



You're Invited:

Materials Joining: Building for the Manufacturing Future

Mark Your Calendar - May 8-9, 2007

EWI will host its biennial two-day technology conference at the Greater Columbus Convention Center in Columbus, OH. Manufacturers faced with new technical and financial challenges will want to take advantage of this opportunity to discuss and review the latest developments and applications in materials joining and allied technologies. In addition to nearly 60 technical presentations, the 2007 program offers networking opportunities, a half-day tour of EWI facilities, a poster session, and demonstrations of advanced technologies.

Who Should Attend?

- R&D Engineers
- R&D Managers
- Product Planners
- Product Engineers
- Design Engineers
- Welding Engineers
- Materials Engineers
- Industrial Engineers
- Manufacturing Engineers
- Chief Engineers
- Plant Managers
- Production Managers
- Manufacturing Engineering Management
- Executive Management

Registration Fees*:

EWI Members and Ohio businesses	\$175 per person
Non-EWI members outside of state of Ohio	\$250 per person
University students	\$ 30 per person

Pre-Registration Required.
*includes continental breakfasts, luncheons and reception.



Register Online Today: www.ewi.org/conference07/

Tuesday, May 8, 2007

7:00-8:00 a.m. Check-in, Registration, and Continental Breakfast

8:00

WELCOME and OPENING REMARKS - Henry Cialone, President & CEO, EWI

Keynote Speaker: Lt. Governor Lee Fisher, Director of Ohio Department of Development

FUEL CELL MANUFACTURING PROCESSES

Session Chair: Stan Ream, EWI

NEW AUTOMOTIVE MATERIALS AND PROCESSES: PART 1

Session Chair: Jon Jennings, EWI

ADVANCED MANUFACTURING PROCESSES: PART 1

Session Chair: Nate Ames, EWI

9:00

Fuel Cell Manufacturing Challenges

Presenter: Stan Ream, EWI

Advances in Laser Welding Technology for Automotive Body in White Assembly Applications

Presenter: Mariana Forrest, DaimlerChrysler Corp.

Ultrasonic Additive Manufacturing

Presenter: Matt Short, EWI

9:30

Joining: A Key for Fuel Cell Manufacturing and Performance

Presenter: Rodger McKain, SOFCo-EFS Holdings LLC

Development of Deformation Resistance Welding for Automotive Tubular Structural Applications

Presenter: Menachem Kimchi, EWI

Friction Stir Welding of Ti-6Al-4V Structural Components

Presenter: Jeff Bernath, EWI

10:00

High Speed Laser Welding for Fuel Cell Applications

Presenter: Jay Eastman, EWI

High Productivity Methods for Joining Magnesium

Presenter: Jerry Gould, EWI

A Hybrid Laser+GMAW Process for Control of High Speed Welding Defects

Presenter: Prof. Dave Farson, OSU

10:30

BREAK

11:00

Laser Ablation Milling for Fuel Cell Plates

Presenter: Larry Dossier, Mound Laser Processing

The Ultrasonic Weldability of Metals

Presenter: Matt Bloss, EWI

Friction Stir Welding and Processing: New Opportunities for Precision Manufacturing

Presenter: Dr. Boian Alexandrov, OSU

11:30

Metal Forming Simulation for Fuel Cell Plates

Presenter: Wei Gan, EWI

Friction Stir Welded Thin Sheet Age Hardenable Aluminum Alloys

Presenter: Alpeh Shukla, EWI

Thermal Plate Forming

Presenter: John Coffey, EWI

Noon

KEYNOTE LUNCH - Jim Reeb, Caterpillar Inc.: Workforce Requirements for the Manufacturing Future

ENERGY PRODUCTION AND TRANSFER

Session Chair: Nate Ames, EWI

NEW AUTOMOTIVE MATERIALS AND PROCESSES: PART 2

Session Chair: Jon Jennings, EWI

ADVANCED MANUFACTURING PROCESSES: PART 2

Session Chair: Menachem Kimchi, EWI

1:30

Developing Joining Technologies to Enhance Global Competitiveness in the Nuclear Energy Renaissance

Presenter: Jeff Kikel, BWXT

Springback Prediction for Advanced High Strength Steels

Presenter: Wei Gan, EWI

Recent Advancements In Eddy Current Inspection Techniques

Presenter: Evgueni Todorov, EWI

2:00

Innovative Joining Processes for Small to Medium Diameter Pipelines

Presenter: Ian Harris, EWI

Resistance Welding of High Strength Steels

Presenter: Warren Peterson, EWI

Electromagnetically Driven Impact: Applications in Metal Joining, Forming & Processing Sheet Metal

Presenter: Prof. Glenn Daehn, OSU

2:30

Development of Consumables for Narrow Groove X100 Pipeline Girth Welds

Presenter: Sue Fiore, EWI

Matrix Phased-Array Examination of Advanced High Strength Steel Spot Welds

Presenter: Mark Lozew, EWI

Process Synergy in Hybrid Laser Welding

Presenter: Brian Victor, EWI

3:00

BREAK

3:30

Burnthrough Prediction for In-service Welds based on Thermal-Mechanical Finite Element Analysis

Presenter: Wei Zhang, EWI

Feasibility Demonstrations of New Joining Technologies for Lightweight Automotive Structures

Presenter: Joel Troyer, EWI

Horizontal-Position Tandem Gas Metal Arc Welding

Presenter: Brad Nagy, EWI

4:00

Mechanisms & Detection of Hydrogen Induced Cracking in Fossil Fuel Power Plant Steel Weldments

Presenter: Pratik Patel, EWI

Arc Welding of Advanced High Strength Steels

Presenter: Suresh Babu, EWI

Advanced Applications of Magnetic Pulse Forming

Presenter: Peihui Zhang, EWI

4:30

Automated Corrosion Repair

Presenter: Connie Reichert LaMorte, EWI

Development of Sensor Fusion Algorithms for Automated GMAW Process Monitoring

Presenter: Paul Boulware, EWI

Residual Stress and Distortion Modeling of Laser Additive Manufacturing Processes

Presenter: Yu-Ping Yang, EWI

5:00

-6:30

NETWORKING RECEPTION

Wednesday, May 9, 2007

8:00 a.m. Check-in, Registration, and Continental Breakfast

	WELDING OF LARGE STRUCTURES Session Chair: John Coffey, EWI	JOINING OF MEDICAL DEVICES Session Chair: Candice Mehmetli, EWI	MANUFACTURING CHALLENGES (TRAINING, SAFETY, AUTOMATION) Session Chair: Frank Jakob, EWI	AEROSPACE MANUFACTURING Session Chair: Brian Bishop, EWI
8:30	Welding Challenges Throughout the Lifecycle of Surface Mining Equipment Presenter: David A. Biddle., P&H Mining Equipment	Laser Welding of Nitinol to Stainless Steel Presenter: Jay Eastman, EWI	Impact of the New Cr(VI) Standard, Fumes Characterization Presenter: Sue Fiore, EWI	Application of Novel Repair Methods to Advanced Materials Presenter: Jerry Gould, EWI
9:00	Transient Thermal Tensioning for Control of Buckling Distortion Presenter: Randy Dull, EWI	Laser Ribbon Bonding - The Best of Both Worlds Presenter: David Ruben, Medtronic	Implementation of Electronic Welding Data Management System at US Army Arsenal Presenter: Suhas Vaze, EWI	Breakthrough Designs in Aerospace Presenter: Raj Talwar, Boeing-Phantom Works
9:30	Gas Metal Arc Welding of Thin Titanium Structures Presenter: Nick Kapustka, EWI	Structural Analysis of the Björk-Shiley Convexo-Concave Heart Valve Presenter: Shuchi Khurana, EWI	Virtual Reality Welder Training Presenter: Nancy Porter, EWI	Development of Solid-State Stir Welding Concepts at Marshall Space Flight Center Presenter: R. Jeffrey Ding, NASA Marshall Space Flight
10:00	BREAK			
10:30	Phased-Array Ultrasonic Inspection of Fracture Critical Bridge Members Presenter: Roger Spencer, EWI	Use of Titanium Oxides as Bioadhesion Promoters Presenter: Prof. Mark A. Rueggsegger, OSU	Automated Surface Inspection Applications Presenter: Connie Reichert LaMorte, EWI	Ultrasonic Brazing and Soldering Presenter: Dan Hauser, EWI
11:00	Tandem Submerged Arc Welding Presenter: Nancy Porter, EWI	Laser Surface Texturing and Femtosecond Microprocessing for Biomedical Applications Presenter: Prof. Dave Farson, OSU	Automated Weld Modeling Presenter: Shuchi Khurana, EWI	Precision GMAW for High Alloy Build-Ups Presenter: Nick Kapustka, EWI
11:30	Automated Multi-layer Adaptive Joint Fill Control Presenter: Larry Brown, EWI	Welding of Nanocomposite Polymers Presenter: Sean Flowers, EWI	Tools for Weld Simulation within ABAQUS Presenter: Sumath Khumar, ABAQUS Inc.	Surface Treatments for Adhesive Bonded Titanium Substrates Presenter: David Speth, EWI
Noon	CLOSING KEYNOTE LUNCHEON: Ed Hillstrom, OSU Center for Automotive Research: Buckeye Bullet Electric Land Speed Record Vehicle			

Wednesday, May 9, 2007

1:30 - 4:30 p.m.

Please Join Us At:
The Edison Joining Technology Center
1250 Arthur E. Adams Drive, Columbus, Ohio

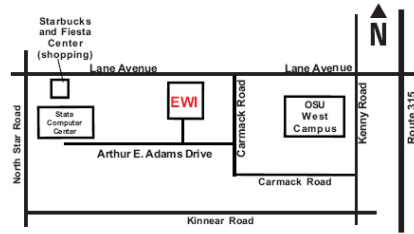
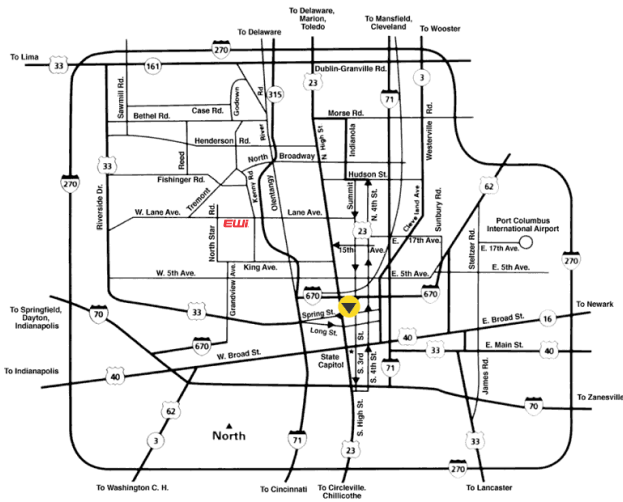


- Tours and Live Technology Demonstrations
- Poster Presentations
 - EWI and OSU Welding Engineering and Materials Science Depts
- OSU CAR Project Team Displays (Buckeye Bullet electric land speed record vehicle, Formula SAE, SAE Mini Baja, DOE/GM ChallengeX hybrid-electric vehicle, and solar car). Actual displays subject to vehicle availability.



Greater Columbus Convention Center
500 North High Street
Columbus, Ohio 43215
 (www.columbusconventions.com)

EWI
1250 Arthur E. Adams Drive
Columbus, Ohio 43221
614-688-5000
 (www.ewi.org)



Located off Rt. 315 at Lane Avenue Exit. Continue on Lane Avenue to Carmack Rd. Turn left. Next right is Arthur E. Adams Drive. Turn right. EWI is the first building on right (1250 Arthur E. Adams Dr.).

From Port Columbus: I-670 West, Exit "4-B" to the Columbus Convention Center

From Cleveland: I-71 South to West on I-670 "109-A" to Exit "4-B" to the Columbus Convention Center or I-71 South to Spring Street Exit; West on Spring Street to Fourth Street; North on Fourth Street to Nationwide Boulevard.

Cincinnati: I-71 North to I-70 East to Fourth Street Exit; North on Fourth Street to Nationwide Boulevard.

Indianapolis: I-70 East to Fourth Street Exit; North on Fourth Street to Nationwide Boulevard.

Wheeling: I-70 West to Fourth Street Exit; North on Fourth Street to Nationwide Boulevard.

From the East: Enter Columbus via Interstate 70. From Westbound 70 take 315 North.

From the West: Enter Columbus via Interstate 70. From Eastbound 70 take 670 East to 315 North.

From Port Columbus Airport: Exit airport and follow signs to 670 West. Take 670 West and exit onto Route 315 North.

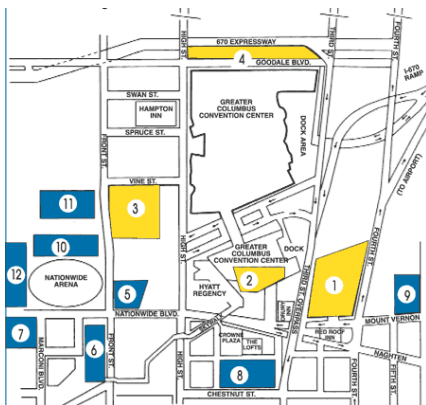
From the North: Enter Columbus via Interstate 71. From Southbound 71 take I-270 West to 315 South.

From the Northwest: From I-75 South merge onto OH-15 E via Exit 156 toward US-23. Take Route US 23 South to I-270 West and exit onto Route 315 South.

From the South: Enter Columbus via Interstate 71. From Northbound 71 take 315 North.

Greater Columbus Convention Center to EWI:

Start at 500 N High St., Turn Left Goodale St - Go 0.7 Mi. Continue on Goodale Neil Conn - Go 0.2 Mi. Turn Right onto OH-315 North - Go 2.3 Mi. Take Ramp toward W Lane Ave - Go 0.2 Mi. Turn Left on W Lane Ave - Go 0.6 Mi. Turn Left on Carmack Rd - Go 0.2 Mi. Turn Right on Arthur E Adams Dr - Go 0.1 Mi. Arrive at 1250 Arthur E Adams Dr, Columbus.



Parking Lots:

- Lot No. 3 - West Garage and Surface Lot (main Convention Center Parking)
- Lot No. 4 - North Surface Lot (closest to EWI activities)

Conference Hotel

The Hampton Inn & Suites Columbus-Downtown
 501 North High Street, Columbus, Ohio, 43215
 Tel: +1-614-559-2000 Fax: +1-614-559-2001
 Room rate is \$139 per night.

For other hotels near the Convention Center and located near EWI, please see: www.ewi.org/conference07/

