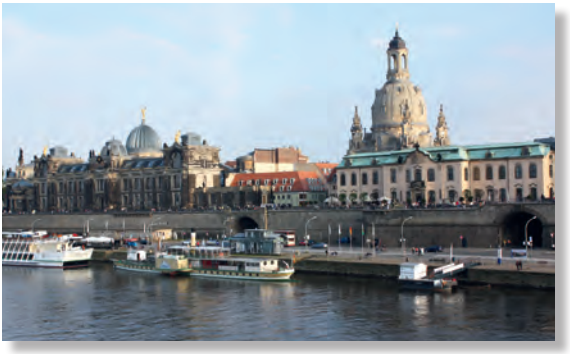
GERMAN
SOCIETY FOR
NON-DESTRUCTIVE
TESTING

European Working Group on
Acoustic Emission

INVITATION | *PROGRAMME*
+ CALL FOR POSTERS

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



co-sponsored by: BAM

September 3 – 5, 2014
Dresden, Germany
www.ewgae2014.com

GENERAL INFORMATION

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 with stops in different restaurants	*18:30 h*
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

A ROOM TANNHÄUSER

09:00	**Opening**
09:20 – 10:40	We.1.A
	Modelling and Theory *C. Hervé, H. Vallen*
11:10 – 12:30	We.2.A
	Localisation and Tomography *C.U. Große, T. Shiotani*
13:30 – 14:50	We.3.A
	Concrete I *D. Aggelis, G. Manthei*
15:20 – 17:00	We.4.A
	Applications I *M.A. Hamstad, M. Nowak*
18:30	**Culinary Sightseeing Walk**
09:00 – 10:20	Th.1.A
	Various *J. Bohse, A.J. Brunner*
10:50 – 12:10	Th.2.A
	Geosciences *C.U. Große, G. Manthei*
13:10 – 14:30	Th.3.A
	Concrete II *A. Gallego, T. Schumacher*
15:00 – 15:40	Th.4.A Poster Session
	G. Manthei, M.G.R. Sause
15:45	**Business Meeting**
19:00	**Conference Dinner at Schloss Wackerbarth –**
09:00 – 10:20	Fr.1.A
	Standardisation and Basics *J. Bohse, C. Di Fratta*
10:50 – 12:10	Fr.2.A
	Applications II D. Aggelis, P. Tscheliesnig
13:15 – 14:35	Fr.3.A
	Biological Applications *C.U. Große, S. Rosner*
14:45	**Closing**

B ROOM LOHENGRIN

Wednesday, September 3, 2014

We.2.B

Metal Alloys
I. Baran, V. Svoboda

We.3.B

Signal Detection and Processing I
A.J. Brunner, S. Elizarov

We.4.B

Fatigue
F. Rauscher, M.G.R. Sause

Thursday, September 4, 2014

Th.1.B

Metal Alloys and Coatings
A. Anastasopoulos, K. Yoshida

Th.2.B

Signal Detection and Processing II
M.A. Hamstad, B. Reuben

Th.3.B

Equipment
T. Thenikl, A. Vinogradov

(18:00 h bus transfer from conference hotel)

Friday, September 5, 2014

Fr.1.B

Civil Engineering
T. Schumacher, T. Shiotani

Fr.2.B

Corrosion
C. Hervé, M. Nowak

Fr.3.B

Localisation of Defects
Y. Mizutani, Z. Prevorovsky

A ROOM TANNHÄUSER

09:00 **OPENING**

We.1.A
MODELLING 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[1], M.G.R. Sause[2]
[1] University of Denver, USA; [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[1]
[1] Universität Augsburg, Germany

10:00 **We.1.A.3**

Phase Analysis of Lamb Waves by AP-Wavelet Transform
Y. Mizutani[1], T. Oshima[1], Y. Suzuki[1], A. Todoroki[1]
[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[1], M.G.R. Sause[2], A.M. Zelenyak[2]
[1] University of Denver, USA; [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. Linzer[1], L. Mhamdi[2], T. Schumacher[2]
[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. Kobayashi[1], K. Oda[1], T. Shiotani[2]
[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. Alter[1], S. Kolling[1], G. Manthei[1]
[1] THM, Gießen, Germany

12:10 **We.2.A.4**

Wavelet Based Approach to Acoustic Emission Phase Picking

E. Pomponi[1], A. Vinogradov[1]
[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. Baran[1], M. Nowak[1], J. Schmidt[1]
[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. Biermann[1], M. Linderov[2], C. Segel[1], A. Vinogradov[2], A. Weidner[1]
[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. Yoshida[1]
[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. Bashkov[1], T. Bashkova[1], A. Byakov[2], S. Panin[2]
[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. Große[1], T. Kränkel[1], M. Raith[1]
[1] TU München (cbm), Germany

13:50 **We.3.A.2**

Acoustic Emission Behaviour of Prestressed Concrete Sleepers Under Quasi-Static Homologation Testing
D. Aggelis[1], B. Omondi[1], C. Sitters[2], H. Sol[1]
[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. Alver[1], E. Ercan[1], M. Karcili[1], Y. Kawasaki[2], M. Ohtsu[3]
[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. Linzer[1], L. Mhamdi[2], T. Schumacher[2]
[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-Climent[1], A. Gallego[2], R. Piotrkowski[3], F.A. Sagasta[2], E. Zitto[4]
[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. Manhertz[1], G. Csicso[2], G. Gardonyi[1], G. Por[2]
[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. Rauscher[1]
[1] TU Wien, Austria

We.3.B.4

Nonthreshold Acoustic Emission Data Registration Principles
V. Barat[1], S. Elizarov[1], A. Shimansky[1]
[1] INTERUNIS, Moscow, Russia

We.4.A
APPLICATIONS I
Chairs: M.A. Hamstad, M. Nowak

15:20 We.4.A.1

Analysis and Discrimination of Operating Noise at AE Monitoring of Static Facilities
T. Petersen[1], V. Shemyakin[1]
[1] 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. Gomera[1], E. Nefedyev[2], A. Sudakov[2]
[1] Kirishinefteorgsintez, Kirishi, Russia; [2] CKTI, St. Petersburg, Russia

16:00 We.4.A.3

Acoustic Emission Monitoring of Cold Forming Automated Operation on Airplane Wing Panels
L. Adam[1], L. Boyer[2], A. Proust[1], A. Seretti[2]
[1] MISTRAS Group, Sucy en Brie, France; [2] Dassault Aviation, Saint Cloud, France

16:20 We.4.A.4

Monitoring of Diesel Engines Using Canonical Correlation of Acoustic Emission (AE) Signals
W. Abdou[1], B. Reuben[1]
[1] 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. Droubi[1], B. Reuben[2]
[1] Robert Gordon University, Aberdeen, UK; [2] 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. Weihnacht[1], E. Schulze[1], B. Frankenstein[1]
[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. Shrama[1], S.L. Evans[2], R. Pullin[2], A. Clarke[2]
[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. Kharrat[1], E. Ramasso[1], V. Placet[1], L. Boubakar[1]
[1] FEMTO-ST, Besançon, France

We.4.B.4

Acoustic Events during Fatigue Test of Steel Materials
G. Csicso[1], B. Fekete[1], G. Por[1], P. Trampus[1]
[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. Boubakar[1], D.D. Doan[1], V. Placet[1], E. Ramasso[1], N. Zerhouni[1]
[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]
[1] *Pancom, Huntingdon, UK*

09:20 Th.1.A.2

Estimation of Viscoelastic Properties by Lamb Wave Analysis
Y. Mizutani[1], *K. Suenaga*[1], *Y. Suzuki*[1], *A. Todoroki*[1]
[1] *Tokyo Institute of Technology, Japan*

09:40 Th.1.A.3

Detecting Acoustic Events during Heat and Tension Testing
P. Bereczki[1], *Z. Danka*[1], *G. Por*[1]
[1] *College of Dunaujvaros, Hungary*

10:00 Th.1.A.4

New Assessment Tool for AT-Fieldtest and Monitoring
M. Löhr[1]
[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. Zielke[1], W. Tillmann[1], M. Abdulgader[1], N. Sievers[1], G. Wang[1]
[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. Gröschl[1], L. Janka[2], W. Mayr[3], E. Mayrhofer[2], M. Rodriguez Ripoll[2]
[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. Butt[1]
[1] CASE, Islamabad, Pakistan

Th.1.B.4

New Generation of AE Sensors for the SHM and On-Stream Diagnostic Systems
I. Razuvaev[1]
[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. Hampton[1], L. Matzar[1], Y. Han[2], N. Warpinski[3], M. Mayerhofer[3]
[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. Wieser[1], L. Wilfing[1], H. Käsling[1], M. Raith[2], R. Richter[2], F. Gemander[2], D. Moser[2], C.U. Große[2], K. Thuro[1]
[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. Kim[1]
[1] RECTUSON, ChangWon, South Korea

11:50 **Th.2.A.4**

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

12:10 Lunch

Th.2.B
SIGNAL DETECTION AND PROCESSING II
Chairs: M.A. Hamstad, B. Reuben

Th.2.B.1

Real-time Algorithm to Classify AE Events of Lamb Waves in CFRP
A. Gallego[1], J. Martinez-Jequier[2], E. Suárez[1], F.J. Juanes[3], A. Valea[3]
[1] University of Granada, Spain; [2] NDT Ingenieros, Spain; [3] University of Basque Country, Bilbao, Spain

Th.2.B.2

A Parameter Correction Technique (PCT) for Acoustic Emission Characterisation in Large-Scale Composites
S.K. Al-Jumaili[1], M. Eaton[2], K. Holford[2], R. Pullin[2]
[1] Cardiff Univ., UK and Univ. of Basrah, Iraq; [2] Cardiff University, UK

Th.2.B.3

Automated Corrected MAR Calculation for Characterisation of AE Signals
S.K. Al-Jumaili[1], M. Eaton[2], K. Holford[2], J. McCrory[2], M. Pearson[2], R. Pullin[2]
[1] Cardiff Univ., UK and Univ. of Basrah, Iraq; [2] Cardiff University, UK

Th.2.B.4

How to Analyze AE Sources in Complex Structures More Precisely
M. Chlada[1], Z. Dvorakova[1], J. Kober[1], J. Krofta[1], Z. Prevorovsky[1]
[1] Institute of Thermomechanics, Prague, Czech Republic

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. Blom[1], M. El Kadi[1], J. Wastiels[1], D. Aggelis[1]
[1] Vrije Universiteit Brussel, Belgium

13:30 **Th.3.A.2**

Detection and Evaluation of Autonomous Crack Repair by Acoustic Emission

D. Aggelis[1], E. Tsangouri[1], D. van Hemelrijck[1], K. Van Tittelboom[2]
[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. Malm[1], C.U. Große[1]
[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. Bohse[1], G. Fischer[2]
[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. Vallen[1], G. Corneanu[1], T. Thenikl[1], T. Duschl[1]
[1] Vallen Systeme, Icking, Germany

Th.3.B.2

Continuous Monitoring of Powder Size Distribution Using High Temperature ATEX Acoustic Emission Sensors
A. Cook[1], S. Collura[2], M. Dumont[1], T. Urbank[1]
[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. Friedrich[1], T. Monnier[2], F. Zhang[1]
[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. Corneanu[1], T. Duschl[1], T. Thenikl[1], H. Vallen[1]
[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. Elizarov[1], *A. Shimansky*[1], *V. Barat*[1]
[1] *INTERUNIS, Moscow, Russia*

15:10 **P6**

AE Source Location by Means of Acoustic Waves Imitation in Segmental Grid Model
A. Samokhvalov[1]
[1] *DIAPAC, Moscow, Russia*

15:20 **P12**

New Opportunities of Pulsers in the Multichannel AE Monitoring Systems
I. Razuvaev[1], *M. Zuikova*[1]
[1] *Alcor, Dzerzhinsk, Russia*

15:30 **P17**

Acoustic Emission Monitoring of Laboratory Scale Hydraulic Fracturing Experiments
M. Molenda[1], *S. Brenne*[1], *F. Stoeckhert*[1], *M. Alber*[1]
[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. Fowler[1]
[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. Muravin[1], G. Muravin[1]
[1] Integrity Diagnostics, Netanya, Israel

09:20 Fr.1.A.2

Basics for AT and AE Monitoring of a Cowper
G. Schauritsch[1], P. Tscheliesnig[1]
[1] TÜV AUSTRIA SERVICES, Vienna, Austria

09:40 Fr.1.A.3

The Use of Acoustic Emission Method in the Modern Construction
A. Sagaidak[1], V. Bardakov[2], S. Elizarov[2], D. Terentyev[2]
[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. Chlada[1], Z. Prevorovsky[1]
[1] Institute of Thermomechanics, Prague, Czech Republic

10:20 Break

B ROOM LOHENGRIN

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. Aggelis[1], E. Tsangouri[1], T. Tysmans[1], D. van Hemelrijck[1], S. Verbruggen[1]
[1] Vrije Universiteit Brussel, Belgium

Fr.1.B.2

Methods and Limitations of Source-Localization in Concrete Specimens under Tunnel Fire Exposure
R. Richter[1], M. Juknat[2], M. Raith[1], B. Portner[1], J. Schmidt[2], F. Dehn[2], C.U. Große[1]
[1] TU München (cbm), Germany; [2] MFPA Leipzig, Germany

Fr.1.B.3

Damage Visualization of Imperfectly-Grouted Sheath in PC Structures
H. Kitora[1], Y. Momiyama[1], S. Osawa[2], T. Shiotani[2]
[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. Barat[1], A. Correia Alves[2], H. Ferreira[2], D. Machado[3], C. Soares[2], J. Teixeira[3], I.B. Valente[4]
[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. Anastasopoulos[1], K. Bollas[1], D. Kourousis[1], D. Papasalouros[1]
[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 Fratta[1], A. Ferraro[1], P. Tscheliesnig[2], G. Lackner[2], V. Correggia[3], N. Altamura[4]
[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. Aggelis[1], S. Iliopoulos[1], L. Pyl[1], E. Tsangouri[1], J. Vantomme[2]
[1] Vrije Universiteit Brussel, Belgium; [2] Royal Military Academy, Brussels, Belgium

11:50 **Fr.2.A.4**

Real Time & Long Term Acoustic Emission Monitoring: A New Way to Use Acoustic Emission – Application to Hydroelectric Penstocks and Paper Machine
P. Bryla[1], J. Catty[2], C. Hervé[2], H. Walaszek[2]
[1] EDF, Grenoble, France; [2] CETIM, Senlis, France

12:10 Lunch

B ROOM LOHENGRIN

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. Dhouibi[1], H. Idrissi[2], H. Nahali[2]
[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 Haj[1], F. Grosjean[2], J. Kittel[2], V. Peres[1], F. Ropital[2], E. Serris[1]
[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. Baran[1], G. Lackner[2], M. Nowak[1]
[1] Cracow University of Technology, Poland; [2] TÜV AUSTRIA SERVICES, Vienna, Austria

Fr.2.B.4

Corrosion Evaluation of Glass Fiber Reinforced Plastic (GFRP) Tanks & Pressure Vessels Using Acoustic Emission Technology
M. André[1], D. Siguret[2], A. Foulon[3], S. Benmedakhene[1], P. Mékarbané[2], A. Laksimi[3], C. Lemaitre[3], J. Favergeon[3]
[1] Technip-Cybernetix, Compiegne, France; [2] ARKEMA, Pierre Benite, France; [3] University of Technology of Compiegne, 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. Dörner[1], R.-P. Franke[2], J. Schmale[3], H.-J. Schwalbe[3], J. Subke[3]
[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. Ritschel[1], M.G.R. Sause[2], A.J. Brunner[3], P. Niemz[1]
[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. Aggelis[1], F. Boulpaep[1], O. Louis[2], D. Polyzos[3], M. Strantza[1], D. van Hemelrijck[1]
[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. Sause[1], K. Steppe[2], L.L. Vergeynst[2]
[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

Localization of Acoustic Emission Sources in Fiber Composites Using Artificial Neural Networks
S. Kalafat[1], M.G.R. Sause[1]
[1] Universität Augsburg, Germany

Fr.3.B.2

Acoustic Emission Source Location on Pipes Using Finite Element Analysis
C.J. Abolle-Okoyeagu[1], Y. Chen[1], R. Robert[1]
[1] Heriot-Watt University, Edinburgh, UK

Fr.3.B.3

Comparison of Approximate and Simple Location Methods for AE-Sources on Dished Heads
T. Thenikl[1], H. Vallen[1]
[1] Vallen Systeme, Icking, Germany

Fr.3.B.4

Acoustic Emission Source Localisation in Thin Plates through a Dispersion Removal Approach
K. Grabowski[1], P. Packo[1], W.J. Staszewski[1], T. Uhl[1]
[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. Sagasta[1], T. Fernández[1], E. Suárez[1] , A. Gallego[1], A. Benavent-Climent[2]
[1] University of Granada, Spain; [2] Polytechnic University of Madrid, Spain

P2 **Study of Plastic Deformation of Metals Using Acoustic Emission**
M. Cagala[1], J. Crha[2], R. Kocich[1], P. Kozelský[1]
[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. Bártková[1], P. Mazal[2], F. Vlasic[1]
[1] Brno University of Technology, Brno, Czech Republic; [2] CSNDT, Brno, Czech Republic

P4* **Intelligent Acoustic Emission System**
S. Elizarov[1], A. Shimansky[1], V. Barat[1]
[1] INTERUNIS, Moscow, Russia

P5 **Application of Acoustic Emission in Machinery and Process Monitoring**
P. Holstein[1], H.-J. Münch[1], C. Probst[1], A. Tharandt[2]
[1] SONOTEC, Halle, Germany; [2] Steinbeis Transferzentrum, Taucha, Germany

P6* **AE Source Location by Means of Acoustic Waves Imitation in Segmental Grid Model**
A. Samokhvalov[1]
[1] DIAPAC, Moscow, Russia

P7 **Acoustic Testing of Reinforced Concrete Structure Corrosion**
Z. Chobola[1], K. Šamárková[1], D. Štefková[1]
[1] Brno University of Technology, Brno, Czech Republic

P8 **Presenting an Appropriate Way of Reducing Delay Cracking of Pipeline Systems**
A. Sharifi Miavaghi[1]
[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. Chobola[1], K. Šamárková[1], D. Štefková[1]
[1] Brno University of Technology, Brno, Czech Republic

P11 **Acoustic Emission during Air Blowing on the Surface of Aluminum Plate**
T. Yasuda[1], K. Yoshida[2]
[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. Razuvaev[1], M. Zuikova[1]
[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. Bardadyn[1], K. Paradowski[1], A. Zagorski[1]
[1] Warsaw University of Technology, Warsaw, Poland

P15 **Damage Evaluation of an ASR-Affected Concrete Viaduct by AE-Measurements during Proof Loading**
S. Fennis[1], D. Hordijk[1], P. van Hemert[1]
[1] Delft University of Technolgy, Delft, The Netherlands

P16 **Suggestions for Receiving Reliable Results on Acoustic Emission Testing in Plants**
S. Rosner[1]
[1] BOKU, Vienna, Austria

P17* **Acoustic Emission Monitoring of Laboratory Scale Hydraulic Fracturing Experiments**
M. Molenda[1], S. Brenne[1], F. Stoeckhert[1], M. Alber[1]
[1] Ruhr-Universität Bochum, Germany

* Poster with short presentation see p. 18

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3 INTERUNIS Group
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5 GMA-Werkstoffprüfung.GmbH/Mistras Group, Inc.
6 Vallen Systeme GmbH
7 free booth
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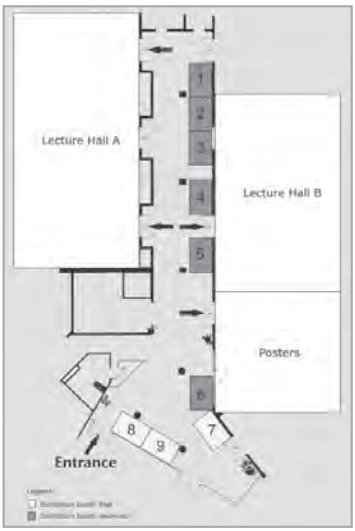
9 free booth



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