



**MANUFACTURING & MATERIALS
JOINING INNOVATION CENTER**

June 7-9, 2022
IAB Meeting of the NSF I/UCRC:

Manufacturing and Materials Joining Innovation Center
(Ma²JIC)

University of Tennessee, Knoxville
University of Tennessee Student Union
1502 Cumberland Ave, Knoxville, TN 37916

AGENDA

DAY 1: Tuesday, June 7, 2022 all times EST	
7:00 – 8:00 am	Breakfast & Registration All attendees are asked to sign in and will receive an agenda Non-members will be required to sign a “non-disclosure agreement”
8:00 – 8:15 am	Welcome & Introduction Jorge Penso , Shell, IAB Chair Martin McDonnell , GVSC, IAB Co-Chair Antonio Ramirez , OSU, Ma²JIC Director
8:15 – 8:35 am	Keynote Prof. Sudarsanam Suresh Babu UT/ORNL Governor's Chair on Advanced Manufacturing Department of Mechanical, Aerospace and Biomedical Engineering Department of Materials Science and Engineering
8:35 – 8:50 am	Ma²JIC Center Update Antonio Ramirez, OSU, Ma²JIC Director
8:50 – 8:55 am	GROUP PHOTO
9:00 – 9:15 am	Overview of LIFE form feedback process Pete He, PhD, Ma²JIC Assessment Coordinator National Science Foundation
9:15 – 9:20 am	Student Award Criteria Review
9:20 – 9:30 am	BREAK

MATERIAL/JOINT PERFORMANCE	
9:30 - 10:40 am	<p>Chair: Mike Buehner, TechnipFMC; Robert Hamlin, NNRL Co-Chair: Boian Alexandrov, OSU</p> <p>Thrust Area Update (9-minutes)</p> <p>Student Presentations 10-minute presentation + 5-minute Q&A Yuxiang Luo, OSU, “Temperbead Welding Phase II” Will Siefert, OSU, “Qualification of Dissimilar Metal Welds for Service in Hydrogen Containing Environment Phase II: Dissimilar Metal Welds with Improved Resistance to Hydrogen Assisted Cracking” Tianzhao Wang, OSU, “Effect of Niobium on the Weld Metal Toughness of Pipeline Steels: Phase III”</p> <p>15-minute presentation + 5-minute Q&A Paul Lyda, OSU, “Friction Stir Welding for Armor Applications Phase III” Shutong Zhang, OSU, “Exploration and Development of New Technologies for Coke Drum Fabrication and Repair”</p>
10:40 – 11:10 am	Poster Session – Material/ Joint Performance
HOT TOPICS / LUNCH	
11:15 am-12:45 pm	<p>presentations on relevant topics from researchers new to the center 10-minute presentation + 5-minute Q&A</p> <p>Stephen Tate, EPRI, “Advanced Manufacturing in ASME Code” Roger Kyle Vandergriff, CSCC, “TBA”</p>
12:45 – 1:00 pm	BREAK
PROJECT PROPOSALS & EXTENSIONS	
1:05 – 2:05 pm	<p><i>Proposal: 5-minute presentation, 5-minute Q&A</i> <i>Extension: 3-minute presentation, 2-minute Q&A</i></p>
MODELING	
2:05 – 2:40 pm	<p>Chair: Adam Hope, Thermo-Calc; Dan Tung, Sandia; San Goorochurn, ESI Co-Chair: Zhenzhen Yu</p> <p>Thrust Area Update (5-minutes)</p> <p>Student Presentations 15-minute presentation + 5-minute Q&A</p> <p>Eric Brizes, OSU, “Integrated Modeling Framework for Automotive Multi-Process Joining” Luc Hagan, CSM, “Characterization of Direct Energy Deposition for Pressure Boundary Components”</p>
2:40 – 2:45 pm	BREAK

CENTER ADMINISTRATION	
2:45 – 3:45 pm	Separate IAB, PI & Student meetings Attendees will be sent to appropriate breakout rooms for discussion
5:30 – 7:30 pm Dinner & Networking	Location - TBD

DAY 2: Wednesday, June 8, 2022 all times EST	
7:00 – 8:00 am	Breakfast & Registration All attendees are asked to sign in both days Non-members will be required to sign a non-disclosure agreement
8:00 – 8:10 am	Morning Kickoff & Recap Jorge Penso , Shell, IAB Chair Martin McDonnell , GVSC, IAB Co-Chair Antonio Ramirez , OSU, Ma ² JIC Director
MATERIALS/MICROSTRUCTURE/WELDABILITY	
8:10 – 9:30 am	Chair: Jeff Rodelas, Sandia; Ravi Menon, ESAB Co-Chair: Carolin Fink, OSU; Elliot Biro, UW Thrust Area Update (21-minutes) Student Presentations 15-minute presentation + 5-minute Q&A Andres Acuna , OSU, “Welding of Hyper-Duplex Stainless Steels” Bryan Lara , OSU, “Development of Interlayer Technology to Join Advanced Materials for the Transportation Industry” Joris Hohanadel, Sydney Coates , OSU, “Development of Computational Tools for Determining Process Conditions for Laser and Electron Beam Welding of Strategic Materials – Phase II”
9:30 – 10:00 am	POSTER SESSION – Materials/Microstructure/Weldability
ADDITIVE MANUFACTURING/PROCESS DEVELOPMENT/CONTROL	
10:00 – 11:40 am	Chair: Andrzej Nycz, ONRL; Stephen Tate, EPRI Co-Chair: Bill Hamel, UTK; Bradley Jared, UTK Thrust Area Update (24-minutes) Student Presentations

	<p>15-minute presentation + 5-minute Q&A</p> <p>Devon Goodspeed, Shems Belhout, UTK, “Adaptive Welding for Power Plant Piping and Pressure Vessels (AW-PPV)”</p> <p>Jerry Kovacich, OSU, “Anviloy Die Cladding for Heat Checking Resistance Phase 2 -Robotic GMA-P DED Procedures and Microstructure Performance Evaluation”</p> <p>Flint Colvin, OSU, “Develop Process for Joining of Metallized Polymer Current Collectors for Li-ion Batteries – Phase I”</p> <p>Matthew Roach, Aaron Cornelius, Logan McNeil, UTK, “Innovative Fabrication and Repair of Aerospace Invar Molds using Large Scale Additive Metals Manufacturing Methods”</p>
11:40 am–12:10 pm	POSTER SESSION – Additive Manufacturing/Process Development/Control
12:15 – 1:30 pm	LUNCH
CENTER ADMINISTRATION	
1:30-2:15 pm	<p>Reports from Separate IAB, PI, & Student Meetings</p> <p><i>10-minutes per group + 5-minute discussion</i></p>
2:15 – 2:30 pm	STUDENT AWARDS
MEETING WRAP UP	
2:30 – 2:45 pm	<p>Attendee Feedback Survey</p> <p>Tiffany M. Norman</p> <p>IAB Pulse Survey</p> <p>Meeting Wrap Up</p> <p>Antonio Ramirez, OSU, Ma²JIC Director</p>
3:00 – 4:30 pm	<p>TOUR (optional)</p> <p>University of Tennessee, Knoxville Labs</p> <p>Machine Tool Research Center, MakerLab, and Welding Laboratory</p> <p>*rsvp required - https://osu.az1.qualtrics.com/jfe/form/SV_8cRrfsfJuW5H3qm</p>
DAY 3: Thursday, June 9, 2022 - OPTIONAL all times EST	
8:00 – 9:30 am	<p>TOUR (optional)</p> <p>Manufacturing Demonstration Facility</p> <p>Oak Ridge National Laboratory</p> <p>*rsvp closed.</p>