CONFERECE TOPICS

► Call for Papers: January 2015
► Deadline for Abstract Submissions: June 30, 2015
► Final Programme: December 2015

EXHIBITION – online booking available
NDT service providers, NDT equipment developers and NDT research institutes are invited to present their newest developments, NDT applications and research results:
► more than 300 exhibition booths located on two floors
► well placed between lecture rooms and catering areas
► excellent opportunity to gain new customers and build up new business relationships

Secure your exhibition space in time!

31st Conference of the European Working Group on Acoustic Emission (EWGAE)

September 3 – 5, 2014
Dresden, Germany
www.ewgae2014.com
Venue
Dorint Hotel Dresden
Grunaer Str. 14
01069 Dresden | Germany
http://hotel-dresden.dorint.com

Conference Organisation
Steffi Dehlau
German Society for Non-Destructive Testing (DGZfP e.V.)
Max-Planck-Str. 6
12489 Berlin | Germany
Phone: +49 30 67807-120
Fax: +49 30 67807-129
E-mail: tagungen@dgzfp.de

Registration fee
All fees will be charged in Euro.
Full conference participant 650.00 €*
Students and retired persons 300.00 €*
Accompanying persons 200.00 €**
* including conference attendance, morning and afternoon refreshments, lunch, proceedings on CD-ROM, participation in the social programme
** including lunch breaks and social programme (no participation in the scientific programme)

Cancellation
by July 23, 2014 (receipt at DGZfP): 50% of the participation fee from July 24, 2014: no refund possible

Call for Posters
All conference participants are welcome to contribute posters that are associated with relevant topics on acoustic emission (AE). Posters will be displayed during the whole conference. Selected posters will be presented during the poster session. A short abstract (max. 2,300 characters) is required for submission.
This abstract together with a PDF of your poster or a full manuscript (about 8 pages) will be published in the conference proceedings as well. For poster submission please see the website www.ewgae2014.com
Deadline for submission of poster abstracts: July 15, 2014

Hotel Reservation
We have special conditions in the Dorint Hotel (conference venue) till August 5, 2014.
Please use the reservation code EWGAE.
Single room: 120.00 € incl. breakfast
Double room: 150.00 € incl. breakfast
Reservation:
Phone: +49 351 4915-0
E-mail: reservierung.dresden@dorint.com
or please use the reservation form on the conference website.
Other hotels in Dresden can be booked at www.dresden.de/dig/.
Please bear in mind that the hotel bill must be settled with the hotel.

Conference Language
All technical papers will be presented in English, simultaneous translation will not be provided.

Conference Materials
Proceedings
The proceedings will be published on CD-ROM and will be handed-out at the conference.
Abstracts
At the conference, participants will get a booklet with all abstracts of the programme contributions.

Social Programme
Get-together Tuesday, Sept. 2, 2014
Dorint Hotel Dresden, exhibition area 18:00 h
Culinary sightseeing walk Wednesday, Sept. 3, 2014
through the historic city centre 18:30 h
with stops in different restaurants
Conference dinner Thursday, Sept. 4, 2014
Schloss Wackerbarth 19:00 h
(18:00 h bus transfer from conference hotel)
Dear friends and colleagues,
The General Assembly of the European Working Group on Acoustic Emission (EWGAE) has awarded the hosting of their next conference in 2014 to DGZfP, the German Society for Non-Destructive Testing, ten years after their hosting of EWGAE 2004 in Berlin. The primary objective of EWGAE is the exchange of information on acoustic emission (AE) with particular emphasis on scientific and technical development.

It is the pleasure of EWGAE and DGZfP to invite everyone interested in AE, experts as well as beginners, scientists as well as practitioners, AE service providers as well as AE equipment manufacturers, to discuss latest developments at the 31st Conference of the European Working Group on Acoustic Emission in Dresden, Germany in 2014.

Main topics of the conference will be
• AE testing (pressure vessels, storage tanks, pipes, etc.)
• AE monitoring (objects, machinery, processes, wear, etc.)
• AE and material behaviour (metals, polymers, composites, concrete, bones, wood, etc.)
• AE localisation of defects
• AE from corrosion
• AE from leakage
• AE in civil engineering
• AE in geology
• AE in transportation engineering
• AE in medical applications
• AE and tribology
• AE signal detection and processing
• AE equipment and software
• AE standardisation

We are looking forward to meeting you in Dresden.

Dipl.-Ing. Hartmut Vallen
Chairman, EWGAE

Dr.-Ing. Matthias Purschke
Managing Director and Member of the Board, DGZfP
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| 09:00 – 10:20 | Modelling and Theory  
|             | C. Hervé, H. Vallen                                                                 | We.1.A  |
| 11:10 – 12:30 | Localisation and Tomography  
|             | C.U. Große, T. Shiotani                                                                 | We.2.A  |
| 13:30 – 14:50 | Concrete I  
|             | D. Aggelis, G. Manthei                                                                 | We.3.A  |
| 15:20 – 17:00 | Applications I  
|             | M.A. Hamstad, M. Nowak                                                                 | We.4.A  |
| 18:30      | Culinary Sightseeing Walk                                                                 |         |
| 09:00 – 10:20 | Various  
|             | J. Bohse, A.J. Brunner                                                                 | Th.1.A  |
| 10:50 – 12:10 | Geosciences  
|             | C.U. Große, G. Manthei                                                                 | Th.2.A  |
| 13:10 – 14:30 | Concrete II  
|             | A. Gallego, T. Schumacher                                                                 | Th.3.A  |
| 15:00 – 15:40 | Poster Session  
|             | G. Manthei, M.G.R. Sause                                                                 | Th.4.A  |
| 15:45      | Business Meeting                                                                 |         |
| 19:00      | Conference Dinner at Schloss Wackerbarth –                                                                 |         |
| 09:00 – 10:20 | Standardisation and Basics  
|             | J. Bohse, C. Di Fratta                                                                 | Fr.1.A  |
| 10:50 – 12:10 | Applications II  
|             | D. Aggelis, P. Tscheliesnig                                                                 | Fr.2.A  |
| 13:15 – 14:35 | Biological Applications  
<p>|             | C.U. Große, S. Rosner                                                                 | Fr.3.A  |
| 14:45      | Closing                                                                 |         |</p>
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<td>Metal Alloys</td>
<td>I. Baran, V. Svoboda</td>
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<td>We.2.a</td>
<td>Metal Alloys and Coatings</td>
<td>A. Anastasopoulos, K. Yoshida</td>
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<td>We.3.a</td>
<td>Signal Detection and Processing I</td>
<td>A.J. Brunner, S. Elizarov</td>
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<td>T. Thenikl, A. Vinogradov</td>
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<td>Fatigue</td>
<td>F. Rauscher, M.G.R. Sause</td>
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<td>Localisation of Defects</td>
<td>Y. Mizutani, Z. Prevorovsky</td>
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<td>Civil Engineering</td>
<td>T. Schumacher, T. Shiotani</td>
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**OVERVIEW**

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**ROOM LOHENGRIN**
09:00 OPENING

We.1.A
MODELING AND THEORY
Chairs: C. Hervé, H. Vallen

09:20 We.1.A.1
Acoustic Emission Signals versus Propagation Direction for Hybrid Composite Layup with Large Stiffness Differences versus Direction
M.A. Hamstad\textsuperscript{1}, M.G.R. Sause\textsuperscript{2}
\textsuperscript{1} University of Denver, USA; \textsuperscript{2} Universität Augsburg, Germany

09:40 We.1.A.2
Modelling of Crack Growth Based Acoustic Emission Release in Aluminum Alloys
M.G.R. Sause\textsuperscript{1}
\textsuperscript{1} Universität Augsburg, Germany

10:00 We.1.A.3
Phase Analysis of Lamb Waves by AP-Wavelet Transform
Y. Mizutani\textsuperscript{1}, T. Oshima\textsuperscript{1}, Y. Suzuki\textsuperscript{1}, A. Todoroki\textsuperscript{1}
\textsuperscript{1} Tokyo Institute of Technology, Japan

10:20 We.1.A.4
Finite Element Modeling of Acoustic Emission Signal Propagation with Various Shaped Waveguides
M.A. Hamstad\textsuperscript{1}, M.G.R. Sause\textsuperscript{2}, A.M. Zelenyak\textsuperscript{2}
\textsuperscript{1} University of Denver, USA; \textsuperscript{2} Universität Augsburg, Germany

10:40 Break
We.2.A
LOCALISATION AND TOMOGRAPHY
Chairs: C.U. Große, T. Shiotani

11:10 We.2.A.1
Estimation of Acoustic Emission Source Locations in Concrete Using 3-D Tomography Data
L. Linzer¹, L. Mhamdi², T. Schumacher²
¹ MeerCAT Geophysics, Johannesburg, South Africa;
² University of Delaware, Newark, USA

11:30 We.2.A.2
System Identification for Three-dimensional AE-Tomography with Kalman Filter
Y. Kobayashi¹, K. Oda¹, T. Shiotani²
¹ Nihon University, Japan; ² Kyoto University, Japan

11:50 We.2.A.3
Localization of Initial Cracks in Laminated Glass Using Acoustic Emission Analysis – Part I
C. Alter¹, S. Kolling¹, G. Manthei¹
¹ THM, Gießen, Germany

12:10 We.2.A.4
Wavelet Based Approach to Acoustic Emission Phase Picking
E. Ponpon¹, A. Vinogradov¹
¹ Togliatti State University, Russia

12:30 Lunch
We.2.B
METAL ALLOYS
Chairs: I. Baran, V. Svoboda

We.2.B.1
The Acoustic Emission during Different Loading Rate of Specimens with Notch
I. Baran¹, M. Nowak¹, J. Schmidt¹
¹ Cracow University of Technology, Poland

We.2.B.2
In Situ Acoustic Emission Measurements as a Possibility to Investigate the Kinetics of Deformation Mechanisms
H. Biermann¹, M. Linderov², C. Segel¹, A. Vinogradov², A. Weidner¹
¹ TU Bergakademie Freiberg, Germany; ² Togliatti State University, Russia

We.2.B.3
Relation between Intrinsic Hydrogen and AE Sources in Elastic Region during Tensile Deformation of Al-Mg-Si Alloys
K. Yoshida¹
¹ Tokushima Bunri University, Sanuki, Japan

We.2.B.4
Identification of Acoustic Emission Sources as Important Factor in Study of Deformation’s Stages of Loaded Materials
O. Bashkov¹, T. Bashkova¹, A. Byakov², S. Panin²
¹ Komsomolsk-on-Amur State Technical University, Russia; ² Institute of Strength Physics and Materials Science, Tomsk, Russia
We.3.A
CONCRETE I
Chairs: D. Aggelis, G. Manthei

13:30 We.3.A.1

Pullout Experiments on Bonded Anchors Monitored via Acoustic Emission Techniques
C.U. Große¹, T. Kränkel¹, M. Raith¹
¹ TU München (cbm), Germany

13:50 We.3.A.2

Acoustic Emission Behaviour of Prestressed Concrete Sleepers Under Quasi-Static Homologation Testing
D. Aggelis¹, B. Omondi¹, C. Sitters², H. Sol¹
¹ Vrije Universiteit Brussel, Belgium; ² Moi University, Eldoret, Kenya

14:10 We.3.A.3

Damage Evaluation in Concrete Structures Due to Earthquake by AE Rate-Process Analysis
N. Alver¹, E. Ercan¹, M. Karcili¹, Y. Kawasaki², M. Ohtsu³
¹ Ege University, Izmir, Turkey; ² Ritsumeikan University, Shiga, Japan; ³ Kumamoto University, Japan

14:30 We.3.A.4

Acoustic Emission Monitoring of Concrete Structures Using a Quantitative Seismology-Based Approach
L. Linzer¹, L. Mhamdi², T. Schumacher²
¹ MeerCAT Geophysics, Johannesburg, South Africa; ² University of Delaware, Newark, USA

14:50 Break
We.3.B
SIGNAL DETECTION AND PROCESSING I
Chairs: A.J. Brunner, S. Elizarov

We.3.B.1
A Novel Wavelet-b Value of Acoustic Emissions to Evaluate Local Damage in RC Frames Subjected to Earthquakes
A. Benavent-Climent¹, A. Gallego², R. Piotrkowski³,
F.A. Sagasta², E. Zitto⁴
¹ Polytechnic University of Madrid, Spain; ² University of Granada, Spain; ³ University of San Martin, Argentina;
⁴ University of Buenos Aires, Argentina

We.3.B.2
Real-Time Acoustic Emission Event Detection with Data Evaluation for Supporting Material Research
G. Manherzt¹, G. Csicso², G. Gardonyi¹, G. Por²
¹ Budapest University of Technology and Economics, Hungary; ² College of Dunaujvaros, Hungary

We.3.B.3
Application of X22-Correlation to Some Types of Acoustic Emission Signals
F. Rauscher¹
¹ TU Wien, Austria

We.3.B.4
Nonthreshold Acoustic Emission Data Registration Principles
V. Barat¹, S. Elizarov¹, A. Shimansky¹
¹ INTERUNIS, Moscow, Russia
| Time  | Session | Title                                                                 | Authors                                                                                       | Affiliations                                                                 |
|-------|---------|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 15:20 | We.4.A.1| Analysis and Discrimination of Operating Noise at AE Monitoring of Static Facilities | T. Petersen¹, V. Shemyakin¹                                                                  | DIAPAC, Moscow, Russia                                                        |
| 15:40 | We.4.A.2| Application of Acoustic Emission Method for Control of Manual Arc Welding, Submerged Arc Welding | V.P. Gomera¹, E. Nefedyev², A. Sudakov²                                                          | Kirishinefteorgsintez, Kirishi, Russia; CKTI, St. Petersburg, Russia         |
| 16:00 | We.4.A.3| Acoustic Emission Monitoring of Cold Forming Automated Operation on Airplane Wing Panels | L. Adam¹, L. Boyer², A. Proust¹, A. Seretti²                                                  | MISTRAS Group, Sucy en Brie, France; Dassault Aviation, Saint Cloud, France |
| 16:20 | We.4.A.4| Monitoring of Diesel Engines Using Canonical Correlation of Acoustic Emission (AE) Signals | W. Abdou¹, B. Reuben¹                                                                       | Heriot-Watt University, Edinburgh, UK                                         |
| 16:40 | We.4.A.5| Monitoring Acoustic Emission (AE) Energy of Abrasive Particle Impacts in Slurry Impingement Flow Loop | G. Drubi¹, B. Reuben²                                                                         | Robert Gordon University, Aberdeen, UK; Heriot-Watt University, Edinburgh, UK |

18:30 Culinary Sightseeing Walk
We.4.B
FATIGUE

Chairs: F. Rauscher, M.G.R. Sause

We.4.B.1
Acoustic Emission Analysis in the Dynamic Fatigue Testing of Fiber Composite Components
B. Weihnacht¹, E. Schulze¹, B. Frankenstein¹
¹ Fraunhofer IKTS-MD, Dresden, Germany

We.4.B.2
Detection of Cracking in Mild Steel Fatigue Specimens Using Acoustic Emission and Digital Image Correlation
K. Shrama¹, S.L. Evans², R. Pullin², A. Clarke²
¹ Cardiff Univ., UK and Univ. of Basrah, Iraq; ² Cardiff University, UK

We.4.B.3
Acoustic Emission in Composite Materials under Fatigue Tests: Effect of Signal-Denoising Input Parameters on the Hits Detection and Data Clustering
M. Kherrat¹, E. Ramasso¹, V. Placet¹, L. Boubakar¹
¹ FEMTO-ST, Besançon, France

We.4.B.4
Acoustic Events during Fatigue Test of Steel Materials
G. Csicso¹, B. Fekete¹, G. Por¹, P. Trampus¹
¹ College of Dunaujvaros, Hungary

We.4.B.5
An Unsupervised Pattern Recognition Approach for AE Data Originating from Fatigue Tests on Polymer-Composite Materials
L. Boubakar¹, D.D. Doan¹, V. Placet¹, E. Ramasso¹, N. Zerhouni¹
¹ FEMTO-ST, Besançon, France
Th.1.A
VARIOUS
Chairs: J. Bohse, A.J. Brunner

09:00 Th.1.A.1
Damaged Mechanism Detection in CFRP Structures and Their Effect on the Felicity Ratio
C. Rowland
¹ Pancom, Huntingdon, UK

09:20 Th.1.A.2
Estimation of Viscoelastic Properties by Lamb Wave Analysis
Y. Mizutani, K. Suenaga, Y. Suzuki, A. Todoroki
¹ Tokyo Institute of Technology, Japan

09:40 Th.1.A.3
Detecting Acoustic Events during Heat and Tension Testing
P. Bereczki, Z. Danka, G. Por
¹ College of Dunaujvaros, Hungary

10:00 Th.1.A.4
New Assessment Tool for AT-Fieldtest and Monitoring
M. Löhr
¹ MISTRAS Group, Hamburg, Germany

10:20 Break
Th.1.B
METAL ALLOYS AND COATINGS
Chairs: A. Anastasopoulos, K. Yoshida

Th.1.B.1
Process Control of Thermal Spraying
R. Zielke¹, W. Tillmann¹, M. Abdulgader¹, N. Sievers¹, G. Wang¹
¹ TU Dortmund, Germany

Th.1.B.2
Investigation of Crack Initiation in Thermal Sprayed Coatings by AE Comparing Two Different Bending Test Setups
M. Gröschl¹, L. Janka², W. Mayr³, E. Mayrhofer², M. Rodriguez Ripoll³
¹ Universität Wien, Austria; ² AC²T research, Wiener Neustadt, Austria; ³ Voith Paper Rolls, Wimpassing, Austria

Th.1.B.3
Optimization of Spot Welding Processes in Low Carbon Hot Rolled Sheets
A. Butt¹
¹ CASE, Islamabad, Pakistan

Th.1.B.4
New Generation of AE Sensors for the SHM and On-Stream Diagnostic Systems
I. Razuvaev¹
¹ Alcor, Dzerzhinsk, Russia
Th.2.A
GEOSCIENCES
Chairs: C.U. Große, G. Manthei

10:50 Th.2.A.1

Laboratory Shear Stimulation and Hydraulic Fracture Characterization Using Acoustic Emission
J. Hampton¹, L. Matzar¹, Y. Han², N. Warpinski³, M. Mayerhofer³
¹ Halliburton, Houston, USA; ² Shell, Houston, USA; ³ Pinnacle, Houston, USA

11:10 Th.2.A.2

Acoustic Emission Measurements during Unconfined Compression of Granodiorite Samples
C. Wieser¹, L. Wilfing¹, H. Käsling¹, M. Raith², R. Richter², F. Gemander², D. Moser², C.U. Große², K. Thuro¹
¹ TU München, Germany; ² TU München (cbm), Germany

11:30 Th.2.A.3

Development of Precise Source Location and Leak Monitoring Technique 3D Point Location Method for Power Plant Boiler Structure
D.H. Kim¹
¹ RECTUSON, ChangWon, South Korea

11:50 Th.2.A.4

Application of 3D AE Tomography for Several Tests of Rocky Specimens
T. Shiotani¹
¹ Kyoto University, Japan

12:10 Lunch
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<td>Chairs: M.A. Hamstad, B. Reuben</td>
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<td>Th.2.B.1</td>
<td>Real-time Algorithm to Classify AE Events of Lamb Waves in CFRP</td>
<td>A. Gallego¹, J. Martinez-Jequier², E. Suárez¹, F.J. Juanes³, A. Valea¹</td>
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<td>¹ University of Granada, Spain; ² NDT Ingenieros, Spain; ³ University of Basque Country, Bilbao, Spain</td>
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<td>Th.2.B.2</td>
<td>A Parameter Correction Technique (PCT) for Acoustic Emission Characterisation in Large-Scale Composites</td>
<td>S.K. Al-Jumaili¹, M. Eaton², K. Holford², R. Pullin²</td>
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<td>Automated Corrected MAR Calculation for Characterisation of AE Signals</td>
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<td>How to Analyze AE Sources in Complex Structures More Precisely</td>
<td>M. Chlada¹, Z. Dvorakova¹, J. Kober¹, J. Krofta¹, Z. Prevorovsky¹</td>
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<td></td>
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<td>¹ Institute of Thermomechanics, Prague, Czech Republic</td>
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Th.3.A
CONCRETE II
Chairs: A. Gallego, T. Schumacher

13:10 Th.3.A.1
Acoustic Emission for Characterization of Failure Mechanism in Textile Reinforced Mortar Laminates
J. Blom¹, M. El Kadi¹, J. Wastiels¹, D. Aggelis¹
¹ Vrije Universiteit Brussel, Belgium

13:30 Th.3.A.2
Detection and Evaluation of Autonomous Crack Repair by Acoustic Emission
D. Aggelis¹, E. Tsangouri¹, D. van Hemelrijck¹,
K. Van Tittelboom²
¹ Vrije Universiteit Brussel, Belgium; ² Ghent University, Belgium

13:50 Th.3.A.3
Examination of Reinforced Concrete Beams with Self-Healing Properties by Acoustic Emission Analysis
F. Malm¹, C.U. Große¹
¹ TU München (cbm), Germany

14:10 Th.3.A.4
Observation and Analysis of Fracture Processes in Concrete with Acoustic Emission (AE) and Digital Image Correlation (DIC)
J. Bohse¹, G. Fischer²
¹ BAM, Berlin, Germany; ² Technical University of Denmark, Lyngby, Denmark

14:30 Break
Th.3.B
EQUIPMENT
Chairs: T. Thenikl, A. Vinogradov

Th.3.B.1
A New File Format Grants User Written Software
Access to all Kind of Acquired Data
H. Vallen¹, G. Corneanu¹, T. Thenikl¹, T. Duschl¹
¹ Vallen Systeme, Icking, Germany

Th.3.B.2
Continuous Monitoring of Powder Size Distribution
Using High Temperature ATEX Acoustic Emission Sensors
A. Cook¹, S. Collura², M. Dumont¹, T. Urbank¹
¹ Kistler Instrument, Amherst, USA; ² Loccioni Group
(General Impinati), Moie di Maiolati, Italy

Th.3.B.3
Primary Calibration of Acoustic Emission Sensors by
the Method of Reciprocity – Industrial Exploitation
of the Calibration Bench
P. Friedrich¹, T. Monnier², F. Zhang¹
¹ CETIM, Senlis, France; ² INSA de Lyon, Villeurbanne, France

Th.3.B.4
A New „Duration-Adapted TR“ Waveform Capture Method Eliminates Severe Limitations
G. Corneanu¹, T. Duschl¹, T. Thenikl¹, H. Vallen¹
¹ Vallen Systeme, Icking, Germany
Th.4.A
POSTER SESSION (SHORT PRESENTATIONS)
Chairs: G. Manthei, M.G.R. Sause

15:00 P4
Intelligent Acoustic Emission System
S. Elizarov¹, A. Shimansky¹, V. Barat¹
¹ INTERUNIS, Moscow, Russia

15:10 P6
AE Source Location by Means of Acoustic Waves Imitation in Segmental Grid Model
A. Samokhvalov¹
¹ DIAPAC, Moscow, Russia

15:20 P12
New Opportunities of Pulsers in the Multichannel AE Monitoring Systems
I. Razuaev¹, M. Zuikova¹
¹ Alcor, Dzerzhinsk, Russia

15:30 P17
Acoustic Emission Monitoring of Laboratory Scale Hydraulic Fracturing Experiments
M. Molenda¹, S. Brenne¹, F. Stoeckhert¹, M. Alber¹
¹ Ruhr-Universität Bochum, Germany

15:45 Business Meeting

19:00 Conference Dinner at Schloss Wackerbarth
(18:00 h bus transfer from conference hotel)
Commemorative Speech:
The Origin of CARP and the Term “Felicity Effect”
T. Fowler¹
¹ Spicewood, TX, USA
Fr.1.A
STANDARDISATION AND BASICS
Chairs: J. Bohse, C. Di Fratta

09:00 Fr.1.A.1
Standard Procedure for Acoustic Emission Examination of Fiber Reinforced Plastic Structures under Controlled Loading
B. Muravin1, G. Muravin1
1 Integrity Diagnostics, Netanya, Israel

09:20 Fr.1.A.2
Basics for AT and AE Monitoring of a Cowper
G. Schauritsch1, P. Tscheliesnig1
1 TÜV AUSTRIA SERVICES, Vienna, Austria

09:40 Fr.1.A.3
The Use of Acoustic Emission Method in the Modern Construction
A. Sagaidak1, V. Bardakov2, S. Elizarov2, D. Terentyev2
1 JSC SIC Construction, Moscow, Russia; 2 INTERUNIS, Moscow, Russia

10:00 Fr.1.A.4
Localization of Acoustic Emission Sources in Geometrically Sparse Structures
M. Chlada1, Z. Prevorovsky1
1 Institute of Thermomechanics, Prague, Czech Republic

10:20 Break
Fr.1.B
CIVIL ENGINEERING
Chairs: T. Schumacher, T. Shiotani

Fr.1.B.1
Acoustic Emission Monitoring of Debonding of External Reinforcing Patches from Concrete
D. Aggelis¹, E. Tsangouri¹, T. Tysmans¹, D. van Hemelrijck¹, S. Verbruggen¹
¹ Vrije Universiteit Brussel, Belgium

Fr.1.B.2
Methods and Limitations of Source-Localization in Concrete Specimens under Tunnel Fire Exposure
R. Richter¹, M. Juknat², M. Raith¹, B. Portner¹, J. Schmidt², F. Dehn², C.U. Große¹
¹ TU München (cbm), Germany; ² MFPA Leipzig, Germany

Fr.1.B.3
Damage Visualization of Imperfectly-Grouted Sheath in PC Structures
H. Kitora¹, Y. Momiyama¹, S. Osawa², T. Shiotani²
¹ West Nippon Expressway Engineering Kansai, Ibaraki-shi, Japan; ² Kyoto University, Japan

Fr.1.B.4
Acoustic Emission Automated Classification of Deterioration Levels Suffered by Metallic Connectors Used in Composite Girders
V. Barat¹, A. Correia Alves², H. Ferreira², D. Machado¹, C. Soares², J. Teixeira³, I.B. Valente⁴
¹ INTERUNIS, Moscow, Russia; ² INESC Porto, Portugal; ³ EQS – Serviços de Engenharia, Portugal; ⁴ Universidade do Minho, Portugal
Fr.2.A
APPLICATIONS II
Chairs: D. Aggelis, P. Tscheliesnig

10:50 Fr.2.A.1

Acoustic Emission Tank Floor Testing: A Study on the Data-Base of Tests and Follow-Up Inspections
A. Anastasopoulos¹, K. Bollas¹, D. Kourousis¹, D. Papasalouros¹
¹ Mistras Group Hellas, Athens, Greece

11:10 Fr.2.A.2

AT on Buried LPG Tanks Over 13 m³: An Innovative and Practical Solution
C. Di Fratta¹, A. Ferraro¹, P. Tscheliesnig², G. Lackner², N. Altamura⁴
¹ Blu Solutions, Jesi, Italy; ² TÜV AUSTRIA SERVICES, Vienna, Austria; ³ Ministero dello Sviluppo Economico, Rome, Italy; ⁴ INAIL, Bari, Italy

11:30 Fr.2.A.3

Application of Digital Image Correlation (DIC), Acoustic Emission (AE) and Ultrasonic Pulse Velocity (UPV) Nondestructive Techniques for the Detection and Monitoring of Cracks in the Concrete Buffer of the Belgian Supercontainer
D. Aggelis¹, S. Iliopoulos¹, L. Pyl¹, E. Tsangouri¹, J. Vantomme²
¹ Vrije Universiteit Brussel, Belgium; ² Royal Military Academy, Brussels, Belgium

11:50 Fr.2.A.4

P. Bryla¹, J. Catty², C. Hervé², H. Walaszek²
¹ EDF, Grenoble, France; ² CETIM, Senlis, France

12:10 Lunch
Fr.2.B
CORROSION
Chairs: C. Hervé, M. Nowak

Fr.2.B.1

Contribution of Acoustic Emission to Monitor the Effect of Phosphate Based Inhibitor on the Corrosion Behavior of Steel Reinforcement
L. Dhouibi1, H. Idrissi2, H. Nahal1
1 ENIT Tunis, Tunisia; 2 INSA Lyon, Villeurbanne, France

Fr.2.B.2

Acoustic Emission Analysis Coupled with Thermogravimetric Experiments Dedicated to High Temperature Corrosion Studies on Metallic Alloys
O. Al Haj1, F. Grosjean2, J. Kittel2, V. Peres1, F. Ropital2, E. Serris1
1 Ecole National Supérieure des Mines de Saint-Etienne, France; 2 IFP Energies nouvelles, Solaize, France

Fr.2.B.3

The Acoustic Emission Monitoring System of Aboveground Storage Tanks
I. Baran1, G. Lackner2, M. Nowak1
1 Cracow University of Technology, Poland; 2 TÜV AUSTRIA SERVICES, Vienna, Austria

Fr.2.B.4

M. André1, D. Siguret2, A. Foulon1, S. Benmedakhene1, P. Mëkarbanë, A. Laksimi3, C. Lemaitre3, J. Favergeon3
1 Technip-Cybernetix, Compiègne, France; 2 ARKEMA, Pierre Benite, France; 3 University of Technology of Compiègne, France
Fr.3.A
BIOLOGICAL APPLICATIONS
Chairs: C.U. Große, S. Rosner

13:15 Fr.3.A.1
Assessment and Evaluation of Damage in Human Knee and Hip Joints Applying Acoustic Emission Analysis (AEA)
P. Dörner¹, R.-P. Franke², J. Schmale³, H.-J. Schwalbe³, J. Subke³
¹ Pocking, Germany; ² Aachen, Germany; ³ THM, Gießen, Germany

13:35 Fr.3.A.2
Acoustic Emission (AE) Signal Classification from Tensile Tests on Plywood and Layered Wood
F. Ritschel¹, M.G.R. Sause², A.J. Brunner³, P. Niemz¹
¹ ETH Zürich, Switzerland; ² Universität Augsburg, Germany; ³ EMPA, Dübendorf, Switzerland

13:55 Fr.3.A.3
Acoustic Emission on Human Femur Tissue Fracture
D. Aggelis¹, F. Boulpaep¹, O. Louis², D. Polyzos³, M. Strantza¹, D. van Hemelrijck¹
¹ Vrije Universiteit Brussel, Belgium; ² Universitair Ziekenhuis Brussel, Belgium; ³ University of Patras, Greece

14:15 Fr.3.A.4
Acoustic Emission Signal Detection in Drought-Stressed Trees: Beyond Counting Hits
M.G.R. Sause¹, K. Steppe², L.L. Vergeynst²
¹ Universität Augsburg, Germany; ² Ghent University, Belgium

14:45 Closing
Fr.3.B
LOCALISATION OF DEFECTS
Chairs: Y. Mizutani, Z. Prevorovsky

Fr.3.B.1
Localisation of Acoustic Emission Sources in Fiber Composites Using Artificial Neural Networks
S. Kalafat¹, M.G.R. Sause¹
¹ Universität Augsburg, Germany

Fr.3.B.2
Acoustic Emission Source Location on Pipes Using Finite Element Analysis
C.J. Abolle-Okoyeagu¹, Y. Chen¹, R. Robert¹
¹ Heriot-Watt University, Edinburgh, UK

Fr.3.B.3
Comparison of Approximate and Simple Location Methods for AE-Sources on Dished Heads
T. Thenikl¹, H. Vallen¹
¹ Vallen Systeme, Icking, Germany

Fr.3.B.4
Acoustic Emission Source Localisation in Thin Plates through a Dispersion Removal Approach
K. Grabowski¹, P. Packo¹, W.J. Staszewski¹, T. Uhl¹
¹ AGH University, Crakow, Poland
| P1 | Analysis of b- and ib-Values for Damage Evaluation in Reinforced Concrete Structures Subjected to Dynamic Loads Using the Acoustic Emission Method  
F.A. Sagasta¹, T. Fernández¹, E. Suárez¹, A. Gallego¹, A. Benavent-Climent²  
¹ University of Granada, Spain; ² Polytechnic University of Madrid, Spain |
| P2 | Study of Plastic Deformation of Metals Using Acoustic Emission  
M. Cagala¹, J. Crha², R. Kocich¹, P. Kozelský¹  
¹ Technical University Ostrava, Czech Republic; ² Ostrava Hrabuvka, Czech Republic |
| P3 | Identification of Acoustic Emission Sources in Early Stages of Fatigue Process of Inconel 713LC  
D. Bártková¹, P. Mazal², F. Vlasic¹  
¹ Brno University of Technology, Brno, Czech Republic; ² CSNDT, Brno, Czech Republic |
| P4* | Intelligent Acoustic Emission System  
S. Elizarov¹, A. Shimansky³, V. Barat¹  
¹ INTERUNIS, Moscow, Russia |
| P5 | Application of Acoustic Emission in Machinery and Process Monitoring  
P. Holstein¹, H.-J. Münch¹, C. Probst¹, A. Tharandt²  
¹ SONOTEC, Halle, Germany; ² Steinbeis Transferzentrum, Taucha, Germany |
| P6* | AE Source Location by Means of Acoustic Waves Imitation in Segmental Grid Model  
A. Samokhvalov¹  
¹ DIAPAC, Moscow, Russia |
| P7 | Acoustic Testing of Reinforced Concrete Structure Corrosion  
Z. Chobola¹, K. Šamářková¹, D. Štefková¹  
¹ Brno University of Technology, Brno, Czech Republic |
| P8 | Presenting an Appropriate Way of Reducing Delay Cracking of Pipeline Systems  
A. Sharifi Miavaghi¹  
¹ Urmia University of Technology, Urmia, Iran |

* Poster with short presentation see p. 18
P10  Acoustic Method for Testing of High-Temperature-Degraded Cement-Based Composite Materials
Z. Chobola1, K. Šamárková1, D. Štefková1
1 Brno University of Technology, Brno, Czech Republic

P11  Acoustic Emission during Air Blowing on the Surface of Aluminum Plate
T. Yasuda1, K. Yoshida2
1 Anan National College of Technology, Japan;
2 Tokushima Bunri University, Sanuki, Japan

P12*  New Opportunities of Pulsers in the Multichannel AE Monitoring Systems
I. Razuvaev1, M. Zuikova1
1 Alcor, Dzerzhinsk, Russia

P14  The Studies of the Possibility to Monitor and Locate Leakage Using Acoustic Emission Recording via a Sensor Introduced Inside the Pipelines
M. Bardadyn1, K. Paradowski1, A. Zagorski1
1 Warsaw University of Technology, Warsaw, Poland

P15  Damage Evaluation of an ASR-Affected Concrete Viaduct by AE-Measurements during Proof Loading
S. Fennis1, D. Hordijk1, P. van Hemert1
1 Delft University of Technology, Delft, The Netherlands

P16  Suggestions for Receiving Reliable Results on Acoustic Emission Testing in Plants
S. Rosner1
1 BOKU, Vienna, Austria

P17*  Acoustic Emission Monitoring of Laboratory Scale Hydraulic Fracturing Experiments
M. Molenda1, S. Brenne1, F. Stoeckhert1, M. Alber1
1 Ruhr-Universität Bochum, Germany

* Poster with short presentation see p. 18
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<td>GMA-Werkstoffprüfung.GmbH/Mistras Group, Inc.</td>
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<td>Vallen Systeme GmbH</td>
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