EARLY CAREER FORUM

WEDNESDAY JUNE 25, 2025

Technology, Research & Development Professions in Academia, Industry & National Laboratories: An Early Career Forum

Wednesday, June 25th | 18:00-21:00 | Location: Ballroom

Organized by: ASME/MED and NAMRI/SME

Sponsored by: The U.S. National Science Foundation (providing travel support to students)

Hosted by: Clemson University, Clemson SC

Purpose: The goal of this forum is to provide current students at all levels of graduate and undergraduate programs as well as recent graduates with information about various research and technical positions in academia, industry, and national laboratories. Panelists will present an overview of their careers and discuss how to be successful professionally in various settings in a roundtable format.

The forum will be held during the co-located manufacturing conferences at Clemson University: the ASME 2025 International Manufacturing Science and Engineering Conference (MSEC2025) and the NAMRI/SME 53rd North American Manufacturing Research Conference (NAMRC53).

Agenda

18:00-18:15 Opening remarks and welcome
18:15-19:00 Up to 3-minute spoken introductions by each panelist with Q&A session.

Break and switch-over of panelists.

19:15-20:00 Up to 3-minute spoken introductions by each panelist with Q&A session.
20:00-21:00 Roundtable discussions, networking and wrap-up

Forum Format

1. Panelists will introduce themselves and discuss their career paths. Panelists have experience in conducting/leading research and engineering projects in academia, government labs, and industry.
2. During each panel session, 20 min will be set aside for audience members to a live Q&A poll moderated by Prof. Chinedum Okwudire.
3. During the roundtable discussions, forum participants can discuss careers in academia, government, and industry. Panelists will discuss how to search for a job, career management, and funding, among other topics that is relevant to the panelist speaker. Participants will be able to visit with several panelists during the 1hr roundtable session.
4. During and after the forum, participants are encouraged to engage in conversations/discussions related to their professional and personal interests.

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All registered conference participants are welcome to attend the forum with no additional fee.

Attendance of the Early Career Forum is mandatory for NSF Travel Grant student applicants.

2025 Early Career Forum Chair

Dr. Chinedum ("Chi") Okwudire, Professor, University of Michigan. Email: okwudire@umich.edu

The 14 panelists have experience working in academia, government/national labs, and industry. Several of the panelists have experience in more than one of these sectors, as indicated below.

Panelist	Academia	Government/ National Labs	Industry
Kavit Antani (BMW)			X
Kira Barton (University of Michigan)	X		
Jaime Camelio (University of Georgia)	X	X	X
Jian Cao (Northwestern University)	X	X	
Qing (Cindy) Chang (University of Virginia)	X		X
Laura Dial (GE Aerospace)			X
Satyandra K. Gupta (University of Southern California)	X		X

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Moneer Helu (University of Maryland)	X	X	
Milad Koohi (Texas A&M University)	X		X
Sneha Prabha Narra (Carnegie Mellon University)	X		
Peter Apata Olubambi (University of Johannesburg)	X		
Ala Qattawi (University of Toledo)	X		
Adam G. Stevens (Oak Ridge National Laboratory)		X	
Joshua Tarbutton (Bravo Team LLC)	X		X

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Panelist Biographies

 **Kavit Antani** (BMW)	Kavit Antani is currently a general manager responsible for the BMW X3/X4 vehicle assembly plant in Spartanburg, South Carolina. Prior to this role, he led the final assembly operation of BMW 3-series, 4-series and i4 electric sedans in Munich, Germany. He started as a quality engineer in the BMW X5/X6 engine & powertrain assembly division in Plant Spartanburg and has progressed through various roles since 2011. Kavit worked under the guidance of Dr. Laine Mears and received his Ph.D. in automotive engineering from CU-ICAR (Clemson University – International Center for Automotive Research). Prior to pursuing a Ph.D. program, he worked for Dewalt - the professional power tools division of Stanley Black & Decker for 11 years at various plants in the United States and Mexico. Kavit has a master's degree in industrial and systems engineering from Auburn University, AL. As a graduate student, he worked with Dr. J T. Black on machinability of gray cast irons and simulation of lean manufacturing cells using multiple operators. In 2019, he received the inaugural Outstanding Alumni award from CU-ICAR. In 2006, he received the Outstanding Young Manufacturing Engineer award from the Society of Manufacturing Engineers (SME). Kavit is a certified Six Sigma Master Black Belt. He is an active member of the Society of Manufacturing Engineers (SME) and American Society of Quality (ASQ).
 **Kira Barton** (University of Michigan)	Kira Barton is a Professor in the Robotics and Mechanical Engineering Departments at the University of Michigan. She received her B.Sc. in Mechanical Engineering from the University of Colorado at Boulder in 2001, and her M.Sc. and Ph.D. in Mechanical Engineering from the University of Illinois at Urbana-Champaign in 2006 and 2010. She is also serving as the Associate Director for the Automotive Research Center, a University-based U.S. Army Center of Excellence for modeling and simulation of military and civilian ground systems. Prof. Barton's research specializes in advancements in modeling, sensing, and control for applications in smart manufacturing and robotics, with a specialization in learning and micro/nano additive manufacturing systems. Kira is the recipient of an NSF CAREER Award in 2014, 2015 SME Outstanding Young Manufacturing Engineer Award, the 2015 University of Illinois, Department of Mechanical Science and Engineering Outstanding Young Alumni Award, the 2016 University of Michigan, Department of Mechanical Engineering Department Achievement Award, and the 2017 ASME Dynamic Systems and Control Young Investigator Award. Kira was named 1 of 25 leaders transforming manufacturing by SME in 2022, and selected as one of the 2022 winners of the Manufacturing Leadership Award from the

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	Manufacturing Leadership Council. She became an ASME fellow in 2024.
 **Jaime Camelio** (University of Georgia)	Dr. Jaime Camelio joined the U.S. National Science Foundation as an I-Corps program director in 2023. He is a professor of mechanical engineering in the College of Engineering at the University of Georgia. Prior to joining NSF, he served as Associate Dean for Research, Innovation, and Entrepreneurship in the College of Engineering at the University of Georgia. From 2008 to 2019, he was a professor for Advanced Manufacturing in the Grado Department of Industrial and Systems Engineering at Virginia Tech. He also served as Chief Technology Officer at the Commonwealth Center for Advanced Manufacturing (CCAM) from 2016-2019. His research interests are in innovation education, advanced manufacturing, and cyber-physical security. He has authored or co-authored more than 120 technical papers. Jaime obtained his B.S. and M.S. in Mechanical Engineering from the Catholic University of Chile in 1994 and 1995, respectively. In 2002, he received his Ph.D. from the University of Michigan. His professional experience includes working as a consultant in the Automotive/Operations Practice at A.T. Kearney Inc. He is an ASME Fellow.
 **Jian Cao** (Northwestern University)	Cardiss Collins Professor Jian Cao (MIT'Ph.D, MIT'MS, SJTU'BS) specialized in innovative manufacturing processes and systems, particularly in the areas of deformation-based processes and laser additive manufacturing processes. She is the Founding Director of the research center on Manufacturing Science and Innovation at Northwestern, known as NIMSI. Prof. Cao is an elected member of the National Academy of Engineering (NAE) and of the American Academy of Arts and Sciences (AAA&S). She has graduated 36 Ph.D. students, published more than 280 journal articles with more than 22,000 citations. 50% of her funded projects have collaboration with industry. She was at the National Science Foundation as a program director for two years. Cao was President of NAMRI/SME and Chair of ASME Manufacturing Engineering Division, the founding Editor-in-Chief of ASME Journal of Micro- and Nano- Science and Engineering, and the Editor-in-Chief of *Journal of Materials Processing Technology*. She has served on more than 20 ASME committees. Prof. Cao now serves as an Associate Vice President for Research at Northwestern, a member of the National Materials and Manufacturing Board of the National Academies, Board of Directors of SME, and Board of mHUB – accelerator for hardtech innovation and manufacturing in Chicago.

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 **Qing (Cindy) Chang** (University of Virginia)	Dr. Qing (Cindy) Chang is a Professor in the Department of Mechanical and Aerospace Engineering at the University of Virginia (UVA). Her research centers on modeling, analyzing, and controlling dynamic manufacturing systems to advance sustainability and efficiency. She leverages system properties, along with adaptive control and machine learning techniques, to optimize smart manufacturing processes and explores human-robot collaboration in industrial environments. Dr. Chang is a recipient of the NSF CAREER Award, an elected Fellow of ASME and SME, and a Senior Member of IEEE. In 2020, she was named one of SME's "20 Most Influential Professors in Smart Manufacturing." Before joining academia, she spent a decade at General Motors Global R&D Center, where she was honored three times with the Boss Kettering Award—the company's highest recognition—for innovations that improved production efficiency and quality. She actively contributes to the professional community through leadership roles in ASME, IEEE, and NAMRI/SME, as well as through conference organization and editorial service.
 **Laura Dial** (GE Aerospace)	Dr. Laura Dial is a Principal Scientist in the Materials and Manufacturing Technologies Organization of GE Aerospace Research. She received her Doctoral Degree in Materials Science in Engineering from the Georgia Institute of Technology in 2010 and Bachelor's Degree from Carnegie Mellon University in 2005. In her nearly 15 years of industrial research experience, Laura has been deeply involved in the design, development and modification of steel, titanium, cobalt and nickel-based alloys for power generation and aircraft engine applications. Her work spans numerous manufacturing routes including powder metallurgy, high energy milling, additive manufacturing and traditional thermo-mechanical processing. In addition to leading technical projects, Laura holds responsibilities to guide the strategic direction and growth of the metallurgy portfolio as well as in mentorship and technical development of early and mid-career scientists. She has a continued focus on building strong, multi-disciplinary collaborations across GE Aerospace, Academia and National Laboratories, spanning advanced design to artificial intelligence, toward the development of new materials technologies. She is inventor/co-inventor of over 15 granted patents.
	Dr. Satyandra K. Gupta holds Smith International Professorship in the Viterbi School of Engineering at the University of Southern California and serves as the founding Director of the Center for Advanced Manufacturing. He is also Co-Founder and Chief Scientist at GrayMatter Robotics. His research interests are artificial intelligence, human-centered automation, and smart manufacturing. He has published more than five hundred technical articles in journals, conference proceedings, and edited books. He also holds twenty five US patents. He is a fellow of the American Association for the

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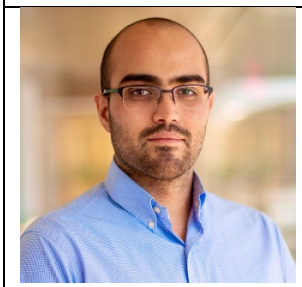
Satyandra K. Gupta (University of Southern California)	Advancement of Science (AAAS), American Society of Mechanical Engineers (ASME), Institute of Electrical and Electronics Engineers (IEEE), Solid Modeling Association (SMA), and Society of Manufacturing Engineers (SME). He is a former Editor-in-Chief of the ASME Journal of Computing and Information Science in Engineering. He currently serves as a member of the Technical Advisory Committee for Advanced Robotics for Manufacturing (ARM) Institute and a member of the National Materials and Manufacturing Board (NMMB). He has received numerous honors and awards for his scholarly contributions, including a Presidential Early Career Award for Scientists and Engineers in 2001 from President Bush, Lifetime Achievement Award from ASME Computers and Information in Engineering Division in 2024, and the Eli Whitney Productivity from the Society of Manufacturing Engineers (SME).
 **Moneer Helu** (University of Maryland)	Moneer Helu is a Research Engineer at the University of Maryland, College Park. Before joining UMD, Dr. Helu was the Chief of the Systems Integration Division of the Engineering Laboratory (EL) at the National Institute of Standards and Technology (NIST). In this role, he co-led NIST's engineering-related advanced manufacturing research portfolio including programs focused on additive manufacturing, cybersecurity, data infrastructure and management, data analytics, and robotics. Dr. Helu's research interests focus on improving the security and resiliency of production supply chains through measurement and modeling of manufacturing systems and equipment. He is a fellow of ASME, an Associate Member of the International Academy for Production Engineering (CIRP), has been recognized by SME as one of the 25 Leaders Transforming Manufacturing (2021), and is an alum of the NAE US Frontiers of Engineering (2019) and German-American Frontiers of Engineering (2021) Symposiums. Dr. Helu has also received a US Department of Commerce Gold Medal for his contributions enabling transformative innovation in manufacturing through the adoption of critical digital technologies.
 **Milad Koohi** (Texas A&M University)	Prof. Milad Koohi received his Ph.D. in Electrical Engineering from the University of Michigan, Ann Arbor, in 2020. Following his doctoral studies, he joined Qorvo Inc. as an R&D Technical Lead in process integration at the BAW Research Center in FL, where he led the integration of ferroelectric nitrides into acoustic wave devices for microwave and mm-wave frequencies. In January 2025, he transitioned to academia, joining the Department of Electrical Engineering at Texas A&M University.Prof. Koohi's research focuses on understanding multiphysical interactions, particularly electromagnetic, acoustic, and thermal domains, within emerging material systems, and developing advanced nanomanufacturing techniques for integrating them into innovative devices, microsystems, and integrated circuits, advancing the frontiers of communication and sensing technologies.

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	He has received several awards, including the Qorvo Best New Technology Award and the IEEE MTT-S Graduate Fellowship. Dr. Koohi has authored or coauthored more than 40 peer-reviewed publications and patents on ferroelectric nitrides, complex oxides, and advanced processing methods for their integration into novel devices and integrated circuits.
 **Sneha Prabha Narra** (Carnegie Mellon University)	Sneha Prabha Narra received her B.E. in civil engineering in 2012 from Osmania University, M.S. in computational mechanics in 2013, M.S. in mechanical engineering in 2015, and Ph.D. in mechanical engineering in 2017 from Carnegie Mellon University (CMU). She then completed her postdoctoral training at CMU's NextManufacturing Center. She subsequently joined the mechanical and materials engineering department at Worcester Polytechnic Institute (WPI) as an assistant professor in Fall 2018. She spent three years at WPI prior to joining the CMU mechanical engineering department in July 2021. Prof. Narra's group focuses on developing a deeper understanding of process-structure-property relationships through both physics-based and statistical modeling, as well as multiscale and multimodal material characterization. This knowledge is applied across our metal additive manufacturing projects to develop strategies for real-time monitoring, process optimization, and control, with the goal of creating adaptable, high-quality metal manufacturing processes for improved part performance and consistency. Prof. Narra also serves as an Associate Editor of the Additive Manufacturing journal and plays an active role in organizing AM symposia and workshops.
 **Peter Apata Olubambi** (University of Johannesburg)	Professor Peter Apata Olubambi is a Professor of Advanced Materials at the University of Johannesburg, South Africa. He holds Bachelor's and Master's Degrees in Metallurgical and Materials Engineering, and a Doctoral Degree in Metallurgical Engineering. His research activities are focused on computational design, spark plasma sintering, and 3D additive manufacturing of advanced alloys, nanostructured metallic alloys and metal-ceramics composites with lightweight, high-strength, high-temperature and tribo-corrosion resistance properties. Visionary leader with over 25 years of teaching, research and academic management skills. He was the Head of the School of Mining, Metallurgy and Chemical Engineering between June 2017 and February 2025, and currently the Director of the Centre for Nanoengineering and Advanced Materials at the University of Johannesburg. With proven track record in research grant application and research infrastructure establishments, he has attracted over USD12M for establishing two Research Centres at two different Universities in South Africa. He has supervised and graduated over 25 Master's students, 30 PhD students, and mentored 12 postdoctoral researchers from diverse nationalities. Many of my mentees have

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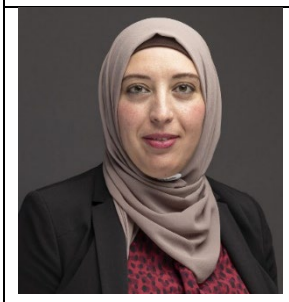
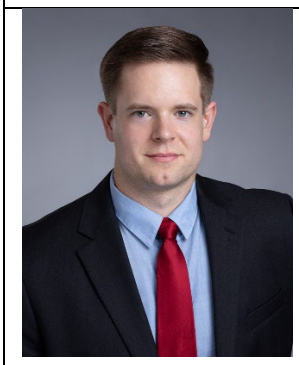
	transitioned into impactful roles in academia, government labs, and multinational industries in Africa, Australia, Europe and North America
 **Ala Qattawi** (University of Toledo)	Dr. Ala Qattawi is an associate professor at the Department of Mechanical, Industrial, and Manufacturing Engineering at the University of Toledo. She is the director and the principal investigator at the Integrated Design and Manufacturing (IDM) Laboratory at the University of Toledo, where her research group interests include advanced manufacturing: additive manufacturing and sheet metal forming, design for manufacturing, sustainable manufacturing, and Origami-inspired metal structures as well as applications to vehicles body-in-white design. She earned her Ph.D. in Automotive Engineering from Clemson University, specializing in metal fabrication, and served as a post-doctorate fellow at the International Center for Automotive Research in South Carolina. Ala has earned several awards, including the Hellman Faculty Award in 2016, the Young Manufacturing Engineer Award from SME in 2018, the Ralph Teetor Education Award from SAE in 2021, the Toyota Programmable System Innovation Fellowship Award in 2022, the ORR Best Paper Award from ASME in 2022, the Distinguished Alumni Award from Clemson University-Automotive Engineering Department in 2023, the 2023 Excellence in Supervision of Undergraduate Research Award from the University of Toledo, the Engineering Research Initiation (ERI) Award from National Science Foundation in 2023, and the Young Leaders Professional Development Award from TMS Structural Materials Division in 2025
 **Adam G. Stevens** (Oak Ridge National Laboratory)	Dr. Adam G. Stevens is a staff researcher in the Disruptive Manufacturing Systems Development Group within the Manufacturing Science Division of Oak Ridge National Laboratory, located at the Manufacturing Demonstration Facility. His current research focus is on metal additive manufacturing (AM) systems for infrastructure-scale (1,000+ kg) components; low-cost methods for metal AM; and technoeconomic analyses of direct energy deposition (DED) AM processes. He is currently the Principal Investigator on a multi-year multi-partner collaborative program to develop DED AM systems for manufacturing 1,000-40,000+ kg energy-generation components. His wider research interests include scaling laws for manufacturing processes, systems co-design, robotics and controls, functional materials, and technology transfer to industry. Adam received his bachelor's degree in mechanical engineering from the University of Michigan, Ann Arbor in 2013; completed his master's in mechanical engineering from the Massachusetts Institute of Technology in 2015; and completed his Ph.D. in mechanical engineering from the Massachusetts Institute of Technology in 2021. His dissertation

	focused on machine design, control, and process scaling laws for high-throughput benchtop fused filament fabrication systems.
 **Joshua Tarbutton** (Bravo Team LLC)	Josh earned his BSME at Georgia Tech and his MSME and PhD ME at Clemson University. After a postdoc, he became a tenure-track professor at the University of South Carolina, later moving to UNC Charlotte where he earned tenure. He taught extensively, graduated numerous students and published 53 papers. In 2018, he founded Bravo Team to create a better workplace for engineers to find creative solutions for clients' problems. Josh is a licensed Professional Engineer in North Carolina and an active member of the Entrepreneur Organization. In his free time, he enjoys making memories with his family, going fishing, exploring how the world works, and learning new subjects.