Davide Piovesan, Ph.D. (2025)** Gannon University, USA

**Ramjee Repaka, Ph.D. (2025)** Indian Institute of Technology Ropar, India

**Mojtaba Sharifi, Ph.D. (2026)** San Jose State University, USA

**Panayiotis (Panos) S. Shiakolas, Ph.D. (2025)** The University of Texas at Arlington, USA

**Shine SR, Ph.D. (2027)** Indian Institute of Space Science and Technology, India

**Martin L. Tanaka, Ph.D. (2025)** West Carolina University, USA

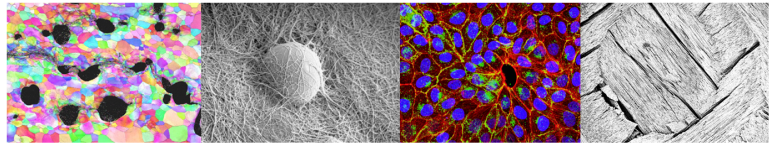
**Lulu Wang, Ph.D. (2026)** Reykjavik University, Iceland

**Kendall R. Waters, Ph.D. (2025)** Enlight Medical, USA

**W. J. (Chris) Zhang, Ph.D. (2025)** University of Saskatchewan, Canada

**Ping Zhao, Ph.D. (2026)** Hefei University of Technology, China

**Linda (Na) Zhu, Ph.D. (2025)** University of Michigan - Flint, USA



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**Çağlar Oskay** (Chair, Vanderbilt University, TN, USA)

**Hanqing Jiang** (Vice Chair, Professor, Westlake University, China)

**Curt Bronkhorst** (Program Chair, Professor, University of Wisconsin – Madison, WI, USA)

**Huck Beng Chew** (Program Vice Chair, Professor, University of Illinois at Urbana-Champaign, IL, USA)

**Yue Qi** (Secretary, Professor, Brown University, RI, USA)

**Erdogan Madenci** (Member-at-Large, Professor, The University of Arizona, AZ, USA)

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Vice Chair: Dr. Sadie Beck, University of Alabama, sbeck@ua.edu

### Composites and Heterogeneous Materials

Chair: Dr. Kedar Kirane, Stony Brook University, kedar.kirane@stonybrook.edu

Vice Chair: Dr. Xueju Sophie Wang, University of Connecticut, xueju.wang@uconn.edu

### Design of Engineering Materials

Chair: Dr. Feruza Amirkulova, San Jose State University, feruza.amirkulova@sjsu.edu

Vice Chair: Dr. Sara Adibi, San Diego State University, sadibi@sdsu.edu

### Electronic Materials

Chair: Dr. Changyong (Chase) Cao, Case Western Reserve University, ccao@case.edu

### Materials Processing

Chair: Dr. Kishore Pochiraju, Stevens Institute of Technology, kishore.pochiraju@stevens.edu

Vice Chair: Dr. Bo Li, Villanova University, bo.li@villanova.edu

### Multifunctional Materials

Chair: Dr. Weiyi Lu, Michigan State University, wylu@egr.msu.edu

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### Nanomaterials for Biology and Medicine

Chair: Dr. Renee Ruike Zhao, Stanford University, rrzhao@stanford.edu

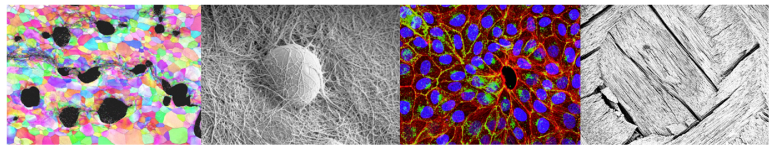
Vice Chair: Dr. Jinhua Li, The Ohio State University, li.11017@osu.edu

### Nanomaterials for Energy

Chair: Dr. Pei Dong, George Mason University, pdong3@gmu.edu

Vice Chair: Dr. Richard Zhang, University of North Texas, zihao.zhang@unt.edu





## Past Chairpersons of ASME Materials Division

Term ending	E.C. Chairperson	Term ending	E.C. Chairperson
1955	R. G. Sturm	1995	V. K. Stokes
1956	W. L. Fleischmann	1996	A. D. Freed
1957	J. O. Smith	1997	S. Suresh
1958	J. B. Rutherford	1998	S. Nemat-Nasser
1959	W. E. Trumpler	1999	T. Nicholas
1960	M. J. Manjoine	2000	B. N. Cox
1961	W. E. Cooper	2001	R. Raj
1962	L. W. Smith	2002	S. E. Cunningham
1963	H. T. Corten	2003	W. A. Curtin
1964	M. E. Shank	2004	D. C. Davis
1965	H. R. Voohees	2005	M. S. Dadkhah
1966	I. Finnie	2006	R. Wetherhold
1967	T. W. Eichelberger	2007	M. F. Horstemeyer
1968	G. M. Sinclair	2008	D. Pai
1969	A. Rubio	2009	D. Siginer
1970	R. M. Goldhoff	2010	A. J. Rajendran
1971	A. J. McEvily, Jr.	2011	M. Zikry
1972	J. H. Thompson	2012	V. Prakash
1973	C. H. Wells	2013	J. Chen
1974	I. LeMay	2014	K. Jacob
1975	D. K. Felbeck	2015	J. Wang
1976	S. Yukawa	2016	G. Z. Voyiadjis
1977	J. M. Kraft	2017	X. Chen
1978	E. Krempl	2018	V. La Saponara
1979	A. Blesloch	2019	Y. Zhu
1980	T. U. Marston	2020	T. Nakamura
1981	J. P. Gallagher	2021	P. Geubelle
1982	W. A. Van Der Sluys	2022	M. Zhou
1983	W. Owens	2023	H. Tippur
1984	C. Niemczewski		
1985	J. E. Williams		
1986	A. E. Carden		
1987	J. R. Whitehead		
1988	T. A. Auten		
1989	C. K. H. Dharan		
1990	R. M. Horn		
1991	C. W. Merten		
1992	A. A. Tseng		
1993	M. Taya		
1994	G.J. Weng		