

# IX<sup>th</sup> International Workshop **NDT in Progress**

Meeting of NDT Experts

October 9 – 11, 2017

Hotel Meritum, Prague, Czech Republic

## PRELIMINARY PROGRAM

| <b>Monday 9, Oct. 2017</b> |  |
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| 09.00 - 17.00              | <b>Registration</b>  |
| 10:00 - 10:30              | <b>Workshop opening</b>  |
| 10:30 - 12:30              | <b>Session 1 - chair: Z. Prevorovsky</b>   |
| 10:30                      | <b>CRACK LOCALIZATION BY NONLINEAR ULTRASOUND</b><br><b>Jan KOBER</b> , Zdenek PREVOROVSKY<br><i>Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic</i>   |
| 11:00                      | <b>NDT IN ADDITIVE MANUFACTURING OF METALS</b><br><b>Zdenek PREVOROVSKY</b> , Josef KROFTA, Jan KOBER<br><i>Institute of Thermomechanics AS CR, Prague, Czech Republic</i>   |
| 11:30                      | <b>MAPPING OF PROBLEMATIC REGIONS IN AE SOURCE LOCATION</b><br><b>Milan CHLADA</b> , Zdenek PREVOROVSKY<br><i>NDT Laboratory, Institute of Thermomechanics AS CR, v.v.i.; Prague, Czech republic</i>   |
| 12:00                      | <b>NUMERICAL COMPUTATIONS LEADING TO LOCALIZATION OF ACOUSTIC EMISSION USING GEODESIC CURVES</b><br><b>Petr GÁLIS</b> , Václav KŮS<br><i>Department of Mathematics, FNSPE, Czech Technical University in Prague, Czech Republic</i>  |
| 12:30 - 14:00              | <b>Lunch</b>   |
| 14:00 - 16:00              | <b>Session 2 - chair: S. Hirsekorn</b>   |
| 14:00                      | <b>MODELLING OF ULTRASONIC SCATTERING IN POLYCRYSTALS AIMING FOR TOOLS TO SIMULATE EXPERIMENTS IN NDT&amp;E</b><br><b>Sigrun HIRSEKORN</b> , Dascha DOBROVOLSKIJ, Martin SPIES<br><i>Saarbrücken, Germany</i>  |
| 14:30                      | <b>A STUDY ON THE PROPERTIES OF TFM ULTRASONIC IMAGING USING SYNTHETIC DATA</b><br><b>Pierric MORA</b> , Martin SPIES, Hans RIEDER<br><i>Fraunhofer-Institute for Nondestructive Testing IZFP, Saarbrücken, Germany</i>  |
| 15:00                      | <b>ON FINITE ELEMENT MODELLING IN TIME REVERSAL PROBLEMS</b><br><b>Michal MRAČKO</b> , Jan KOBER, Radek KOLMAN, Zdeněk PŘEVOROVSKÝ, Jiří PLEŠEK, Jan MASÁK, Alena KRUIŠOVÁ<br><i>Institute of Thermomechanics of the CAS, v. v. i., Prague, Czech republic</i>   |
| 15:30 - 16:00              | <b>Coffee break – preparing posters</b>  |
| 16:00 - 17:20              | <b>Session 3 - Posters - chair: L. Pazdera</b>   |
| 16:00                      | <b>EXPERIMENTAL AND NUMERICAL ANALYSIS OF A TRANSDUCER FOR THE GENERATION OF THE GUIDED WAVES</b><br><b>Marco ZENNARO</b> , Alex HAIG, Dan J. O'BOY, Stephen J. WALSH<br><i>National Structural Integrity Research Center, Cambridge, United Kingdom</i>   |
| 16:20                      | <b>APPLICATION ACOUSTIC EMISSION METHOD DURING CYCLIC LOADING OF CONCRETE BEAM</b><br><b>Lubos PAZDERA</b> , Libor TOPOLAR, Karel MIKULASEK<br><i>Faculty of Civil Engineering, Brno University of Technology; Brno, Czech Republic</i>  |
| 16:40                      | <b>COMPARISON OF FATIGUE PROCESSES IN AISI9Cu3 ALLOY PRODUCED BY SELECTIVE LASER MELTING AND CASTING USING ACOUSTIC EMISSION METHOD</b><br><b>Vendula KRATOCHVÍLOVÁ</b> , František VLAŠIC, Pavel MAZAL<br><i>Brno University of Technology, Faculty of Mechanical Engineering, Brno, Czech Republic</i> |
| 17:00                      | <b>PASSIVE METAMATERIALS STRUCTURES USING IN MICROWAVE NONDESTRUCTIVE TESTING</b><br><b>Dagmar FAKTOROVÁ</b> , Adriana SAVIN, Peter FABO, Katarína ISTENÍKOVÁ, Nicoleta IFTIMIE, Rozina STEIGMANN<br><i>National Institute of Research &amp; Development for Technical Physics, Iasi, Romania</i>        |

## Tuesday 10, Oct. 2017

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| 09:30 - 12:30 | <i>Registration</i>   |
| 09:00 - 11:00 | <b>Session 4 - chair: Z. Škvor</b>  |
| 9:00          | <b>EXPERIMENTAL GAUSSMETER FOR CIRCULAR MAGNETIZATION</b><br><b>Pavel STANĚK</b> , Zbyněk ŠKVOR, Miroslav ROXER<br><i>Faculty of Electrical Engineering, Czech Technical University in Prague, Praha, Czech Republic</i>  |
| 9:30          | <b>ELECTRO-MECHANICAL AND ACOUSTICAL CHARACTERIZATION OF PIEZOCERAMIC ELEMENTS AND NDT ULTRASOUND TRANSDUCERS BY USING DIFFERENT TYPES OF EXCITATION SIGNALS</b><br><b>Antonio PETOŠIĆ</b> , Petar FRANČEK, Ana MAMIĆ, Petar VEJIĆ, Davor VOLARIĆ, Marko BUDIMIR<br><i>Department of electroacoustics, Faculty of Electrical Engineering and Computing, Zagreb, Croatia</i>     |
| 10:00         | <b>MONITORING CRACK FORMATION IN METAL STRUCTURES WITH A PERCUSSION-INSPIRED DETECTION METHOD</b><br><b>JoaoVitor PIMENTEL</b> , Rolf KLEMM, Munip DALGIC, Andree IRRETIER, Hans-Werner ZOCH, Karl-Ludwig KRIEGER<br><i>Institute of Electrodynamics and Microelectronics (ITEM), University of Bremen; Bremen, Germany</i>   |
| 10:30 - 11:00 | <b>coffeebreak</b>  |
| 11:00 - 12:30 | <b>Session 5 - chair: P. Dokládál</b>   |
| 11:00         | <b>AUTOMATIC DETECTION OF CRACKS AND DELAMINATIONS IN THERMAL IMAGES</b><br><b>Robin ALAIS</b> , Petr DOKLADAL, Etienne DECENCIERE, Bruno FIGLIUZZI<br><i>Center for Mathematical Morphology, MINES ParisTech – PSL Research University; Fontainebleau, France</i>  |
| 11:30         | <b>AN ALGORITHM FOR 2d LASER ULTRASONIC TOMOGRAPHY OF BODIES WITH PIECEWISE LINEAR SURFACE</b><br><b>Vasily ZARUBIN</b> , Anton BYCHKOV, Alexander KARABUTOV, Elena CHEREPETSKEYA<br><i>National University of Science and Technology "MISIS", Moscow, Russia</i>   |
| 12:00         | <b>EXPERIMENTAL STUDY OF ULTRASOUND CHARACTERISTICS IN STEEL SAMPLES CUT OUT OF A PIPELINE THAT HAS BEEN EXPLOITED DURING A LONG TIME</b><br><b>Vladimir EROFEEV</b> , Alexey MALKHANOV<br><i>Mechanical Engineering Research Institute of RAS, Nizhny Novgorod, Russia</i>   |
| 12:30 - 14:00 | <b>Lunch</b>  |
| 14:00 - 16:00 | <b>Session 6 - chair: A. Savin</b>  |
| 14:00         | <b>ULTRASONIC BIOPOLYMER CHARACTERISATION BY HYSTERESIS QUANTIFICATION</b><br><b>Jana ZATLOUKALOVÁ</b> , Daniel TOKAR, Karolína KOPECKÁ, Zdeněk PŘEVOROVSKÝ<br><i>Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Prague, Czech Republic</i>  |
| 14:30         | <b>DEVELOPMENT OF NOVEL NON-CAVITATIONAL, NON-THERMAL ULTRASOUND TRANSDUCERS FOR CLINICAL THERAPY</b><br><b>Peter A. LEWIN</b><br><i>School of Biomedical Engineering, Science and Health Systems, Drexel University, Philadelphia, USA</i>   |
| 15:00         | <b>MONITORING TECHNIQUE FOR NANOCRYSTALLINE STABILIZED ZIRCONIA FROM SOME MEDICAL PROSTHESIS</b><br><b>Adriana SAVIN</b> , Mihail-Liviu CRAUS, Vitalii TURCHENKO, Alina BRUMA, Sylvie MALO, Tatiana E. KONSTANTINOVA, Valerii V. BURKHOVETSKY<br><i>Nondestructive Testing Department, National Institute for Research and Development for Technical Physics, Iasi, Romania</i> |
| 15:30 - 16:00 | <b>Coffee break</b>   |

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| <b>16:00 - 18:00</b> | <b>Session 7 – chair: A. Petošić</b>  |
| 16:00                | <b>ESTIMATION OF IMPACT ON MECHANICAL PROPERTIES OF AUSTENITIC STEEL WELDING CAUSED BY POROSITY</b><br><b>Elizaveta SEDANOVA</b> , Michael KROENING, Dmitry SEDNEV, Yana SALCHAK<br><i>National Research Tomsk Polytechnic University, Tomsk, Russia</i>  |
| 16:30                | <b>STRUCTURAL HEALTH MONITORING OF WIND TURBINE BLADES USING DIFFERENT NONDESTRUCTIVE TESTING METHODS</b><br><b>Adriana SAVIN</b> , R.STEIGMANN, D.ROSU, M.D.STANCIU, D.FAKTOROVA,<br>G.S.DOBRESCU,D.E.HUSARU, P.D.BARSANESCU<br><i>National Institute of R&amp;D for Technical Physics, Nondestructive Testing Department, Iasi, Romania</i> |
| 17:00                | <b>ULTRASONIC IMAGE RECONSTRUCTION METHOD FOR RELIABLE QUALITY ASSURANCE</b><br><b>Vladislava ABRAMETS</b> , Michael KROENING, Dmitry SEDNEV, Yana SALCHAK<br><i>National Research Tomsk Polytechnic University, Tomsk, Russia</i>  |
| 17:30                | <b>INTER-LABORATORY PROFICIENCY TESTING OF NDT LABS ACCORDING TO ISO 17043 AS A TOOL FOR CONTINUOUS IMPROVEMENT PRINCIPLE ACCORDING TO ISO 9001</b><br><b>Tomáš ZAVADIL</b><br><i>ATG s.r.o., Prague, Czech Republic</i>  |
| <b>19:30 - 22:00</b> | <b>Social dinner</b>  |

| <b>Wednesday 11, Oct. 2017</b> |  |
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| <b>9:30- 13:00</b>             |  |
| 9:30                           | <b>General discussion &amp; Workshop closure</b>   |
| 10:30 - 13:00                  | <b>EXCURSION to the INSTITUTE of THERMOMECHANICS<br/> of the Czech Academy of Sciences<br/> and/or<br/> SIGHTSEEING TOUR IN PRAGUE</b> |
| 13:00                          | <b>WORKSHOP FINISH</b>   |

<http://ndt2017.it.cas.cz/>