

Ninth Meeting of the GDR in Aussois

December 7th to 11th 2015

" Wave Propagation in complex media for quantitative and non destructive evaluation "

Scientific Program

Monday, December 7th 2015 - Morning

- 9:00** *Welcome.*
- 10:00** **Clark M.**, *Keynote lecture : Imaging with sub-optical wavelength ultrasound.*
- 11:00** *Coffee Break.*
- 11:30** **Colombi A., Colquitt D., Roux P., Craster R. and Guenneau S.**, *Analysis of a locally resonant metamaterial for flexural waves in plates and Rayleigh waves in solids..*
- 12:00** **Rodriguez S., Deschamps M., Ducasse E. and Castaings M.**, *Ultrasonic Topological imaging for defect detection in complex structures.*
- 12:30** *Lunch.*

Monday, December 7th 2015 - Afternoon

- 14:00** **Baronian V., Bonnet-Ben Dhia A.S., Fliss S. and Tonnoir A.**, *Coupling plane wave representations and finite elements for the simulation of time-harmonic scattering in anisotropic media.*
- 14:30** **Chapman J.**, *A class of reduced-order models for elastic waves in a layer .*
- 15:00** **Treysède F.**, *Veering of dispersion curves and prestress effects in multi-wire helical waveguides.*
- 15:30** *Coffee Break.*
- 16:00** **Darmon M., Dorval V., Kamta Djakou A., Fradkin L. and Chatillon S.**, *A generic GTD-Kirchhoff scattering model for ultrasonic NDT of planar defects .*
- 16:30** **Er-Raoudi M., Diany M. and Mabrouki M.**, *Bearings defects prediction using Empirical Wavelet Transform.*
- 19:30** *Dinner.*

Tuesday, December 8th 2015 - Morning

- 9:00** **Kergomard J.**, *Keynote lecture : Junctions of acoustic waveguides with rigid walls at low frequencies; application to periodic media.*
- 10:00** *Coffee Break.*

- 10:30** Chouiyakh H., Azrar A., Alnefaie K. and Akourri O., *Huang Hilbert Transform based procedure for multi-crack identification of beams under a moving excitation.*
- 11:00** Shi F., Lowe M., Skelton E. and Craster R., *Analytical solution for the diffuse scattered field of elastic waves at randomly rough surfaces.*
- 11:30** Tant K. and Mulholland A., *Objective defect characterisation using ultrasonic phased array data .*
- 12:00** Al-Lashi R.S. and Challis R., *Ultrasonic particle sizing in non-dilute suspensions .*
- 12:30** Lunch.

Tuesday, December 8th 2015 - Afternoon

- 14:00** Haslinger S., Craster R., Movchan A., Movchan N. and Jones I., *Interfacial waves and neutrality for semi-infinite platonic crystals.*
- 14:30** Lan B., Lowe M. and Dunne F.P.E., *Texture determination from ultrasonic wave speeds for HCP and cubic materials .*
- 15:00** Real G., Habault D., Cristol X., Fattacioli D. and Sessarego J.P., *An ultrasonic test bench for reproducing oceanic sound fluctuations.*
- 15:30** Coffee Break.
- 16:00** Baronian V., Bonnet-Ben Dhia A.S., Fliss S. and Tonnoir A., *Domain Decomposition Method for scattering problem in 3D elastic waveguides .*
- 16:30** Lopez Villaverde E., Robert S. and Prada C., *Noise reduction in ultrasonic array imaging by the DORT method.*
- 17:00** Saidoun A., Meziane A., Renier M., Bacon C., Fan Z. and Walaszek H., *Experimental and numerical studies of the nonlinear interaction between a longitudinal wave and contact interface.*
- 19:30** Dinner.

Wednesday, December 9th 2015 - Morning

- 9:00** Mulholland A., *Keynote lecture : Mathematical Modelling in the Centre for Ultrasonic Engineering.*
- 10:00** Coffee Break.
- 10:30** Destuynder P. and Fabre C., *On crack detection in NDT using Love waves .*
- 11:00** Baronian V., Bourgeois L. and Recoquilly A., *Imaging defects in an acoustic waveguide using time-dependent surfacic data .*
- 11:30** Siryabe E., Renier M., Meziane A., Galy J. and Castaings M., *Apparent anisotropy of an adhesive layer induced by imperfect interfaces and evaluation of interfaces stiffness's. .*
- 12:00** Rowley W., Parnell W.J., Abrahams I.D. and Voisey R., *Design of acoustic beam shifters and related experiments.*
- 12:30** Lunch.

Wednesday, December 9th 2015 - Afternoon

14:00 *tour or visit.*

20:00 *Conference Dinner.*

Thursday, December 10th 2015 - Morning

9:00 **Ammari H.**, *Keynote lecture : cancelled.*

10:00 *Coffee Break.*

10:30 **Favraud G. and Pagneux V.**, *A conformal mapping method for the scattering by rough surface.*

11:00 **Joyce D., Abrahams I.D. and Parnell W.J.**, *Effective dynamic properties of complex non-linear composites.*

11:30 **Bellis C., Bonnet M. and Cakoni F.**, *Acoustic inverse scattering using topological derivatives.*

12:00 **Chabassier J. and Imperiale S.**, *Fourth order energy-preserving locally implicit discretization for linear wave equations.*

12:30 *Lunch.*

Thursday, December 10th 2015 - Afternoon

14:00 **Junca S. and Legrand M.**, *Prestressed Nonlinear modes of a N degree-of-freedom system undergoing a purely elastic impact law .*

14:30 **Lombard B., Favrie N. and Payan C.**, *Wave propagation in nonlinear elastic solids with slow dynamics.*

15:00 **Devaux T., Tournat V., Richoux O. and Pagneux V.**, *Asymmetric acoustic propagation of wave packets via the self-demodulation effect.*

15:30 *Coffee Break.*

16:00 **Massacret N., Ploix M.A. and Jeannot J.P.**, *Ultrasound propagation through Kelvin-Helmholtz instabilities.*

16:30 **Hernando Quintanilla F., Fan Z., Lowe M. and Craster R.**, *2D and 3D Dispersion Loci of GuidedWaves in Viscoelastic Composites of General Anisotropy .*

17:00 **Davey R., Assier R. and Hewitt R.**, *Guided Wave Vibration Techniques Applied to Hidden Tamper Detection.*

19:30 *Lunch.*

Friday, December 11th 2015 - Morning

9:00 **Theocharis G.**, *Energy transport in one-dimensional disordered granular solids.*

9:30 **Le Thi H., Junca S. and Legrand M.**, *Periodic solutions with one sticking phase per period.*

10:00 **Lynott G. and Hewitt R.**, *Ultrasonic Particle Separation.*

10:30 *Coffee Break.*

11:00 **Van Pamel A., Huthwaite P., Brett C. and Lowe M.**, *Finite Element simulation of wave propagation in highly scattering materials..*

11:30 *Meeting Closure .*

12:00 *Lunch.*