

Technical Program – Oral Presentation

13th International Symposium on Nondestructive Characterization of Materials
Le Mans, France, May 20-24, 2013

Monday, 20/5/2013

8:00 AM	Registration open
9:50 AM	Opening Remarks

Monday 20/5/2013	Session A1- Guided Waves Chair: Dr. Shant Kenderian The Aerospace Corporation, El Segundo, CA, USA
10:00 AM GAW-01	Rayleigh damping predictive modeling for guided wave propagation in viscoelastic carbon composite laminate <i>Matthieu Gresil, and Victor Giurgiutiu</i> University of South Carolina, Columbia, SC, USA
10:20 AM GAW-02	Computation of dispersion curves in elastic waveguides of arbitrary cross-section embedded in infinite solid media <i>Khac Long Nguyen, Fabien Treyssède, Anne-Sophie Bonnet-BenDhia, and Christophe Hazard</i> IFSTTAR, Bouguenais, France/ Superior National School of Advanced Techniques (ENSTA) ParisTech, Palaiseau, France
10:40 AM GAW-03	The effect of different materials on the propagation of guided waves in multiple-wire cables <i>Rito Mijarez, G. Trane, and A. Baltazar</i> Electric Research Institute, Morelos, Mexico/ Center for Research and Advanced Studies of the National Polytechnic Institute, Coahuila, Mexico
11:00 AM	Coffee Break

Monday 20/5/2013	Session A2 - Nonlinear Ultrasound Chair: Dr. Shant Kenderian The Aerospace Corporation, El Segundo, CA, USA
11:20 AM NL-01	Nonlinear ultrasonic guided waves for microstructure characterization of hollow cylinders <i>Cliff J. Lissenden, Yang Liu, and Joseph L. Rose</i> Penn State University, University Park, PA, USA
11:40 AM NL-02	Damage assessment in solids through nonlinear ultrasonics in the time domain <i>Paola Antonaci, A.S. Gliozzi, M. Griffa, and M. Scalerandi</i> Politecnico di Torino, Italy/ Swiss Federal Laboratories for Materials Science and Technology (EMPA), Zürich, Switzerland
12:00 PM	Lunch & Posters

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Monday 20/5/2013	Session A3 - Composites Chair: Dr. Pierre Calmon CEA-LIST, Gif-sur-Yvette, France
1:40 PM COM-01	Effect of matrix resin composition on activity of a mechanochromic fluorescent probe for use in a novel nondestructive inspection technique for aerospace polymer matrices <i>Natalie M. Larson, Ryan E. Toivola, Zhengwei Shi, Sei-Hum Jang, Alex Jen, Gary Georgeson, and Brian Flinn</i> University of Washington, Seattle, WA, USA/ The Boeing Company, Tukwila, WA, USA
2:00 PM COM-02	Full-field defect detection of filament-wound composite cylinder using ultrasonic technique <i>Lei Gu, Kezhuang Gong, Guiyun Gao, and Zheng Li</i> Navy Academy of Armament, Beijing, China/ Peking University, Beijing, China
2:20 PM COM-03	Non destructive testing of fabric weight in the weaving process <i>Yves-Simon Gloy, T. Gries, and G. Spies</i> Institut für Textiltechnik der RWTH Aachen University/ PROTAGON - Process Technologies GmbH, Rengsdorf, Germany
2:40 PM COM-04	Assessment of advanced inspection methods to detect delaminations and water ingress in composite honeycomb materials <i>David G. Moore, and Ciji L. Nelson</i> Sandia National Laboratories, Albuquerque, NM, USA
3:00 PM	Posters & Coffee

Monday 20/5/2013	Session A4 - Materials Properties Chair: Dr. Roman Gr. Maev University of Windsor, Canada
4:00 PM MP-01	Material properties determination of geomaterials using ultrasonic testing method <i>Kezhuang Gong, Guiyun Gao, and Zheng Li</i> Navy Academy of Armament, Beijing, China/ Peking University, Beijing, China
4:20 PM MP-02	Metallurgical defect: manufacturing of a reference specimen for NDE studies <i>Izella Saletes, and A. N. Sinclair</i> University of Toronto, Ontario, Canada
4:40 PM MP-03	Amplitude-frequency characteristics of magnetoacoustic emission of heat treated iron alloys <i>Kostin Vasilenko, M. A. Guriev, O. N. Vasilenko, D. Y. Filatenkov, and Y. G. Smorodinsky</i> Institute of metal physics of The Ural Branch of the Russian Academy of Science, Ekaterinburg, Russian Federation
5:00 PM	Coffee Break

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Monday 20/5/2013	Session A5 - Materials Properties Chair: Dr. Mourad Bentahar and Dr. Rachid El Guerjouma University of Maine, Le Mans, France
5:20 PM MP-04	Characterization and modeling of ultrasonic structural noise in coarse grain steel in the diffusive regime using phased arrays <i>Thomas Bedetti, V. Dorval, L. Ducouso-Ganjehi, F. Jenson, and A. Derode</i> CEA-LIST, Gif-sur-Yvette, France/ Institut Langevin, Université Paris Diderot, France
5:40 PM MP-05	Modeling ultrasonic structural noise based on the microstructural properties of metals in the context of non destructive evaluation <i>Vincent Dorval, L. Ducouso-Ganjehi, S. Chatillon, and F. Jenson</i> CEA-LIST, Gif-sur-Yvette, France
6:00 PM MP-06	Effect of grain structure on ultrasound backscatter measurements in heat-treated IN718 superalloy <i>Sivaramanivas Ramaswamy, Siva Kumar V, Kelekanjeri G, Vishwanath T, Srinivasan Swaminathan, and Shyamsunder MT</i> GE Global Research, Bangalore, India
6:20 PM	Adjourn

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Tuesday, 21/5/2013

Tuesday 21/5/13	Plenary Address
8:00 AM ART-01	Thermography in analysis of works of art: choice of the optimal approach <i>Roman Gr. Maev, and Dmitry Gavrilov</i> Institute for Diagnostic Imaging Research, University of Windsor, Canada
8:45 AM	Coffee Break

Tuesday 21/5/13	Session B1 – NDE in Art Chair: Dr. Roman Gr. Maev University of Windsor, Canada
9:00 AM ART-02 (Invited)	Terahertz time domain spectroscopy and imaging applied to cultural heritage <i>Kaori Fukunaga, and Marcello Picollo</i> National Institute of Information and Communications Technology, Japan/ Nello Carrara Institute for Applied Physics of the Italian National Research Council, Italy
9:20 AM ART-03	The extraction and classification of craquelure for geographical and conditional based analysis of pictorial art <i>Mouhanned El-Youssef, Spike Bucklow, and Roman Gr. Maev</i> University of Windsor, Canada/ University of Cambridge, UK
9:40 AM ART-04 (Invited)	Non-invasive investigations of cultural heritage objects using neutron imaging techniques <i>David Mannes</i> Paul Scherrer Institut, Villigen, Switzerland
10:00 AM ART-05 (Invited)	Motion control and image stitching technology combine in a practical tool for cultural heritage imaging <i>Michael Broderick</i> SmartDrive Ltd, Earith, UK
10:20 AM ART-06	Edge detection combined with optical and infrared NDT techniques: an aid for wooden samples with complex surface and subsurface defects <i>Stefano Sfarra, J.-L. Bodnar, D. Ambrosini, K. Mouhoubi, and D. Paoletti</i> University of L'Aquila, Italy/ University of Reims Champagne-Ardenne, France
10:40 AM	Coffee Break

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Tuesday 21/5/13	Session B2 – Composites Chair: Dr. B. Boro Djordjevic Materials and Sensors Technologies, Inc., Glen Burnie, MD, USA
11:00 AM COM-05	Characterisation of natural fibre thermoplastic composites using ultrasonic longitudinal sound wave <i>Ahmed Mohamed Moneed ElSabbagh</i> Institute for Polymer Materials and Plastic Processing; Clausthal-Zellerfeld; Germany
11:20 AM COM-06	Smart composites platform project DECID2 – instrumentation using optical fiber sensors <i>Monsséf Drissi Habti, and X. Chapeleau</i> IFSTTAR, Bouguenais, France
11:40 AM COM-07	Optical coherence tomography for inspection of aeronautic composite parts <i>Benjamin Campagne, Hubert Voillaume, Patrick Passelande, and Gaetan Marion</i> EADS Innovation Works, Bouguenais, France/ EADS Innovation Works, Suresnes, France/ Airbus, Bouguenais, France
12:00 PM	Lunch & Posters

Tuesday 21/5/13	Session B3 - Laser Ultrasound Chair: Dr. Donatella Cerniglia The University of Palermo, Italy
1:40 PM LUT-01	Grain structure visualization of austenitic welds by laser detection of grazing incident ultrasonic wave fields <i>Martin Barth, Bernd Köhler, and Frank Schubert</i> Fraunhofer IZFP Dresden, Germany
2:00 PM LUT-02	Analytical description of directivity patterns of laser ultrasound in diamond anvil cell <i>Sergey Nikitin, N. Chigarev, Vincent Tournat, A. Zerr, and V. Gusev</i> University of Maine, Le Mans, France
2:20 PM LUT-03	Effects of laser source and plate dimensions on zero group velocity lamb modes <i>Jerome Laurent, Maximin C'es, Daniel Royer, and Claire Prada</i> Langevin Institute "Waves and Images", ESPCI Paris Tech, France
2:40 PM LUT-04	Elastic moduli of hard c-Zr₃N₄ and η-Ta₂N₃, a tough self healing material, via laser ultrasonic measurements <i>A. Zerr, N. Chigarev, O. Brinza, S. Nikitin, A. M. Lomonosov, and V. Gusev</i> LSPM, University of Paris North, Villetaneuse, France/ University of Maine, Le Mans, France/ General Physics Institute, Russian Academy of Sciences, Moscow, Russia
3:00 PM	Posters & Coffee

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Tuesday 21/5/13	Session B4 – Stress and Fracture Chair: Dr. Shant Kenderian The Aerospace Corporation, El Segundo, CA, USA
4:00 PM SF-01	Evaluation of fatigue damage by diffraction contrast tomography using synchrotron radiation <i>Daiki Shiozawa, Ryotaro Miura, Syota Matsuda, and Yoshikazu Nakai</i> Kobe University, Japan
4:20 PM SF-02	Investigation of the change mechanism of the magnetic flux density distribution around fatigue cracks <i>Hiroataka Tanabe, Yui Izumi, Tohru Takamatsu, Jun Shimada, Katsuyuki Kida, and Edson Costa Santos</i> The University of Shiga Prefecture, Hikone, Shiga, Japan/ Kyushu University, Fukuoka, Japan
4:40 PM SF-03	Variations in crack detectability due to load history and state of stress <i>John C. Duke, Jr, and Nicole Capella</i> Virginia Polytechnic Institute and State University, Blacksburg, VA, USA
5:00 PM SF-04	Using ultrasound to measure preloads in release mechanism bolt elements <i>Eric Johnson, Yong M. Kim and Robert B. Pan</i> The Aerospace Corporation, El Segundo, CA, USA
5:20 PM	Coffee Break

Tuesday 21/5/13	Session B5 - Composites Chair: Dr. B. Boro Djordjevic Materials and Sensors Technologies, Inc., Glen Burnie, MD, USA
5:40 PM COM-08	Estimation of the remaining lifetime on composite materials with creep test <i>Mohamad Darwiche, Rachid Berbaoui, Mathieu Feuillo, G. Bousaleh, Daniel Schang, and Rachid Elguerjouma</i> University of Maine, Le Mans, France/ Lebanese University Of Science and Technology, Saida, Lebanon/ Eseo Institute Of Science and Technology, Angers, France
6:00 PM COM-09	Sonic infrared imaging NDE for characterizing aircraft composite materials <i>Xiaoyan. Han, D. Zhang, A. Lubowicki, Matthew C. Jackson, and Justin M. Ar-Rasheed</i> Wayne State University, Detroit, MI, USA
6:20 PM	Adjourn

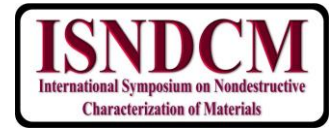
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Wednesday, 22/5/2013

Wednesday 22/5/13	Plenary Address
8:00 AM MP-07	Comprehensive characterisation of steels using multiple NDE techniques <i>T. Jayakumar, and Anish Kumar</i> Indira Gandhi Centre for Atomic Research, Kalpakkam, India
8:45 AM	Coffee Break

Wednesday 22/5/13	Session C1 - NDE of Welds Chair: Dr. Walter Arnold Saarland University, Saarbrücken, Germany
9:00 AM WLD-01	Ultrasonic characterization of creep damage in modified 9Cr-1Mo ferritic steel weld joints <i>T. Jayakumar, Anish Kumar, K.S. Chandravathi, G.K. Sharma, and K. Laha</i> Indira Gandhi Centre for Atomic Research, Kalpakkam, India
9:20 AM WLD-02	Technical evaluation of ultrasound phased array inspection In welded joints of AISI 304L austenitic stainless steel <i>Ramon Fonseca Ferreira, Maurício Saldanha Motta, Lincoln Silva Gomes, Maurício Ogawa, and André Rocha Pimenta</i> SENAI Welding Technology Centre, Rio de Janeiro, Brazil
9:40 AM WLD-03	Study of the probability of detection of defects in welded joints of the techniques of magnetic particle and penetrant testing <i>Ramon Fonseca Ferreira, Lincoln Silva Gomes, Maurício Ogawa, Suzana Peripolli Botega, Agildo Badaró Moreira, and Ricardo de Oliveira Carneval</i> SENAI Welding Technology Centre, Rio de Janeiro, Brazil/ Search and Development Centre Leopoldo Américo Miguez de Mello CENPES/TMEC/PETROBRAS, Rio de Janeiro, Brazil
10:00 AM WLD-04	Advanced simulation of ultrasonic inspection of welds using dynamic ray tracing <i>Audrey Gardahaut, Karim Jezzine, Didier Cassereau, Nicolas Leymarie, and Ekaterina Iakovleva</i> CEA-LIST, Gif-sur-Yvette, France/ CNRS, UMR, Paris, France
10:20 AM	Coffee Break



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Wednesday 22/5/13	Session C4 – Composites Chair: Dr. B. Boro Djordjevic Materials and Sensors Technologies, Inc., Glen Burnie, MD, USA
4:00 PM COM-10	Estimation of elastic properties and damage monitoring in 2D woven composites using ultrasonic Lamb waves <i>Benjamin Lamboul, G.Bai, J-M. Roche, and G.Grail</i> Onera, Châtillon, France
4:20 PM COM-11	Quantitative thermographic characterization of composite materials <i>Steven M. Shepard</i> Thermal Wave Imaging, Ferndale, MI, USA
4:40 PM COM-12	Ultrasonic characterization of composite materials <i>B Boro Djordjevic</i> Materials and Sensors Technologies, Glen Burnie, MD, USA
5:00 PM	Coffee Break

Wednesday 22/5/13	Session C5 – Nonlinear Ultrasound Chairs: Dr. Igor Solodov and Dr. Mourad Bentahar University of Stuttgart, Germany University of Maine, Le Mans, France
5:20 PM NL-03	Nonlinear mixing of ultrasonic coda waves with lower frequency pump waves for global detection of defects in multiple scattering media <i>Yuxiang Zhang , Vincent Tournat, Odile Abraham, Olivier Durand, Stéphane Letourneur, Alain Le Duff, and Bertrand Lascoup</i> LUNAM Université, IFSTTAR, Bouguenais, France/ University of Maine, Le Mans, France/ Groupe ESEO, Angers, France/ Parc Universitaire Laval-Changé, Laval, France
5:40 PM NL-04	Nonlinear viscoelastic properties measurements in complex fluids using dynamic acoustoelastic testing: theoretical and experimental comparison <i>Chloé Trarieux, Hélène Moreschi, Samuel Callé, Guillaume Renaud, Jean-François Tranchant, Alex Poulin, and Marielle Defontaine</i> François Rabelais University, Tours, France/ Erasmus Medical Center, Rotterdam, Netherlands/ LVMH Research, Saint Jean de Braye, France
6:00 PM NL-05	Detection and localization of defects in complex structures by nonlinear elastic wave spectroscopy and acoustic emission <i>Zdenek Prevorsek, Milan Chlada, Josef Krofta, Jan Kober, and Serge Dos Santos</i> Institute of Thermomechanics, Prague, Czech Republic/ ENI Val de Loire, Blois, France
6:20 PM	Adjourn

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Thursday, 23/5/2013

Thursday 23/5/13	Plenary Address
8:00 AM LUT-05	Characterization of nano-porous and nano-granular thin films by picosecond laser ultrasonics <i>Vitalyi Gusev, Pascal Ruello, and Gwenaëlle Vaudel</i> University of Maine, Le Mans, France
8:45 AM	Coffee Break

Thursday 23/5/13	Session D1 - Optical Methods Chair: Dr. B. Boro Djordjevic Materials and Sensors Technologies, Inc., Glen Burnie, MD, USA
9:00 AM OM-01	Laser Speckle Photometry (LSP) – the novel NDE method <i>Ulana Cikalova, Juergen Nicolai, Beatrice Bendjus, and Juergen Schreiber</i> Fraunhofer Institute for Nondestructive Testing (IZFP), Dresden, Germany
9:20 AM OM-02	Evaluation of the fatigue damage by means of the scale properties of the NDE signals <i>Ulana Cikalova, Juergen Schreiber, and Norbert Meyendorf</i> Fraunhofer Institute for Nondestructive Testing (IZFP), Dresden, Germany
9:40 AM OM-03	Investigation of 3D surface acoustic waves with digital color holography <i>Mathieu Leclercq, Vincent Tournat, Guillaume Penelet, and Pascal Picart</i> University of Maine, Le Mans, France
10:00 AM OM-04	Laser impact induced isomerisation of a film-contained cis-polyacetylene as studied by multichannel Raman spectroscopy <i>Z. Skanderi, Taharchaouche, A. Djebaili, and N. Bourmada</i> University of Batna, Algeria
10:20 AM	Coffee Break

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Thursday 23/5/13	Session D2 – Thermography Chair: Dr. Steven M. Shepard Thermal Wave Imaging, Ferndale, MI, USA
10:40 AM IR-01	Development of nondestructive coke thickness measurement technology for fired heater tubes using infrared thermography <i>Junichiro A Kazi, Munenori Maekawa, Takahide Sakagami, and Yoshikazu Morishita</i> Chiyoda Corporation, Yokohama, Japan/ Kobe University, Japan
11:00 AM IR-02	Fatigue limit estimation based on dissipated energy measurement for steel specimen with multiple notches <i>Ken Inaba, Atsushi Akai, Daiki Shiozawa, and Takahide Sakagami</i> Kobe University, Japan
11:20 AM IR-03	Local defect resonance as a mechanism of highly efficient and defect selective ultrasonic thermography <i>Igor Solodov</i> University of Stuttgart, Germany
11:40 AM IR-04	Experimental investigation of fatigue crack detection by sonic-IR method <i>Yui Izumi, Hiroataka Tanabe, Tohru Takamatsu, and Takahide Sakagami</i> The University of Shiga Prefecture, Japan/ Kobe University, Japan
12:00 PM	Lunch & Posters

Thursday 23/5/13	Session D3 - Materials Properties Chair: Dr. John C. Duke, Jr Virginia Polytechnic Institute and State University, Blacksburg, VA, USA
1:40 PM MP-08	Three dimensional visualization and quantification of fly ash/Al syntactic foams via X-ray microtomography <i>Qiang Zhang, Longtao Jiang, Guoqin Chen, and Gaohui Wu</i> Harbin Institute of Technology, China
2:00 PM MP-09	Attenuation of pure shear-waves in anisotropic materials: how to measure it from plane wave angular spectrum decomposition of the transmitted beam in an immersion tank <i>Naima Alaoui Ismaili, Philippe Guy, Xiaodong Deng, and Thomas Monnier</i> University of Lyon, National Institute for Applied Sciences, Villeurbanne, France
2:20 PM MP-10	Pressure induced elastic anisotropy of solid argon via X-ray diffraction measurements in a diamond anvil cell <i>Andreas Zerr, S. Nikitin, and N. Chigarev</i> LSPM, University of Paris North, Villetaneuse, France/ University of Maine, Le Mans, France
2:40 PM MP-11	The mechanical behavior of the human skin in-vivo using 2D high frequency elastography: anisotropy and initial natural stress effect <i>Yassine Mofid, and Frédéric Ossant</i> François Rabelais University (University of Tours) Tours, France/ INSERM, Tours, France
3:00 PM	Posters & Coffee

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Thursday 23/5/13	Session D4 - Laser Ultrasound Chair: Dr. Vitalyi Gusev University of Maine, Le Mans, France
4:00 PM LUT-06 (Invited)	Confined coherent acoustic phonons and SAWs in silicon membranes <i>Thomas Dekorsy</i> University of Konstanz, Germany
4:20 PM LUT-07 (Invited)	Laser ultrasonic inspection of plate and tube using zero group velocity lamb modes <i>Claire Prada, Jérôme Laurent, Maximin Cès, and Daniel Royer</i> Langevin Institute "Waves and Images", ESPCI Paris Tech, France
4:40 PM LUT-08 (Invited)	Thermal and elastic characterization of sub-micron layers by laser ultrasonics <i>Christ Glorieux, Bert Verstraeten, Jan Sermeus, Robbe Salenbien, Michal Landa, P. Pobedinskas, and Ken Haenen</i> Catholic University of Leuven, Belgium/ Institute of Thermomechanics AS CR, Prague, Czech Republic/IHasselt University, Diepenbeek, Belgium
5:00 PM	Coffee Break

Thursday 23/5/13	Session D5 - Laser Ultrasound Chairs: Dr. Pascal Ruello and Dr. Vincent Tournat University of Maine, Le Mans, France
5:20 PM LUT-09	Laser-based resonant ultrasound spectroscopy for quantitative characterization of advanced materials <i>Michal Landa, Hanuš Seiner, Petr Sedlák, Michaela Janovská, Lucie Bodnárová, and Jan Zídek</i> Institute of Thermomechanics AS CR, Prague, Czech Republic
5:40 PM LUT-10	Evaluation of the elastic parameters of polycrystalline steel by all-optical technique <i>N. Chigarev, Vincent Tournat, Lili Ducouso-Ganjehi, F. Jenson, P. Calmon, and V. Gusev</i> University of Maine, Le Mans, France/ CEA-LIST, Gif-sur-Yvette, France
6:00 PM LUT-11	All optical crack detection and characterization in mems by the optoacoustic method <i>Chenyin Ni, C. Ni, N. Chigarev, Vincent Tournat, O. Bou-Matar, and V. Gusev</i> University of Maine, Le Mans, France
6:20 PM	Adjourn

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Friday, 24/5/2013

Friday 24/5/13	Session E1 - Laser Ultrasound Chairs: Dr. Charfeddine Mechri and Donatella Cerniglia University of Maine, Le Mans, France University of Palermo, Italy
8:00 AM LUT-12	Evaluation of the adhesion between the nanoparticles and their adhesion to the substrate from resonance hypersonic spectra of colloidal nanofilms <i>Pascal Ruello, X. Dieudonné, A. Ayouch, G. Vaudel, H. Piombini, K. Valle, P. Belleville, and V. Gusev</i> University of Maine, Le Mans, France/ CEA, DAM, Monts, France
8:20 AM LUT-13	Laser ultrasonic technique for laser powder deposition inspection <i>Donatella Cerniglia, M. Scafidi, A. Pantano, and S. P. Santospirito</i> University of Palermo, Italy/ Kingston Computer Consultancy, London, UK
8:40 AM LUT-14	Laser ultrasonics and mode conversion for flaw depth gauging <i>Frédéric Faëse, F. Jenot, M. Ouaftouh, M. Duquennoy, and M. Ourak</i> Université de Valenciennes, Valenciennes, France
9:00 AM	Coffee Break

Friday 24/5/13	Session E2 – Nanomaterials Chairs: Dr. Mourad Bentahar and Bernhard Tittmann University of Maine, Le Mans, France Penn State University, University Park, PA, USA
9:20 AM NM-01	Wannier-Stark effect in Dimer Fibonacci GaAs/Ga_{1-x}Al_xAs Nanomaterials <i>Aziz Zoubir, Sefir Yamina, Djelti Radouan, and Bouadjemi Bouabdellah</i> Abdelhamid Ibn Badis Mostaganem University, Algeria
9:40 AM NM-02	Imaging of biological nano-composite plant cell wall at the micro-and nano-scales <i>Bernhard Tittmann, S. Louyeh-Maghsoudy, J. Kim, and X. Xi</i> Penn State University, University Park, PA, USA/ The Aerospace Corporation, El Segundo, CA, USA
10:00 AM NM-03	Atomic Force Microscopy a powerful tool for characterization of structural, mechanical and electrical properties of materials <i>Nicolas Delorme, and Jean-François Bardeau</i> University of Maine, Le Mans, France
10:20 AM	Coffee Break

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Friday 24/5/13	Session E3 - Stress and Fracture Chair: Dr. Shant Kenderian The Aerospace Corporation, El Segundo, CA, USA
10:40 AM SF-05	Review of non destructive methods used for stress measurement: application in the mechanical industry <i>Henry Walazek, P. Bouteille, F. Zhang, and Catty Johann</i> CETIM, Senlis, France
11:00 AM SF-06	Characterization of concrete damage after fire with ultrasonic and electromagnetic non destructive evaluation methods <i>Odile Abraham, Xavier Dérobert, Géraldine Villain, Odile Coffec, Anaëlle Luczak, Vincent Metais, Pierre Pimienta, David Cuvelier, and Guy Plantier</i> IFSTTAR, Bouguenais, France/ CSTB, Marne la Vallée, France/ CETE Nord-Picardie, Haubourdin, France/ Groupe ESEO, Angers, France
11:20 AM SF-07	Acoustic emission technique for characterizing fatigue crack growth in RAFM steel <i>T. Jayakumar, M. Nani Babu, C. K. Mukhopadhyay, G. Sasikala, Shaju K Albert, and A. K. Bhaduri</i> Indira Gandhi Centre for Atomic Research, Tamil Nadu, India
11:40 AM SF-08	Relationship between acoustic emission of defects and fracture mechanics parameters to integrity evaluation of pipelines <i>Sergio Damasceno Soares, and João Marcos Alcoforado Rebello</i> Petrobras Research and Development Center, Rio de Janeiro, Brazil
12:00 PM	Lunch & Posters

Friday 24/5/13	Session E4 - Nonconventional NDE Chair: Dr. John C. Duke, Jr Virginia Polytechnic Institute and State University, Blacksburg, VA, USA
1:40 PM NC-01	Advances in non-invasive tube inspection using pulse reflectometry <i>Noam Amir</i> AcousticEye Ltd., Tel Aviv, Israel
2:00 PM NC-02	Nondestructive evaluation of steel plate coated with corrosion protection paint utilizing transmission property of THz wave <i>Akihisa Moriguchi, Tomoya Tanaka, Takahide Sakagami, and Masanori Hangyo</i> Kobe University, Japan/ Osaka University, Japan
2:20 PM NC-03	Broadband microwave interferometry for nondestructive evaluation <i>Kamel Haddadi, and Tuami Lasri</i> Institut d'Electronique, de Microélectronique et de Nanotechnologie, Villeneuve, France
2:40 PM NC-04	Applications of the Barkhausen noise technique for nondestructive characterization of mechanical components <i>Fan Zhang, Cyril Gos, Adnan Sadikaly, and Henri Walaszek</i> CETIM, Senlis, France
3:00 PM	Posters & Coffee

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Friday 24/5/13	Session E5 – Composites Chair: Dr. B. Boro Djordjevic Materials and Sensors Technologies, Inc., Glen Burnie, MD, USA
4:00 PM COM-13	A comparative study of interaction of fundamental Lamb modes with a point impacted damaged zone in carbon fiber reinforced composite plates <i>Dilbag Singh, M. Bentahar, C. Mechri and R. El Guerjouma</i> University of Maine, Le Mans, France
4:20 PM COM-14	Identification of stiffness and damping characteristics of plates using the local equation of motion <i>Frédéric Ablitzer, Charles Pézerat, Jean-Michel Gènevaux, and Jérôme Bégue</i> University of Maine, Le Mans, France/ Technical Centre for Mechanical Industries, Bouguenais, France
4:40 PM COM-15	Study of optical and electromagnetic properties of composite materials <i>Gérard Berthiau, K. Lee, H. Lee, O. Galstyan, K. Karapetyan, D. Trichet, M. Féliachi, G. Wasselynck, J. Fouladgar, and H.K. Bui</i> University of Nantes, France / University of Sogang, Seoul, Korea
5:00 PM COM-16	Laser ultrasonic developments for NDT of aeronautic composite parts <i>Benjamin Campagne, Hubert Voillaume, Lucile Gouzerh, and Franck Bentouhami</i> EADS Innovation Works, Bouguenais, France/ EADS Innovation Works, Suresnes, France/ Airbus, Bouguenais, France
5:20 PM COM-17	Sparse representations of acoustic emission signal: application to damage analysis in glass fiber reinforced composites <i>Abida Satour, Silvio Montresor, Mourad Bentahar, Rachid Elguerjouma, and Fouad Boubenider</i> Technical and Scientific Research Center for welding and Control, Cheraga, Algeria/ University of Maine, Le Mans, France/ University of sciences and technology Houari Boumedienne, Bab Ezzouar, Algeria
5:40 PM	Adjourn