



**ASME Robotics**



# Roadmapping Workshop

Sunday, August 14, 2022

In conjunction with IDETC-CIE, St. Louis, MO

St. Louis Union Station Hotel

<https://event.asme.org/IDETC-CIE>

**Help shape the Society's robotics strategy!**

The ASME Robotics Technology Group (RTG) is conducting a one-day program to include an invitation-only workshop aimed at developing a Robotics Roadmap to embody mechanical and physical necessities and bridge the gaps between AI and integration challenges. The program includes a morning of thought-provoking speakers/panelists and facilitated, topical breakout sessions open to everyone (determined by room capacity)

## Workshop (invitation only) Goal

Create a Robotics Roadmap by forming working groups that will brainstorm and do concept mapping during the workshop, and then will continue to work virtually to generate their topic's content. Collectively, the groups will arrive at a roadmap and set of implementable recommendations, published in a co-authored ASME open-access publication.

- Program: keynote speakers/panelists on different topics (open to all) followed by facilitated topical breakout sessions.
- Facilitated brainstorming sessions: One aligned with the topic of each keynote + a few others. Each session works on a robotics topic and their output is a concept map, which will lead to co-authored ASME open-access publication of a Robotics Roadmap – embodying the mechanical and physical challenges.

## Workshop Benefits

- Bring disparate groups of the robotics community under the workshop umbrella to have meaningful dialogues and collaborate to solve tough challenges, e.g., AI and ML in industry 4.0, etc.

NOTE: This workshop will be followed by a second workshop (virtual), in which each working group formed at the in-person workshop will update everyone on their progress in generating their topic's content for the open-access whitepaper to be published by ASME, co-authored by the working group contributors.

Workshop Schedule-at-a-Glance   August 14, 2022			
Open Session*		Invitation Only Session (Closed)	
8 am	Welcome & Introductions	12:40 pm	End of Open Session / transition to Closed
8:20 am	Keynote #1 – ARM	Facilitated Brainstorming Breakout Session 6:00pm Workshop concludes	
9:05 am	Keynote #2 – Mfg		
9:50 am	Keynote #3 – Space		
10:35 am	2 SME's: SoA applications		
10:50 am	Break		
11:20 am	Panel Discussion – Safety		
12:20 pm	Morning Wrap-up		

\*Registration is required and capped due to room capacity, but all are welcome

## Open Session Program – Featured Speakers / Panelists (vs 7/22/2022)

### KEYNOTE (8:20 am – 9:05 am)



Arnold Kravitz  
Chief Innovation Officer  
Advanced Robotics for Manufacturing (ARM) Institute  
<https://arminstitute.org/about/team/>

Topic: “ARM’s Approach to Accelerating Manufacturing through Innovations in Robotics”

This talk will provide an overview of ARM’s approach to addressing challenges faced in augmenting factories with robotics, artificial intelligence (AI) and autonomy, and upskilling the workforce to work with these new technologies, meeting the needs of both commercial manufacturing and the U.S. Defense Industrial Base.

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### KEYNOTE (9:05 am – 9:50 am)



Shreyes N. Melkote  
Georgia Tech Manufacturing Institute  
Executive Director, Novelis Innovation Hub  
<https://www.me.gatech.edu/faculty/melkote>

Topic: “Industrial Robotics for Manufacturing Applications: Challenges and Opportunities”

This talk will provide the speaker’s perspective on needs and opportunities in research and development of industrial robotics for manufacturing applications.

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### KEYNOTE (9:50 am – 10:35 am)



Al Tadros  
Chief Technology Officer  
Redwire  
<https://redwirespace.com/about/leadership/>

Topic: “Lending Space a Robotic Hand: Enabling the Future Space Economy”

This talk will focus on the past, present, and future of the space robotics sector, providing a view of the state-of-the-art of robotics in space applications, and the challenges that current and future missions must overcome.

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### SME – R&D (10:35 am – 10:50 am)



Zachary Nishino  
Advanced Systems Group Lead  
Maxar Technologies – Space  
Robotics

<https://www.linkedin.com/in/zacharynishino/>



Glory Sikka  
Systems Engineering Manager  
Maxar Space

<https://www.linkedin.com/in/glorysikka/>

Topic: “Space Robotics: Versatility & Adaptability”

In this talk, two Subject Matter Experts (SME’s) will provide a brief overview of their current robotics efforts in space applications, the challenges they face, and their thoughts on how robotics can evolve to support future space endeavors.

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## PANEL (11:20 am – 12:20 pm) – Best-practices, safety, codes & standards in robotics

### PANELIST: Irene Fassi

Research Director  
National Research Council, Intelligent Industrial  
Systems & Technologies for Advanced  
Manufacturing  
<https://www.stiima.cnr.it/ricercatori/irene-fassi/>



Topic: “Safety in Human Robot Collaboration: From Research to Standardization”

This talk will provide an overview of various Italian and European robotics programs covering the topics of safety in physical human robot interaction in multiple domains (manufacturing, health, agri-food, etc.).

### PANELIST: Jeremy Marvel

Research Scientist, Project Lead  
National Institute of Standards and Technology  
<https://www.nist.gov/blogs/manufacturing-innovation-blog/authors/jeremy-marvel>



Topic: “Integrating Workcell-Less Robots into Flexible Factory Environments”

This talk will provide an overview of the National Institute of Standards and Technology’s

Robotics Program with specific focus on flexible factory environments. NIST’s overall has projects which focus on robot perception, manipulation/grasping, mobility, human/robot and robot/robot interaction, artificial intelligence, agility, and soft robotics.

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## Workshop FAQs

### *Who can participate?*

Anyone with an interest and expertise in robotics is invited to attend the morning program. The morning session is open to all registered workshop attendees. The afternoon workshop is invitation only.

### *When & where is the Program?*

The Program is taking place in conjunction with IDETC-CIE on Sunday, August 14<sup>th</sup>, in St. Louis at the Union Station Hotel.

### *How can I participate?*

Attendees need to participate in person. Workshop registration is required and it is free. You can register only for the Program or add it to your IDETC-CIE registration.

<https://event.asme.org/IDETC-CIE/Program/Workshops-Tutorials>

The ASME Robotics Technology Group’s Robotics Roadmap workshop is funded by the TEC Sector Council’s TEC Development Fund.

## About ASME's Technology & Engineering Communities (TEC) Sector Technology Groups

Technology Groups were formed by the TEC Sector to:

- Provide a dynamic but focused environment where participants can move in and out as specific topics arise.
- Encourage cross Division and cross Sector activities.
- Offer cutting-edge insight that supports entrepreneurs, innovators and partners in pursuing new opportunities for growth and commercialization.
- Facilitate the sharing of ideas by engaging ASME members and staff in areas of specialization.
- Identify technical expertise, promote research collaboration, and foster business partnerships.
- Stimulate the transformation to or the creation of new divisions to better address member needs.

Participation in a Technology Group is free and open to individuals willing and able to contribute. All ASME technical divisions and affiliates are encouraged to be engaged.

## About ASME's Robotics Technology Group

The Mission of the Robotics Technology Group (RTG) is to:

***Serve as a think tank to incentivize the creation of synergy within ASME Robotics Community across all sectors, divisions and/or technical committees.***

RTG will do this by:

- Providing opportunities for engaging a network of high-level subject matter experts to form a think tank or solve a grand challenge.
- Fostering collaboration with Divisions, other Technology Groups, and ASME Sectors.
- Identifying white space that ASME can quickly enter, develop and create a new product or service in a particular technology area of interest.

Questions? Contact Gloria Wiens, Chair, Robotics Technology Group (gwiens@ufl.edu) or Barbara Zlatnik, ASME Sr. Manager, TEC Operations (zlatnikb@asme.org)