

## AGENDA - DRAFT

**Date:** June 26-29, 2023  
**Venue:** Colorado School of Mines  
Ben H. Parker Student Center  
1516 Maple St, Golden, CO 80401  
Antonio mobile (614)971-0788  
Heather mobile (443) 204-7539



American Welding Society






### JUNE 2023 IAB Meeting of the NSF I/UCRC: Ma<sup>2</sup>JIC

Welcome Reception: Monday, June 26, 2023 (all times MDT)	
7:30 - 9:30pm	 <b>Denver Marriott West</b> 1717 Denver West Boulevard, Golden, CO 80401 (appetizers + cash bar)
Ma <sup>2</sup> JIC Meeting Day 1: Tuesday, June 27, 2023 (all times MDT)	
7:00 – 8:00 am	<b>Breakfast &amp; Registration</b> All attendees are asked to sign in and will receive an agenda
8:00 – 8:05 am	<b>Introduction</b> Jorge Penso, Shell, IAB Chair Martin McDonnell, GVSC, IAB Co-Chair Antonio Ramirez, OSU, Ma <sup>2</sup> JIC Director
8:05 – 8:10 am	<b>Welcome</b> Richard Holz, Provost of CSM
8:10 – 8:35 am	<b>Keynote:</b> Michael Kaufman, Co-Director of Materials and Energy Initiatives and Professor at Metallurgical and Materials Engineering
8:35 – 9:00 am	<b>Ma<sup>2</sup>JIC Center Update:</b> Antonio Ramirez, OSU, Ma <sup>2</sup> JIC Director
9:00 – 9:20 am	<b>Prakash G. Balan</b> , Program Director, National Science Foundation
9:20 – 9:40 am	<b>Overview of Airtable form feedback process</b> Pete He, PhD, Ma <sup>2</sup> JIC Assessment Coordinator National Science Foundation
9:40 – 9:50 am	<b>Student Award Criteria Review</b> Stephen Tate, EPRI
9:50 – 10:00 am	<b>Break</b>
ADDITIVE MANUFACTURING/PROCESS DEVELOPMENT/CONTROL	
10:00 – 11:05 pm	<b>Chair:</b> Andrzej Nycz, ORNL; Stephen Tate, EPRI <b>Co-Chair:</b> Bradley Jared, UTK  <b>Thrust Area Update (10 -minutes)</b> Andrzej Nycz, ORNL  <b>Student Presentations (1 presentations)</b> 15-minute presentation + 5-minute Q&A  <i>Adhirup Saha, 02-PSU-102020, Role of Beam Manipulation on Enhancing Keyhole Stability and Producing Defect-Free Laser Welds in Aluminum Alloys</i>  10-minute presentation + 5-minute Q&A  <i>Gao Mingze, 06-PSU-2021, Controlling Solidification and Selective Alloying Element Vaporization in the Additive Manufacturing of High Strength Aluminum Alloys</i>  <i>Hanwen Yang 06-UW-2022, Novel Laser Welding Methods for Energy and Transportation</i>

	<p><i>Alam Taosif, 02-OSU-2022, Understanding nugget formation and microstructure evolution in multilayer welds of battery fields</i></p> <p><i>Dylan Lewis &amp; Devon Goodspeed, 10—UTK-2022, Adaptive Welding for Power Plant Piping and Pressure Vessels</i></p>
11:05 – 11:25 pm	Poster Session - Additive Manufacturing/Process Development/Control
<b>LUNCH &amp; HOT TOPIC PRESENTATION</b>	
11:30-12:00 pm	Break and Food Buffet (Ballroom C)
12:00 –12:40 pm	<p>Intro: Jorge Penso, Shell, IAB Chair</p> <div>  <p><b>Hot Topic: 15-minute presentation + 5 mins Q&amp;A</b>  <b>Aming Hu, University of Tennessee, Knoxville, High-power femtosecond laser-induced additive manufacturing, surface coating, and dissimilar joining</b></p> </div> <div>  <p><b>Hot Topic: 15-minute presentation + 5 mins Q&amp;A</b>  <b>Reginald Hamilton, Pennsylvania State University,</b></p> </div>
12:40 –12:50 pm	GROUP PHOTO
<b>PROJECT PROPOSALS &amp; EXTENSIONS</b>	
12:50 – 1:50 pm	<p><i>Proposal: 10-minute presentation + 5-minute Q&amp;A (brief presentation)</i>  <b>Jonah Klemm-Toole, Los Alamos &amp; Fortius Metals</b></p> <p><b>Jonah Klemm-Toole &amp; Zhenzhen Yu, NIST + several other IAB members</b></p> <p><b>Dr. Zhili Feng &amp; Prof. Yanfei Gao, TBD</b></p> <p><i>Project Extensions: 5-minute presentation + 5-minute Q&amp;A (brief presentation)</i>  <b>Todd Palmer, PSU, 02-PSU-102020, Role of Beam Manipulation on Enhancing Keyhole Stability and Producing Defect-Free Laser Welds in Aluminum Alloys</b></p>
1:50– 2:00 pm	Break
<b>CENTER PEER MEETINGS</b>	
4:20 – 5:20 pm	<p><b>Separate IAB, PI &amp; Student meetings</b></p> <p><b>IAB Members &amp; Industry Guests</b>  ROOM: Ballroom A  Notes taker: TBD</p> <p><b>PI – Zhenzhen Zu</b>  ROOM: Ballroom B&amp;C  Notes taker: CSM Student</p> <p><b>Students</b>  ROOM: BE 204  Notes taker: Jacques Berkson to tell us who will take notes</p>

6:00 – 9:00 pm	 <p>Dinner &amp; Networking  Buffalo Rose: 1119 Washington Ave, Golden, CO  80401 (3 min walk from CSM)  (Dinner + cash bar)</p>
<b>Ma<sup>2</sup>JIC Meeting Day 2: Wednesday, June 28, 2023 (all times MDT)</b>	
7:00 – 8:00 am	<b>Breakfast &amp; Registration</b> All attendees are asked to sign in both days Non-members will be required to sign a non-disclosure agreement before meeting
8:00 – 8:05 am	<b>Morning Kickoff &amp; Recap</b>  Jorge Penso, Shell, IAB Chair Martin McDonnell, GVSC, IAB Co-Chair Antonio Ramirez, OSU, Ma <sup>2</sup> JIC Director
<b>MATERIAL/JOINT PERFORMANCE</b>	
8:05 – 9:10 am	<b>Chair:</b> Steve Levesque, EWI, <b>Co-Chair:</b> Boian Alexandrov, OSU  <b>Thrust Area Update (10-minutes)</b> Steve Levesque, EWI <b>Student Presentations (2 presentations)</b> 15-minute presentation + 5-minute Q&A  <i>Jacque Berkson, 03-OSU-032019, Exploration and Development of New Technologies for Coke Drum Fabrication and Repair</i>  <i>Wenguang Liao, 05-OSU-2021, Effect of Niobium on the Weld Metal Toughness of Pipeline Steels: Phase III</i>  <i>Will Siefert, 01-OSU-022020, Qualification of Dissimilar Metal Welds for Service in Hydrogen Containing Environment Phase II: Dissimilar Metal Welds with Improved Resistance to Hydrogen Assisted Cracking</i>  10-minute presentation + 5-minute Q&A <i>Giacomo Melaragno, 01-OSU-2022, Design and Additive Manufacturing of Functionally Graded Components for Olefin Furnaces</i>
9:15 - 9:35 am	<b>Poster Session - Material/Joint Performance</b>
<b>MODELING</b>	
9:40 – 10:35 am	<b>Chair:</b> Adam Hope, Thermo-Calc; <b>Co-Chair:</b> Andres Acuna, Lincoln Electric, Co-Chair: Zhenzhen Yu, CSM  <b>Thrust Area Update (5 -minutes)</b> Adam Hope, Thermo-Calc  <b>Student Presentations (3 presentations)</b> 15-minute presentation + 5-minute Q&A (1 presentation)  <i>Yuxiang Luo, 04-OSU-062020, Computational modeling on the Temperbead Welding Phase II</i>
10:40 – 11:00 am	<b>Poster Session - Modeling</b>
11:05 – 11:35 am	<b>Boyd, Pantan, Road Mapping Update</b>

LUNCH & HOT TOPIC PRESENTATION	
12:35 – 1:05 pm	Break and Food Buffet (Ballroom C)
1:05 – 1:25 pm	 <p> <b>Introduction:</b> Jorge Penso, Shell, IAB Chair  <b>Hot Topic:</b> 15-minute presentation + 5 min Q&amp;A  <b>Dr. Joy Gockel</b>, Colorado School of Mines, Additive Manufacturing </p>
MATERIALS/MICROSTRUCTURE/WELDABILITY	
1:30 – 2:30 pm	<p> <b>Chair:</b> Jeff Rodelas, Sandia; Ravi Menon, ESAB Co-Chair: Carolin Fink, OSU; Elliot Biro, UW  <b>Thrust Area Update</b> (10-minutes)  <b>Ravi Menon</b>, ESAB </p> <p> <b>15 min presentations + 5 minute Q&amp;A:</b>  <i>Dileep Ramachandran</i>, 02-UW-062020, <i>Understanding and controlling transformations in the HAZ of 3G AHSS. [final presentation]</i>   <i>Elizabeth Heon</i>, 03-UTK-2022, <i>ICME Development of Al-alloys for Welding and Additive Manufacturing Applications</i>   10 min presentation + 5 min Q&amp;A:  <i>Juan Gonzalez</i>, 20-CSM-2023, <i>Weldability and Creep Performance of Additively Manufactured Austenitic Stainless Steels</i>  <i>Ania Grimm</i>, 09-OSU-CSM-2022, <i>Inoculated High Strength Aluminum Wire Feedstocks for Welding and DED</i>  <i>Joris Hohanadel</i>, 08-OSU-2021 <i>Development of Computational Tools for Determining Process Conditions for Laser and Electron Beam Welding of Strategic Materials – Phase II</i> </p>
2:35 – 2:55 pm	Poster Session - Materials/Microstructure/Weldability
CENTER PEER FEEDBACK	
3:00 – 4:00 pm	<p> <b>Reports from Separate IAB, PI, &amp; Student Meetings</b>  15-minutes per group + 5-minute discussion </p> <p> IAB : Jorge Penso,  PI: Zhenzhen Zu  Students: Jacque Berkson </p>
4:05-4:25 pm	STUDENT AWARDS
MEETING WRAP UP	
4:30 – 4:40 pm	<p> <b>Meeting Wrap Up</b>  Antonio Ramirez, OSU, Ma<sup>2</sup>JIC Director </p>
4:40 – 5:00 pm	<p> <b>Attendee Feedback Survey</b>  Heather Spisak  </p> <p> Member Benefits Survey  Years 2 &amp; 4 </p> <p> IAB Pulse  Years 1,3 &amp; 5  </p>

	Faculty Survey Phase I Years 2,3,4,5 
	Faculty Survey Phase II & III Years 2,3,4,5 
	Student Survey Years 2,3,4,5 
<b>MEETING ADJOURN (<i>no evening event</i>)</b>	
<b>Ma<sup>2</sup>JIC Meeting Day 3: Thursday, June 29, 2023 (all times MDT)</b>	
7:30-8:00 am	Breakfast & Registration
8:00-9:30 am	 <b>Thermo-Calc Short Course &amp; Capabilities</b> 60 -minute presentation + 30 mins Q&A <b>Adam Hope</b> , Technical Sales and Support, Thermo-Calc Software Inc
9:35 – 11:05 am	 <b>Gleeble Short Course &amp; Capabilities</b> 60-minute presentation + 30 mins Q&A <b>Todd A. Bonesteel</b> , Gleeble Historian, Dynamic Systems Inc
11:05 –11:35 pm	Lunch
11:45 –12:15 pm	Trasport to Fortius Metals
12:30 – 2:30 pm	Tour at Fortius Metals
2:45 – 3:30 pm	Trasport to Denver West Marriott and/or Colorado School of Mines