

Eighth Meeting of the GDR in Gregynog
23rd to 27th June 2014

Wave Propagation in complex media for quantitative and Non-Destructive Evaluation

Scientific Program

Monday, June 23rd 2014 - Morning

- 9:00** *Welcome*
- 9:30** **Dubus B. and Granger C.**, *Physical analysis of ultrasonic cavitation bubble structures observed at high intensity with horn transducers (invited)*
- 10:30** *Coffee break*
- 11:00** **Pinfield V.**, *Thermoelastic scattering in concentrated media: the Rayleigh limit for second order concentration effects*
- 11:30** **Mattesi V. and Tordeux S.**, *Equivalent source modelling of small heterogeneities in the context of 3D time-domain wave propagation equation*
- 12:00** **Luppe F., Conoir J.M. and Pareige P.**, *Dynamic mass density of random arrays of cylinders in an ideal fluid and the generalized self consistent method*
- 12:30** *Lunch*

Monday, June 23rd 2014 - Afternoon

- 14:00** **Yaacoubi S., Mckeon P., Yaacoubi W. and Declercq N.F.**, *Steps toward a new technique for improving guided waves detection sensitivity*
- 14:30** **Huthwaite P.**, *Thickness mapping by guided wave tomography*
- 15:00** **Treyssède F. and Laguerre L.**, *Excitation of prestressed multi-wire helical waveguides*
- 15:30** *Coffee break*
- 16:00** **Tant K. and Mulholland A.**, *A fractional Fourier transform analysis of the scattering of ultrasonic chirps*
- 16:30** **Yaacoubi W. and Yaacoubi S.**, *Issues to reduce false calls in guided waves structural health monitoring: survey and discussion*
- 17:00** **Nguyen K.L., Treyssède F., Hazard C. and Bonnet-Ben Dhia A.S.**, *Finite element computation of leaky modes in straight and helical elastic waveguides*
- 19:30** *Dinner*

Tuesday, June 24th 2014 - Morning

- 9:00** Habault D., *ESAA Project - Toward an active anechoic room (invited)*
- 10:00** Parnell W.J., Shearer T. and Abrahams D., *Elastic wave scattering in pre-stressed nonlinear inhomogeneous materials*
- 10:30** Coffee break
- 11:00** Fan S., Choi W., Skelton E., Lowe M. and Craster R., *The validity of the 3D elastic Kirchhoff approximation for rough crack scattering signals using a finite element approach*
- 11:30** Mora P., Ducasse E. and Deschamps M., *Elastodynamic response of an embedded layered anisotropic plate to a transient localized source*
- 12:00** Kamta Djakou A., Darmon M. and Potel C., *The Uniform Theory of Diffraction (UTD) for elastic wave scattering from a half-plane*
- 12:30** Lunch

Tuesday, June 24th 2014 - Afternoon

- 14:00** Carta G., Brun M. and Movchan A., *Wave propagation and localised modes in structures with diffuse cracks*
- 14:30** Joyce D., Abrahams D. and Parnell W.J., *The higher order integral equation method of homogenization: antiplane elasticity*
- 15:00** Hernando Quintanilla F., Lowe M. and Craster R., *Spectral Methods: An alternative to root-finding routines for finding dispersion curves of anisotropic homogeneous media*
- 15:30** Coffee break
- 16:00** Haslinger S., *Flexural waves in structured elastic plates - trapped modes, transmission resonances and Elasto-Dynamically Inhibited Transmission (EDIT)*
- 16:30** Sargent C., *Trapped modes in two dimensional waveguides*
- 17:00** Massacret N., Moysan J., Jeannot J.P., Ploix M.A. and Corneloup G., *Development of ultrasonic propagation simulation for acoustic thermometry in liquid sodium*
- 19:30** Welsh Speciality Dinner

Wednesday, June 25th 2014 - Morning

- 9:00** Barnwell E., Parnell W.J. and Abrahams D., *Tunable elastodynamic band-gaps*
- 9:30** O'Neill J., Selsil O., Mcphedran R.C., Movchan A. and Movchan N., *Cloaking of finite inclusions for flexural waves in thin Kirchhoff plates using active control sources*
- 10:00** Coffee break
- 10:30** Colquitt D., Brun M., Gei M., Movchan A., Movchan N. and Jones I., *Transformation platronics and cloaking*
- 11:00** Thompson I., *Block wave excitation*
- 11:30** Mansoura S.A., Marechal P., Morvan B. and Dubus B., *Active control of phononic crystals*
- 12:00** Lunch

Wednesday, June 25th 2014 - Afternoon

- 14:00** Walk in countryside near Gregynog
- 19:30** Drinks Reception followed by Conference Dinner

Thursday, June 26th 2014 - Morning

- 9:00** Gunn D., Holyoake S. and Dashwood B., *Low frequency ultrasound propagation in layered media (invited)*
- 10:00** Cunningham L. and Mulholland A., *A multi-frequency, model based method for sizing cracks in an elastic solid*
- 10:30** Coffee break
- 11:00** Lowe M. and Fan Z., *Array imaging of austenitic welds by measuring weld material map*
- 11:30** Li W. and Sharples S., *Spatially resolved acoustic spectroscopy: a laser ultrasonic technique for materials characterisation*
- 12:00** Bai L., Velichko A. and Drinkwater B., *Ultrasonic Characterisation of Crack-Like Defects from Scattering Matrices*
- 12:30** Lunch

Thursday, June 26th 2014 - Afternoon

- 14:00** Peake N., *The aeroacoustics of the owl (invited)*
- 15:00** Destuynder P. and Favre C., *Remarks for non destructive testing in a bi-material based on Love waves*
- 15:30** Coffee break
- 16:00** Baronian V., Bonnet-Ben Dhia A.S., Fliss S. and Tonnoir A., *Exact transparent boundary conditions for diffraction problems in some anisotropic plates*
- 16:30** Junca S. and Legrand M., *Nonsmooth modal analysis of vibratory systems undergoing purely elastic impacts*
- 17:00** Favrie N., Lombard B. and Payan C., *Nonlinear elasticity and slow dynamics: physical and numerical modeling*
- 19:30** Dinner

Friday, June 27th 2014 - Morning

- 9:00** Pullen R. and Lawrie J., *Reflection and transmission at the junction between two sections of circular cylindrical shell*
- 9:30** Nigro D. and Abrahams D., *Low mach number flow noise from a two-dimensional rough circular cylinder*
- 10:00** Brun M. and Slepyan L., *Solution of a moving contact problem of dynamic elasticity*
- 10:30** Coffee break
- 12:00** Lunch