

Draft Program*



AEWG-60

60th Meeting of the

Acoustic Emission Working Group

June 19 & 20, 2018
The Mills House Hotel
Charleston, South Carolina, USA

Host & Program Chair
Dr. Paul Ziehl



UNIVERSITY OF
SOUTH CAROLINA
College of Engineering
and Computing

**Draft Program is subject to change*

AEWG-60 Program at a Glance*

Monday, June 18		
17:00 – 19:00	Registration & Build-up for Sponsors and Exhibitors	TBD
17:00 – 19:00	Welcome Reception Hors d’oeuvres and cash bar	TBD

Tuesday, June 19		
7:30 – 8:30	Breakfast & Registration	Queen Street Gallery
8:30 – 8:40	Welcome & Opening	Rutledge/Heyward Room
8:40 – 9:10	Keynote	
9:10 – 10:30	Technical Session	
10:30 – 11:00	Morning Break <i>(Awards Committee Meeting)</i>	Queen Street Gallery
11:00 – 12:40	Technical Session continues	Rutledge/Heyward Room
12:40 – 13:40	Lunch <i>(Executive Committee Meeting)</i>	Barbadoes Room
13:40 – 14:40	Company Presentations	Rutledge/Heyward Room
14:40 – 16:00	Technical Session continues	Rutledge/Heyward Room
16:00 – 16:30	Afternoon Break	Queen Street Gallery
16:30 – 17:35	Technical Session continues	Rutledge/Heyward Room
17:35	Adjourn for the day	
	Dinner on your own	

Wednesday, June 20		
7:30 – 8:30	Breakfast & Registration	Queen Street Gallery
8:30 – 9:05	Opening & Keynote	Rutledge/Heyward Room
9:05 – 10:25	Technical Session	
10:25 – 10:55	Morning Break	Queen Street Gallery
10:55 – 12:15	Technical Session continues	Rutledge/Heyward Room
12:15 – 13:15	Lunch <i>(Business Meetings)</i>	Barbadoes Room
13:15 – 14:55	Technical Session continues	Rutledge/Heyward Room
14:55 – 15:25	Afternoon Break	Queen Street Gallery
15:25 – 17:05	Technical Session continues	Rutledge/Heyward Room
17:05 – 17:10	Closing Technical Session	Rutledge/Heyward Room
17:10	Adjourn	
17:30 – 18:30	Cocktails Hors d’oeuvres and cash bar	Beuregard Lounge
18:30 – 20:30	AEWG banquet and Awards Presentation	Planters Suite

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AEWG-60 Technical Program

Tuesday, June 19 – Morning Program*	
<i>Rutledge/Heyward Room</i>	
7:30 – 8:30	Breakfast & Registration <i>Queen Street Gallery</i>
8:30 – 8:40	Welcome & Opening Paul Ziehl
8:40 – 9:10	Keynote Lee Floyd, South Carolina Department of Transportation
9:10 – 10:30	Tech Session I: Infrastructure Chair: <i>(invited)</i>
	Repair effect of ASR Deteriorated RC Bridge Decks with Acoustic Approaches Tomoki Shiotani, Nobuhiro Okude, Takahiro Nishida, Yasushi Tanaka, Shogo Furuno
	Acoustic Emission Monitoring of Detensioning and Transport of Prefabricated and Prestressed Reinforced Concrete Bridge Girders Dryver Huston, Robert Farrell, Dan Orfeo, Robert L. Worley II, Dylan Burns, Tian Xia, Mandar Dewoolkar
	Signal Processing Based Filters for Acoustic Emission Data in Prestressed Concrete Marwa Abdelrahman, Mohamed ElBatanouny, John Rose, Paul Ziehl
	Damage Evaluation of Alkali-Silica Reaction of Confined Concrete Structures Using Acoustic Emission Rafal Anay, Vafa Soltangharai, Lateef Assi, Nolan Hayes, Paul Ziehl, Zhongguo John Ma, Sihem Le Pape
10:30 – 11:00	Morning Break - <i>(Awards Committee Meeting)</i> <i>Queen Street Gallery</i>

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Tuesday, June 19 – Morning Program* (Continued) <i>Rutledge/Heyward Room</i>	
11:00 – 12:40	Tech Session II: Infrastructure (continued) Chair: <i>(invited)</i>
	Fatigue damage characterization of RC slabs considering water infiltration by means of 3D AE tomography Hisafumi Asaue, Tomoki Shiotani, Shintaro Fukumoto, Yasushi Tanaka, Ichiro Iwaki
	Enhanced synchrosqueezed wavelet transform based acoustic emission feature quantification and signal classification for rail crack monitoring Dan Li, Kevin Sze Chiang Kuang, Chan Ghee Koh, and Dong Yang
	Improvement of computation algorithms of AE tomography through damage evaluation for a RC girder joint Riku Murakami, Tomoki Shiotani, Hisafumi Asaue, Katsufumi Hashimoto, Kimble West
	Acoustic Emission Monitoring of a Nuclear Containment Wall during Post-tensioning: Data Mining and Knowledge Discovery Arvin Ebrahimkhanlou, Jongkwon Choi, Dr. Trevor D. Hrynyk, Dr. Salvatore Salamone, Dr. Oguzhan Bayrak
	Blockage Detection in Pipes by Continuous Emission of Acoustic Signal Mohammed Al-Tofan, Mohamed Elkholy, Sahad Khilqa, Lateef Assi, Rafal Anay, Paul Ziehl, M. Hanif Chaudhry
12:40 – 13:40	Lunch - (Executive Committee Meeting) <i>Barbadoes Room</i>

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Tuesday, June 19 Afternoon Program*

Rutledge/Heyward Room

13:40 – 14:40	Company Presentations
14:40 – 16:00	Tech Session III: Aerospace & Composites Chair: <i>(invited)</i>
	AE propagation in CFRP with curved fibers Yoshihiro Mizutani, Takeshi Ashizawa, Akira Todoroki, Yoshiro Suzuki
	Damage identification in composites through acoustic emission monitoring Neha Chandarana, Constantinos Soutis, Matthieu Gresil
	Early-stage Damage Detection using Carbon Nanotube-Embedded Advanced Aerospace Composites Natasha Bradley, Michael Coatney, Asha Hall, Latha Nataraj
	A Review of the Applications of Acoustic Emission Testing in Composite Repair Fady F. Barsoum and Isabel M. McBrayer
16:00 – 16:30	Afternoon Break - (IIIAE Board meeting) <i>Queen Street Gallery</i>

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Tuesday, June 19 Afternoon Program* (Continued)

Rutledge/Heyward Room

16:30 – 17:35	Tech Session IV: Aerospace & Composites Chair: <i>(invited)</i>
	Towards Achieving an Autonomous Acoustic Emission Based Structural Health Monitoring Solution for Aircraft John McCrory, Stephen Grigg, Scott Townsend, Renato Picelli, Alicia Kim, Carol Featherston, Karen Holford, Rhys Pullin
	Acoustic Emission Correlation with Damage Mechanics in a Composite Material Michael Coatney, Mulugeta Haile, Asha Hall, Jin Hyeong Yoo, Natasha Bradley
	Zonal source location of AE events on an airplane elevator using neural network supervised method Vafa Soltangharaei, Rafal Anay, Deepak Begrajka, Michael Van Tooren, Victor Giurgiutiu, Paul Ziehl
17:35 – 17:40	Wrap-Up
17:40	Adjourn for the Day
	Dinner on your own

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Wednesday, June 20 – Morning Program*

Rutledge/Heyward Room

7:30 – 8:30	Breakfast & Registration
8:30 – 8:35	Announcements Paul Ziehl
8:35 – 9:05	Keynote: Historical Perspectives of Guided-Wave AE and New Developments Kanji Ono
9:05 – 10:25	Tech Session V: Sensors/Sensing/Signal Analysis/Modelling Chair: <i>(invited)</i>
	Comparison of Wavenumber Estimate Techniques for Acoustic Wavenumber Spectroscopy Frederick Purcell, Rhys Pullin, Davide Crivelli, Ryan Marks
	Obtaining the sensitivities of an AE sensor based on motions verified by a scanning laser vibrometer Hartmut Vallen
	Piezoelectric Micromachined Acoustic Emission Sensors Minoo Kabir, Hanie Kazari and Didem Ozevin
	A Deep Learning Approach to Localization of Acoustic Emission Sources in Plate-like Structures with One Sensor Arvin Ebrahimkhanlou, Dr. Salvatore Salamone
10:25 – 10:55	Morning Break <i>Queen Street Gallery</i>

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Wednesday, June 20 - Morning Program* (Continued)

Rutledge/Heyward Room

10:55 – 12:15	Tech Session VI: Sensors/Sensing/Signal Analysis/Modelling (Continued) Chair: <i>(invited)</i>
	A study of sludge volume inside crude oil storage tanks using AE technique and thermography Ireneusz Baran, Tomasz Dunaj, Marek Nowak
	Additive Wave Analysis: A Hit Based Approach to Wavestreaming with Acoustic Emission John McCrory, Matthew Pearson, Karen Holford, Rhys Pullin
	Finite element modeling of elastic wave generated by crack growth Li Ai, Rafal Anay, Vafa Soltangharai, Lateef Assi, Paul Ziehl
	Intergranular Stress Corrosion Crack Detection in 304L Stainless Steel Using Acoustic Emission Joseph Hill, Li Ai, Vafa Soltangharai, Paul Ziehl
12:15 – 13:15	Lunch - (<i>Business Meeting</i>) Barbadoes Room

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Wednesday, June 20 Afternoon Program*

Rutledge/Heyward Room

13:15 – 14:55	Tech Session VII: Fatigue/Fracture Chair: <i>(invited)</i>
	Detection and Location of Cracking in Additive Layer Manufacturing Processes using Acoustic Emission Rhys Pullin, Davide Crivelli, John McCrory, Stephen Ball, Damon Northeast, Jonathan Mansell
	General methodical approach to develop suitable classification systems of Acoustic Emission data generated in tribological contacts Knut Wantzen, Tobias Stürmlinger, Chaoqi Wei, Arn Joeger, Albert Albers
	Methodology to Extract Damage-related Signals Embedded into Streamed Acoustic Emission Signals Lu Zhang, Didem Ozevin, David He, William Hardman, Alan Timmons
	Data-driven Fatigue Prognostics Based on Acoustic Emission Monitoring Brian J. Wisner, Konstantinos Baxevanakis, Sara Schlenker, Harsh Baid, Antonios Kontsos
	Vibration Induced Acoustic Emission Waveforms in a Fatigue Crack Md Yeasin Bhuiyan, Victor Giurgiutiu
14:55 – 15:25	Afternoon Break <i>Queen Street Gallery</i>

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Wednesday, June 20 Afternoon Program* (Continued)

Rutledge/Heyward Room

15:25 – 17:05	Tech Session VIII: Fatigue/Fracture (Continued) Chair: <i>(invited)</i>
	Detection of Screw Thread Stripping in Medical Applications using Acoustic Emission Rhys Pullin, John McCroy, Davide Crivelli
	Investigation of Particle Fracture in Aluminum Alloys by Coupling In Situ X-Ray μ-CT with Acoustic Emission Monitoring Brian J. Wisner, Philipp Postada, Markus Sause, and Antonios Kotsos
	Experiments for Analysis of AE Location Arrays Richard Nordstrom, David Kosnik, Horst Trattng
	Fatigue Damage Identification via Post-processing of Microstructure-related Acoustic Emission Data Krzysztof Mazur, Brian J. Wisner, Antonios Kotsos
	Noise Blocking by Metamaterials to Enhance the Crack Detection of AE Method Minoo Kabir, Amir Mostavi, Didem Ozevin
17:05 – 17:10	Closing Remarks
17:10	Adjourn
17:30 – 18:30	Cocktails <i>Beuregard Lounge</i>
18:30 – 20:30	Awards Banquet <i>Planters Suite</i>

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