

CALL FOR PAPERS

GDR – AFPAC

The 6th conference of the GDR 2501 Research on Ultrasound Propagation for NDT jointly with the 10th Anglo French Conference on Physical Acoustics

www.afpac.org.uk

18 – 22 January 2010

Castle Green Hotel, Lake District, UK

The 10th Anglo French Conference on Physical Acoustics (AFPAC) will be held at the Castle Green Hotel, Kendal, Cumbria, UK between 18th–22nd January 2010. As usual this is supported by The Physical Acoustics Group of the IOP together with the French society GAPSUS. This year we are also pleased to be supported and sponsored by Groupe de Recherche, (GDR), a network of the French scientific funding agency CNRS now linked to the UK with EPSRC funding.

GDR is a research network, which has been running in France since January 2002, and whose purpose is to link university researchers in ultrasonic Non Destructive Testing (NDT) with each other and with interested industrial organisations. AFPAC has a wider subject base, so this conference, combining GDR and AFPAC seeks papers in any area of physical acoustics including, but not restricted to, the topic areas listed below.

There will be four invited speakers. These are:

- **Dr Joel Gilbert** (Le Mans University): Nonlinear acoustic propagation in horns - brass musical instruments as illustrations
- **Professor Philippe Destuynder** (CNAM Paris): The derivation and validity of plate shell models in structural analysis.
- **Professor Peter Wells CBE, FRS FEng FMedSci** (Cardiff University): Medical Ultrasound
- **Professor John Willis** (Bath and Cambridge): title to be confirmed.

Call for Abstracts – Deadline 9th October 2009

Abstracts, of about 250 ~ 300 words are invited on the following topics in Physical Acoustics:

- Acoustic and elastic wave measurement standards
- Guided waves and waveguides
- Imaging
- Infrasound and ultrasound in the animal world (Bats and Dolphins etc.)
- Inspection of bonded joints and the modelling and experiments on ageing bonded structures
- Medical Ultrasound (both therapeutic and diagnostic)
- Musical instruments
- Non-contact methods of inspection
- Non-linear acoustic methods both to characterise materials, including inhomogeneous solids, and to detect damage
- Novel acoustic and ultrasonic signal generators and receivers
- Sonochemistry
- Structural health monitoring
- Structural noise (defined as a received acoustic or elastic wave signal stemming from scattering from distributed structural characteristics such as crystalline or cellular forms)
- Underwater Ultrasound and Sonar
- Wave propagation in complex materials from bone to modern engineering materials, including the interaction with defects, the characterisation of porosity, the detection of and localisation of faults and material property changes

Abstracts of between 250 - 300 words should be submitted via the website to arrive no later than **9th October 2009**.

The scientific organising committee comprises:

Marc Deschamps (LMP-CNRS, Bordeaux, France)
Alain Leger (LMA-CNRS, Marseilles, France)
Alain Lhemery (CEA, Saclay, France)

Nader Saffari (UCL, London, UK)
David Abrahams (University of Manchester, UK)
Dave Cartwright (Ultrasound Design Ltd, UK)
Mike Lowe (Imperial College London, UK)

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Venue

The Lake District is a compact area of 880 square miles which was designated the first UK National Park in 1951 because of its outstanding scenery. Most of the area's bedrock was laid down up to 500 million years ago as the Borrowdale volcanic rocks, which were 7km thick. Geological processes over 500 million years have produced a physical landscape of mountains and lakes of great scenic beauty. After the volcanoes, some of the area subsided beneath a shallow sub-tropical sea teeming with marine life, and limestone was laid down. As the sea deepened over a long time large amounts of mud and sands were deposited. Slate developed from sediments and sandstone was created in desert conditions. Various minerals were also formed in joints and faults in the bedrock.

About 2 million years ago the area entered a period of repeated advance and retreat of ice ages. The last ice age, between about 25,000 and 10,000 years ago carved out the present steep sided valleys and lake basins and scooped out hollows now filled with tarns. The Lake District has over fourteen lakes and innumerable mountain tarns, many of which are too small to be named.

The area's imposing natural landforms have been overlaid by thousands of years of human activity including miles of hedgerows and dry-stone walls, and the stone farm buildings. This mountain and valley terrain modified with human endeavours is what makes the Lake District so special. Here are the longest and deepest lakes, and the tallest peaks, in England and the Lake District was recently voted Britain's greatest natural wonder.

The scenery inspired many literary figures including Wordsworth, Beatrix Potter and Wainwright. The poet William Wordsworth in the early 19th century wrote "they deem the district a sort of national property, in which every man has a right and interest who has an eye to perceive and a heart to enjoy." In the early 1900s, Beatrix Potter lived in Hill Top farm and set many of the Peter Rabbit books in the Lake District. Wainwright wrote: "Surely there is no other place in this wonderful world quite like Lakeland ... no other so exquisitely lovely, no other so charming, no other that calls so insistently across a gulf of distance. All who truly love Lakeland are exiles when away from it."

The venue chosen is at the gateway to the Lake District being convenient for both the town of Kendal and good public transport links to Manchester, Glasgow and London as well as close proximity to the M6 motorway.

The area has an excellent reputation for locally produced food, which we look forward to enjoying.

Some useful links are:

<http://www.golakes.co.uk/places/highlights/>

<http://www.golakes.co.uk/places/towns/kendal.aspx>

<http://wordsworth.org.uk/>

Organiser

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