



MANUFACTURING
ENGINEERING
DIVISION



ASME MSEC 2025

ASME Manufacturing Science and Engineering Conference

Awards Program

CONFERENCE
June 23 – 27, 2025

CLEMSON UNIVERSITY
GREENVILLE, SC

<https://event.asme.org/MSEC>

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Peng "Edward" Wang, Ph.D., Case Western Reserve University

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Julius Schoop, Ph.D., University of Kentucky
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NANO/MICRO/MESO MANUFACTURING

Sourabh Saha, Ph.D., Georgia Institute of Technology
Hangbo Zhao, Ph.D., University of Southern California

BIOMANUFACTURING

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Yifei Jin, Ph.D., University of Nevada, Reno

ADVANCED MATERIALS MANUFACTURING

Saeed Farahani, Ph.D., Clemson University
Weihong "Grace" Guo, Ph.D., Rutgers University

Best Paper Awards Nominations

Best Paper Award:

“EFFECT OF BALL BURNISHING AND LASER POLISHING ON THE SURFACE CHARACTERISTICS OF DEPOSITED LAYERS IN HYBRID ADDITIVE LAMINATED TOOLING”

MSEC2025 - 151342

Hamed Dardaei Jaghan, Yannis P. Korkolis, Farin Weinert, Marlon Hahn, A. Erman Tekkaya

Best Paper Nominee (2nd Place):

“A NOVEL LOW-COST TOOLING VIA A HYBRID MANUFACTURING TECHNOLOGY”

MSEC2025 -155839

Mahdi Pirani, David Kirk, Saeed Farahani

Best Organizer of Symposium & Sessions Award (BOSS Award)

ADM-1: ADVANCES IN METAL ADDITIVE MANUFACTURING PROCESSES

Ala Gattawi, Ph.D., University of Toledo

Dong Lin, Ph.D., Oregon State University

Ho Yeung, Ph.D., National Institute of Standards and Technology

Hector Siller, Ph.D., University of North Texas

Elham Mirkoohi, Ph.D., Auburn University



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Student Manufacturing Design Competition Finalists

“AUTOMATED ACRYLIC AWARD SANDING STATION”

Faculty Advisor: Dr. Brady Davies

Jackson Clark, Hunter Davis, Ben Diehl, Echo Peterson, Aaron Rathke, Orin Sommer, and Almy Hollis,
Brigham Young University

“HYDROGEL POLYMER ALIQUOTING FOR LYOPHILIZATION”

Faculty Advisor: Dr. Robert Hart

Athul Anilkumar, Ryan Faris, Ethan Gamero, Carrigan Glatz, Lee Larson, and Lee Zulueta,
The University of Texas at Dallas

“A NOVEL TRI-AXIAL SCISSOR-BASED MOTION SYSTEM FOR ADVANCED MANUFACTURING”

Faculty Advisor: Dr. Swapnil Gujarathi

Dixita A. Yadav, Don Bosco Institute of Technology,
Yash Gopal Mittal, Indian Institute of Technology

“AN INTEGRATED FRAMEWORK FOR AEROSPACE COMPONENT REPAIR USING HYBRID LASER WIRE ADDITIVE MANUFACTURING”

Faculty Advisor: Dr. Andrew Wessman

Mohamed Ibrahim, Andrew Black, Sebastian S. Alcantar, Zoe R. Evans, and Mohammed Shafae,
The University of Arizona, Tucson

“ADDITIVE MANUFACTURING WITH ROBOTICS TO ENABLE SWARM APPLICATIONS”

Faculty Advisor: Dr. Zhenghui Sha

Ian Clark, Parth Mehta, and Retvin Pant,
University of Texas at Austin

“MACHINE LEARNING-ASSISTED ULTRASONIC TESTING AND ITS APPLICATION IN METAL ADDITIVE MANUFACTURING”

Faculty Advisor: Dr. Rongxuan (Raphael) Wang

Thiraj Santhush Wegala, and Tianyu Gao,
Auburn University

“ULTRA HIGH-SPEED FRICTION STIR LAP WELDING”

Faculty Advisor: Dr. Yuri Hovanski

Todd Lainhart, and Joshua Sheffield,
Brigham Young University

“SMART MANUFACTURING: GUIDED MIXED REALITY CONTROL FOR MULTIPLE CNC AND 3D PRINTING MACHINES”

Faculty Advisor: Dr. Yi Wang and Dr. Fang Wang

Gianni Ioannou, Zach Snyder, Dion Burns, Olivia Franken,
University of Missouri

Journal of Manufacturing Science and Engineering (JMSE)



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University of Michigan

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Dong Ling, Ph.D., (2028), Oregon State University, USA
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Journal of Micro and Nano-Manufacturing (JMNM)



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University of Birmingham, UK

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TieJun Zhang, Ph.D., (2027), Khalifa University, UAE

Xiaoyu (Rayne) Zheng, Ph.D., (2026), University of California - Berkeley, USA

Blackall Machine Tool and Gage Award

Established in 1954, the Blackall Machine Tool and Gage Award is presented for the best current original paper or papers (not published elsewhere) which has/have been presented before ASME and/or immediately preceding the year of the award.

Sen Xiang, Ph.D., Thyssenkrupp

Xingtao Liu, Ph.D., Southeast University, China

Licong An, Ph.D., Apple, Inc.

Haozheng Qu, Ph.D., GE Vernova Advanced Research Center

Gary J. Cheng, Ph.D., Fellow, Purdue University

For the paper titled:

**“NANOENGINEERED LASER SHOCK PROCESSING VIA PULSE SHAPING FOR
NANOSTRUCTURING IN METALS: MULTISCALE SIMULATIONS AND EXPERIMENTS”**



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William T. Ennor Manufacturing Technology Award

The William T. Ennor Manufacturing Technology Award, established in 1990, is presented to an individual or team for developing/ contributing significantly to an innovative manufacturing technology, the implementation of which has resulted in substantial economic and/or societal benefits.



Satyandra Gupta, Ph.D., Fellow,
University of Southern California

For innovations in the area of physics-informed artificial intelligence leading to the development of smart robotic cells that reduce ergonomically challenging tasks for human workers, provide consistent quality, and reduce scrap and rework in surface finishing applications.

M. Eugene Merchant Manufacturing Medal

Established in 1986, the M. Eugene Merchant Mfg. Medal is awarded to an individual who has had significant influence and responsibility for improving the productivity and efficiency of the manufacturing operation(s). To be presented at the SME Fall Gala.



Keith Krach,
3points LLC

For exceptional technological contributions and innovations in supply chain management that have transformed the manufacturing sector.



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Milton C. Shaw Manufacturing Research Medal

Established 2009, the Milton Shaw Medal recognizes significant fundamental contributions to the science and technology of manufacturing processes.



Yong Huang, Ph.D., Fellow,
University of Florida

For experimental and theoretical contributions to the knowledge of process physics and printing-induced cell injury in jet- and extrusion-based printing.



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DeVor-Kapoor Manufacturing Medal

Established in 2022, the DeVor-Kapoor Manufacturing Medal recognizes an individual or a team of researchers for a body of impactful achievements in the field of manufacturing.



Fengzhou Fang, Ph.D.,
University College Dublin, Ireland

For significant contributions to nano-machining mechanics, including the advancement of extrusion-dominated material removal, the establishment of the three paradigms of manufacturing advancement, and other significant advancements in atomic-andclose-to-atomic-scale manufacturing.



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Chao & Trigger Young Manufacturing Engineer Award

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Established in 2011, the Chao and Trigger Young Manufacturing Engineer Award recognizes a young manufacturing researcher under 40 with potential for significant fundamental contributions to the science and technology of manufacturing processes.



Ping Guo, Ph.D.,
Northwestern University

For his significant contributions to precision manufacturing, particularly through his innovations in elliptical vibration texturing enabling scalable high-precision fabrication of optical structures, and his machine-learning-enabled intelligent vision metrology.

Kornel F. Ehmann Manufacturing Medal

Established in 2019, the Kornel F. Ehmann Manufacturing Medal recognizes the best original paper or papers submitted to ASME and clearly concerned with or related to micro- or nano-scale manufacturing processes or products.

Mahdi Pirani, Clemson University

Marlon Hahn, Ph.D., TU Dortmund University, Germany

Hamed Dardaei Joghan, Ph.D., TU Dortmund University, Germany

A. Erman Tekkaya, Ph.D., TU Dortmund University, Germany

Saeed Farahani, Ph.D., Clemson University

For the paper titled:

**“On the Potential of Manufacturing Multi-Material Components With Micro/
Nanocellular Structures Via the Hybrid Process of Electromagnetic Forming
Injection Foaming”**

MED Outstanding Service

Established in 1996, this award recognizes the individual who performed outstanding work in the Manufacturing Engineering Division.



Frank Pfefferkorn, Ph.D., Fellow,
University of Wisconsin

For continuous contributions and leadership to the development of the Manufacturing Engineering Division, mentoring others in the community, and hosting an amazing MSEC in Madison.

ASME Dedicated Service Award

Established in 1983, this award honors dedicated voluntary service to the Society marked by outstanding performance, demonstrated effective leadership, prolonged and committed service, devotion, enthusiasm and faithfulness.



Scott Smith, Ph.D., Fellow
Oak Ridge National Laboratory

An outstanding ASME member with over 10 years of service to the Manufacturing Division, multiple manufacturing award and medal committees including for the M. Eugene Merchant Medal of ASME/SME, the Committee on Division Operations & Training, and the Gator Section.

ASME Fellows

Fellow is the highest elected grade of membership within ASME, the attainment of which recognizes exceptional engineering achievements and contributions to the engineering profession.



Ping Guo, Ph.D.,
Northwestern University



Kira Barton, Ph.D.,
University of Michigan



Roland Chen, Ph.D.,
Washington State University



Sy-Bor Wen, Ph.D.,
Texas A&M University



Katherine Fu, Ph.D.,
University of Wisconsin-Madison



Kit Fai Pun, Ph.D.,
University of West Indies



Moneer Helu, Ph.D.,
University of Maryland



Richard Marboe, Ph.D.,
ASME Member-at-Large

Acknowledgements



**U.S. National
Science Foundation**



Notes



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