

Spring

EWI MEMBER DAY

Virtual Event

May 11, 2021 | 10AM - 2PM EST

AGENDA

10:00 AM	Welcome, <i>Henry Cialone, CEO</i>	
10:20 AM	Internal Innovation Update, <i>Steve Levesque</i>	
10:50 AM	Break	
11:00 AM	Break-out Session 1 (Choose one session to attend. See page 2 for details.)	
	Topic 1:	Materials Integrity Knowledge Gaps in the Emerging Hydrogen Economy <i>Josh James, Principal Engineer, SI & Modeling</i>
	Topic 2:	Polymer to Metal Joining: Applications and Challenges <i>Jeff Ellis, Senior Technology Leader, Ultrasonics</i>
	Topic 3:	Applications of Data Science: Bringing high Quality Manufacturing Processes into the 21st Century <i>Alex Kitt, EWI Director of Data Science</i>
	Topic 4:	EWI Membership Benefits Explained <i>EWI Membership Team</i>
12:00 PM	Break-out Session 2 (Choose one session to attend. See page 3 for details.)	
	Topic 1:	Improved Quality Assurance of Battery Tab Welds Through Real-time, In-line Process Monitoring <i>Lindsey Lindamood, Applications Engineer, Ultrasonics</i>
	Topic 2:	Training Your Workforce for the Technologies of Tomorrow <i>Panel discussion moderated by Susan Witt, Manager Industrial Training</i>
	Topic 3:	Tele-manufacturing: Developing New Tools to Enable Equipment Operation from Remote Locations <i>Connie Reichert LaMorte, Principal Engineer, Design Controls and Automation</i>
	Topic 4:	Joining of Dissimilar Polymers: Moving to the Next Level <i>Miranda Marcus, Senior Engineer, Ultrasonics</i>
1:00 PM	Video Tours of Columbus and Buffalo Laboratories	
1:30 PM	Wrap-up and Questions	

BREAKOUT SESSION 1

Please choose one session to attend.

TOPIC 1:

Materials Integrity Knowledge Gaps in the Emerging Hydrogen Economy

Due to several coinciding economic, environmental, and regulatory factors, hydrogen is re-emerging as an attractive fuel source for future utility. Switching to high hydrogen fuel sources, however, will not be a simple shift. Among the principal technological concerns are hydrogen-related integrity threats to infrastructure especially if legacy pipelines are to be converted for transportation. It is uncertain that natural gas pipelines would be fit for service if switched to high hydrogen fuel blends. To provide confidence in the face of a probable shift toward hydrogen as a utility fuel, research would be required by industry partners to ensure safe operation of pre-existing and new construction pipelines and storage facilities.

Presented by: Josh James, Principal Engineer, SI & Modeling

TOPIC 2:

Polymer to Metal Joining: Applications and Challenges

The use of thermoplastic composites (TPC) for products in the aerospace, automotive, and O&G markets is continuing to accelerate. These materials have advantages of being lightweight and durable, and they do not corrode. For many applications, metals are used for the structural component, while TPCs are used as skins. This combination of materials brings new joining challenges. This talk will cover the following polymer to metal joining topics: (1) The fundamentals of surface science, (2) Manufacturing processes, and (3) Characterization techniques.

Presented by Jeff Ellis, Senior Technology Leader, Ultrasonics

TOPIC 3:

Applications of Data Science: Bringing high Quality Manufacturing Processes into the 21st Century

EWI is applying data science to help our customers in new ways. This session will provide an overview of three use cases, including in-process quality control for battery tab welding, process model validation using process monitoring for large format additive, and predicting fatigue properties based on surface finish using a Bayesian model

Presented by: Alex Kitt, EWI Director of Data Science

TOPIC 4:

EWI Membership Benefits Explained

New to EWI membership or need a benefits refresher? Join this breakout session to talk to the membership team for a full explanation of your EWI benefits. The team will provide an overview of library services, technical inquiries, design reviews, and more. There will be time at the end of this interactive session for Q&A.

Presented by: The EWI Membership Team

BREAKOUT SESSION 2

Please choose one session to attend.

TOPIC 1:

Improved Quality Assurance of Battery Tab Welds Through Real-time, In-line Process Monitoring

Ultrasonic metal welding (UMW) is becoming a more broadly used technology for joining ductile materials, especially in the electric vehicle sector. The process, however, lacks monitoring capabilities that would improve confidence in the repeatability of welded joints. EWI is leveraging existing sensors and system signals from ultrasonic metal welders to apply machine learning techniques to production monitoring and quality control.

Presented by: Lindsey Lindamood, Applications Engineer, Ultrasonics

TOPIC 2:

Training Your Workforce for the Technologies of Tomorrow

Training can help prepare your technical staff to use new and emerging manufacturing technologies. Join EWI and industry experts as they discuss the workforce challenges in their own sectors and how training helps them address the growing skills gap in manufacturing.

Panel discussion moderated by Susan Witt, Manager, Industrial Training

TOPIC 3:

Tele-manufacturing: Developing New Tools to Enable Equipment Operation from Remote Locations

Tele-manufacturing offers the ability to accurately transfer manual skillsets from local personnel to remote automated systems. EWI has been innovating in tele-manufacturing over the past two years by developing a tele-presence welding system. Tele-welding allows a worker to operate welding equipment from a remote location while still in control of the welding process and torch movements. By providing a functional system for “distance welding,” tele-welding supports workers – younger, older, persons with disabilities – who may not otherwise be able to serve productively in manufacturing and helps address today’s chronic shortage of skilled welders in the labor pool.

Presented by: Connie Reichert LaMorte, Principal Engineer, Design Controls and Automation

TOPIC 4:

Joining of Dissimilar Polymers: Moving to the Next Level

As polymer materials and products become more complex, the need for high strength, light weight, bonding of dissimilar plastics increases. Whether joining a specialized membrane to a frame or an extruded component to an injection molded part, these dissimilar plastic joints create unique problems. Not only must the miscibility of the two materials be considered, but so does the relative viscosity of the polymer melts. EWI already understands the dynamics of dissimilar polymer bonding and is now developing a prototype welding solution for dissimilar polymer joining applications through our internal research and development program, to support a faster launch of your new products.

Presented by: Miranda Marcus, Senior Engineer, Ultrasonics

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