

# AEWG-65 Agenda

May 13-14, 2025

Chicago

Times are in US Central Time

Monday, May 12, 2025

6:00-9:00PM	Welcome Reception
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Tuesday, May 13, 2025, Discovery Partners Institute (DPI) - 200 S Wacker Dr

8:30-9:00 AM	<b>Breakfast and Registration</b>
9:00-9:30AM	<b>Welcome and Introductions</b> <i>Valery Godinez, Chairman of AEWG</i> <b>Welcome Remarks by UIC and DPI</b> <i>Brad Spurrison, DPI's Corporate Engagement Lead</i> <i>Didem Ozevin, Meeting Chair</i>
9:30-10:20AM	<b>Keynote Presentation – Dr. Alex Heifetz</b> NDE of Nuclear Structures
10:20-10:40AM	<b>Tea and Coffee Break</b> <b><i>AEWG Awards Committee Meeting (by invitation)</i></b>

<b>10:40-12:30 PM Session 1: AE Applications in Challenging Environments</b> <b>Session Chair:</b> Valery Godinez		
S1-1	10:40-11:00AM	Acoustic Emission Testing and Monitoring of Morris Type Hydroelectric Turbines <b>Presenter:</b> Obdulia Ley, MISTRAS Group, US
S1-2	11:00-11:20AM	Monitoring Advanced Nuclear Reactor Piping System with Acoustic Emission <b>Presenter:</b> Didem Ozevin, University of Illinois Chicago, US
S1-3	11:20-11:40AM	Using Acoustic Emissions to Monitor Recycled Polymer Filament Production for Deep Space Exploration <b>Presenter:</b> Daniel Brudniak, University of Illinois Chicago, US
S1-4	11:40-12:00PM	Recent Advancements in Acoustic Emission for Rock Fracture Monitoring <b>Presenter:</b> Omid Moradian, New Mexico Tech, US
S1-5	12:00-12:30PM	<b>Panel Discussion</b> on Advancing AE Applications on Nuclear Energy and Space Exploration

	12:30-1:20PM	<b>Lunch</b> <i><b>AEWG Nominating Committee Meeting (by invitation)</b></i>
<b>1:20-2:40 PM      Session 2: Adrian Pollock Student Paper Submissions</b> <b>Session Chair:</b> Antonios Kontsos		
S2-1	1:20-1:40PM	A machine learning approach to tool state classification utilising in-process acoustic emission features <b>Presenter:</b> Thomas Jessel, Cardiff University, UK
S2-2	1:40-2:00PM	Generating Continuous Wavelet Transform Images of Acoustic Emission Signals using Diffusion-based Generative Artificial Intelligence <b>Presenter:</b> Pedram Bazrafshan, Drexel University, US
S2-3	2:00-2:20PM	Damage Classification in Coal Reinforced Polymer Composites using Acoustic Emission <b>Presenter:</b> Cheosung O'Brien, Ohio University, US
S2-4	2:20-2:40PM	Acoustic Emission Monitoring at the Edge for Real-Time Artificial Intelligence Applications <b>Presenter:</b> A. Ben Sidhom, Rowan University, US
	2:40-3:00PM	<b>Tea and Coffee Break</b> <i><b>AEWG Executive Committee Meeting (by invitation)</b></i>
<b>3:00-4:40 PM      Session 3: AE Applications for Composites</b> <b>Session Chair:</b> Obdulia Ley		
S3-1	3:00-3:20PM	Design of High-Pressure Hydrogen Composite Pressure Vessels with Online Monitoring Assumption and Monitoring of Fiber Bundle Fracture <b>Presenter:</b> Yoshihiro Mizutani, Institute of Science Tokyo, Japan
S3-2	3:20-3:40PM	Industrial Applications to Verify the Structural Integrity of CFRP Components Based on the Acoustic Emission Felicity Ratio <b>Presenter:</b> Christopher W. Rowland, Pancom Ltd, UK
S3-3	3:40-4:00PM	Study of Energy Decay of Acoustic emission event <b>Presenter:</b> Sulochana Shrestha, Hexagon Digital Wave, US
S3-4	4:00-4:20PM	Acoustic emission (AE) data analysis of compression after impact (CAI) tests for composite materials <b>Presenter:</b> Mehdi Shahzamanian, University of South Carolina, US
S3-5	4:20-4:40PM	Progress Report on the Testing of COPVs using Acoustic Emission <b>Presenter:</b> Miguel Gonzalez Nunez, MISTRAS Group, US
<b>4:40-5:40 PM      AEWG Business Meeting</b>		
<b>5:40 PM      1<sup>st</sup> Day Meeting Adjourn – Social Gathering</b>		

Wednesday, May 14, 2025, Discovery Partners Institute (DPI) - 200 S Wacker Dr

	8:15-8:45AM	Breakfast
	8:45-8:50AM	Announcements
<b>8:50-11:00 AM Session 4: AE with Artificial Intelligence and Advanced Signal Processing</b> <b>Session Chair:</b> Talha Khan		
S4-1	8:50-9:10AM	Acoustic emission source mechanism identification and damage diagnosis based on physics-guided deep clustering <b>Presenter:</b> Dan Li, Southeast University, China
S4-2	9:10-9:30AM	Coupling Acoustic Emission Monitoring with Physics-Based and AI Modeling for Structural Damage Assessment of Naval Assets <b>Presenter:</b> Antonios Kontsos, Rowan University, US
S4-3	9:30-9:50AM	Real-time Classification of Fatigue Crack Initiation in Aluminum 2024 using Non-Contact Acoustic Emission via Laser Vibrometry <b>Presenter:</b> Brian Wisner, Ohio University, US
S4-4	9:50-10:10AM	Consideration of some alternative metrics for AE source location <b>Presenter:</b> David Kosnik, CTL Group, US
S4-5	10:10-10:30AM	Topology and path planning-aided acoustic emission damage location in large-scale complex structures <b>Presenter:</b> Jia-Hao Nie, Southeast University, China
	10:30-11:00AM	<b>Panel Discussion:</b> How to Contribute the AE Information into Generative AI
	11:00-11:20	<b>Coffee Break</b>
<b>11:20-1:10 PM Session 5: AE Applications in Infrastructures</b> <b>Session Chair:</b> Brian Wisner		
S5-1	11:20-11:40PM	Hearing the Unseen: Acoustic Emission Monitoring in Museum Spaces <b>Presenter:</b> Ashley A. Freeman, Getty Conservation Institute, US
S5-2	11:40-12:00PM	Real-time Defect Detection in Pressure Vessels via Real-Time Acoustic Emission Monitoring <b>Presenter:</b> E Al. Amiri, Rowan University, US
S5-3	12:00-12:20PM	Evaluation of Crack Depth and Repair Material Filling in Concrete Using Rayleigh Wave Amplitude Distribution <b>Presenter:</b> Nobuhiro Okude, Kyoto University, Japan
S5-4	12:20-12:40PM	Digital twin to simulate the propagation of acoustic waves in prestressed concrete elements <b>Presenter:</b> Horst Trattng, Vallen Systeme, Germany

S5-5	12:40-1:00PM	Combined Acoustic Emission and Ultrasonic Measurements During a Four-Point Bending Test on a Reinforced Concrete Beam <b>Presenter:</b> Gerd Manthei, University of Applied Sciences, Germany
S5-6	1:00-1:20PM	Overview of the RILEM New TC on NDT Assessment of 3DCP: A Case Study <b>Presenter:</b> Tomoki Shiotani, Kyoto University, Japan
	1:20-2:00PM	<b>Lunch Break</b>
<b>2:00-4:20 PM      Session 6: Sensors and Instrumentation</b> <b>Session Chair:</b> Horst Trattng		
S6-1	2:00-2:20PM	Some characteristics of the signals obtained from a low mass and small-dimensioned AE sensor <b>Presenter:</b> Marvin A. Hamstad, University of Denver, US
S6-2	2:20-2:40PM	Piezoelectric MEMS Acoustic Emission Sensors <b>Presenter:</b> Yongfang Li, Toshiba Corporation, Japan
S6-3	2:40-3:00PM	Performance Evaluation of a MEMS-Based High-Temperature Acoustic Emission Sensor in harsh Environments <b>Presenter:</b> Talha Khan, University of Illinois Chicago, US
S6-4	3:00-3:20PM	First Characterization of MEMS Acoustic Emission Sensors for Concrete Monitoring <b>Presenter:</b> Anna Sklodowska, BAM, Germany
S6-5	3:20-3:40PM	Acoustic Emission Signature Evaluation & Location of Intensity <b>Presenter:</b> Stan Botten, Independent Oil and Energy Professional, US
S6-6	3:40-4:20PM	Vendor Presentations
<b>4:20-5:20PM      Special Session: Remembering Mark Carlos and Dr. Sotirios Vahaviolos</b>		
6:00-9:00PM		<b>Banquet and Award Presentations at LYRA</b> ( <a href="https://www.lyrarestaurant.com/">https://www.lyrarestaurant.com/</a> )

**Meeting Adjourns**