

# 3<sup>rd</sup> WORKSHOP "NDT in PROGRESS"

International Meeting of NDT Experts

October 10 - 12, 2005  
Prague, Czech Republic

## Recent Workshop Programme

(situation per October 3<sup>rd</sup> , 2005)

### Monday 10/10:

11:00 *Opening of the registration desk*

12:30 *Workshop opening*  
*Invitation - Z. Prevorovsky (CNDT), R.Link (DGZfP)*

13:00 **Session B**  
**Numerical NDT simulations (F.Schubert)**

**Spies M.** presented by **S. Hirsekorn**  
*Semi-Analytical Modeling Applied to Optimize the Performance of Ultrasonic Inspections*

**Kühnicke E.**  
*Relation between the transient and the harmonic field of ultrasound transducers*

**Mayer K.**, Langenberg K.J., Marklein R.  
*Modelling and Imaging for Electromagnetic and Elastic Wave Scattering in Concrete*

**Schubert F.**, Köhler B, Zinin P.  
*Time-resolved Acoustic Microscopy Simulations for Micro NDE Applications*

**Schubert S.** et al.  
*Numerical simulation of elastic wave propagation in the radial-tangential plane of wooden trunks with and without fungal decay*

**Bilgram R.** et al.  
*Simulation of heat generation and dissipation during ultrasonic excited thermography*

15:00 - 15:20 **Discussion to Session B**

15:20 - 15:45 *Coffee break - Poster instalation*

15:45 **Electromagnetic and radiographic methods, Special Imaging and Optical methods, Automated NDT data processing - papers F5, G2, G3, A1 – (leader will be specified)**

**Kiejn Lee**  
*Noncontact and nondestructive characterization of metallic and organic thin films by using a near-field microwave*

**Swiderski W.**  
*Infrared nondestructive testing in military applications*

**Helfen L.** et al.  
*Three-Dimensional Imaging of Microsystem and Microelectronic Devices by Synchrotron-radiation Computed Laminography*

**Kirzhanov D.V.** et al.  
*Automation of heat NDT of buildings*

17:00-17:20 **Discussion**

18:30 *Bus departure - transport to the city*

19:30-23:00 *Welcome party at the Strahov Brewery*

## Tuesday 11/10:

09:00

### Session C

**Nonlinear and inverse problems in NDE (P.P. Delsanto, S.Hirse Korn)**

**Gliozzi A.**

*2-D Nonlinear models and simulations as a tool for NDE in AERONEWS*

**Goursolle T., Dos Santos S. et al.**

*Contact phase modulation measurements in bilayer solids using nonlinear means*

**Hirse Korn S. et al.**

*Measurement and Evaluation of Nonlinear Ultrasonic Transmission on Adhesive Bonds*

**Delsanto P.P., Hirse Korn S. and F. Pastrone**

*The universality of nonclassical nonlinearity and applications to NDE*

**10:30-10:45 Discussion to Session C**

**10:45-11:15 Coffee break - Poster section**

11:15

### Session E/I

**Methods based on elastic waves – part I (Z. Prevorovsky)**

**Döring D. et al.**

*New opportunities for material characterisation and damage detection with air-coupled and nonlinear ultrasound*

**Lehman M. et al.**

*Monitoring system for delamination detection*

**Längler F., Schneider E.**

*Continuum Mechanical Enhancement of the Ultrasonic Residual Stress Analysis for Component Load Estimation*

**Prevorovsky Z. et al.**

*Ultrasound signal transfer in thin extended aircraft parts - experiments and modeling*

**12:30 - 12:45 Discussion to Session E/I**

**12:45 - 14:00 Lunch**

14:00

### Session E/II

**Methods based on elastic waves – part II (Z. Prevorovsky)**

**Redmer B. et al.**

*Planar Tomography under Limited View Conditions for Crack Detection in Austenitic Welds*

**Algernon D., Wiggenhauser H.**

*Experimental investigation of the acoustic wave propagation in concrete structures after impact excitation*

**Wendrich A. et al. presented by Trela Ch.**

*Application of ultrasonic and radar tomography for the investigation of the internal structure of masonry*

**Maev R.Gr.**

*New Generation of High Resolution Acoustic Imaging Technique for Material Characterization and NDT*

**15:15-15:30 Discussion to Session E/II**

**15:30-16:00 Coffee break - Poster section**

16:00-18:00

**Students' presentations and short posters' presentations – authors will have a possibility of short oral presentation (app.10 minutes) – all interested contact Org. Com.at place please**

**19:00-23:00 Social evening at Floret Congress Centre**

## Wednesday 12/10

08:45

### Session D

Health monitoring of integral structures

(B. Koehler)

**Köhler B.**

*Study of elastic wave propagation for NDT and health monitoring applications*

**Schubert F.**

*Acoustic emission tomography – A new imaging technique for structural health monitoring*

**Wilcox P. D., Konstantinidis G., Drinkwater B. W.**

*Structural Health Monitoring Using Guided Waves: Active and Passive Techniques*

**Obbadi A., Belattar S.**

*Three dimensional non destructive study of a delamination of a wall by the surface temperature analysis*

**10:00-10:15 Discussion to Session G**

**10:15-10:40 Coffee break**

10:40

### Section F

Electromagnetic and radiographic methods

(J. Fiala, J. Sikula)

**Fiala J., Sutta P.**

*X-ray Monitoring of Materials Degradation*

**Myagotin A. et al.**

*In situ Radiography of Metal Foaming Processes: a Quantitative Analysis*

**Hajek K., Sikula J.**

*Parametric Ultrasound-Electric Spectroscopy for NDT of Metal Bodies*

**Janousek L. et al.**

*A novel eddy current testing probe suitable to the inspection of thick structures*

**12:00-12:20 Discussion to Session G**

**app. 12:30 Workshop closure**

*Lunch (optional) / Departure*

**STUDENTS' and POSTERS' PRESENTATIONS** (with short oral presentation possibility)

**Algernon D.**, Wiggerhauser H.

*Identification of short transient signals in impact echo data using the Hilbert Huang transform*

**Anton O.**, Hobst L., Štěpánek P., Vítek L.

*Radiographic Control of Reinforcement in Damaged Roof Trusses of Industrial Hall*

**Avramenko V.G.**, Lebedev O.V., Kirzhanov D.V., Budadin O.N.,

*Solution of the inverse problem of nonstationary heat conductivity in multilayer objects using FFT*

**Behal, J.**

*Applications of Non-destructive Testing to Investigation of Aircraft Structure Integrity*

**Blahacek M.**, Prevorovsky Z., Chlada M.

*Elastic wave propagation in complex aircraft structure*

**Chlada M.**, Blahacek M., Prevorovsky Z.

*Neural network AE source location based on extracted signal features*

**Faci Z.**, Abbas A., Mebtouche A.

*Ultrasonic device calibration for estimation of retained austenite in tool steel*

**Jae K.Yi**

*Phase Transformation Measurements by Applied Magnetics*

**Koktavy P.**

*Noise spectroscopy of mechanically stressed insulators by means of electromagnetic emission*

**Koktavy P.**, Koktavy B., Sikula J.

*Partial Discharges and Acoustic Emission in Insulating Materials*

**Kvita P.**, Prevorovsky, Z.

*Evaluation of ultrasonic propagation parameters and mechanical properties of the stressed human skin in vivo*

**Kusak I.**, Lunak M., Schauer P.

*On the water content dependence of cetrin-basic wood-cement chipboards*

**Kusak I.**, Lunak M., Schauer P.

*Impedance spektroskopy of cetrin-basic wood-cement chipboards*

**Lebedev O.V.** et al.

*Multi-phase heat-mass transfer and calculation of the current position of the front freezing and dew point in the buildings*

**Li Yi-bo** et al.

*Study on Ultrasonic Guided Waves in Fluid-filled Pipes Surrounded by Water*

**Majzner J.** et al.

*Cracks Localization by Electromagnetic and Acoustic Emission*

**Matysik, M.**

*On the effect of additives on the cement hydration heat development progress*

**Siddiolo A.M.** et al.

*Air-coupled imaging method applied to the study and conservation of paintings*

**Vrhel, J.**

*Czech partners contribution to the AERONEWS EU project*