EUROPEAN ASSOCIATION OF GEOSCIENTISTS & ENGINEERS

# EAGE Near Surface 2011

## Leicester, UK, 12-14th September

### *Technical programme:*

Four Keynote speakers, 2 parallel oral sessions, plus posters:

*Sinkhole and Cavity Detection*
*Monitoring and Characterisation*
*Industrial Mineral exploration*
*Geotechnical Applications*
*Modelling, Inversion and Processing*
*Water Resources*
*Engineering Applications*
*New Geophysical Technologies*
*Archaeogeophysics*
*Airborne Geophysics*
*Student Programme with special activities*

### *Workshops:*

*Sand & Gravel Deposit Assessment*
*Ground Penetrating Radar*
***Passive Seismic Methods***
*Waterborne Geophysical Surveys*

***Exhibition*** – 3 day exhibition of equipment and services suppliers.

***Field demonstrations*** – geophysical field methods including a full commercial seismic reflection crew in operation.

### *Field trips:*

Geology and quarrying in Charnwood Forest
Geohazards and Mining in the Peak District

Meeting supported by
Geological Society of London.
***Geological Society members register at the EAGE members' rate.***

Further details and registration: www.eage.org/events University of Leicester, UK

## Passive Seismic methods for Near-Surface applications

Convenor: Dr Victoria Lane (SEIS UK, Leicester University)

Presenters: Dr George Tuckwell, (RSK STATS Geophysical Director);
Andrew Curtis, Professor of Mathematical Geoscience at the University of Edinburgh.
Prof. Graham Stuart (University of Leeds)
Chris Leech (Geomatrix Earth Science Ltd)

This course is highly relevant to new users, less experienced users and industry/academic practitioners who need more than just a simple overview of passive seismic, how it is used and what the gain/pitfalls are. Will cover all NSG application ranges. It will include practical survey operation in Victoria Park, adjacent to Leicester University.

## Summary of content:

There will be two lectures during the morning session, the first by Dr George Tuckwell and the second by Andrew Curtis. During the afternoon session there will be a demonstration of the Geode seismic acquisition system on Victoria Park (to the rear of the Geology Department). The demonstration will be in collaboration with Graham Stuart, Professor of Seismology at the University of Leeds and will be followed by a brief overview of the SeisImager processing software, as provided by Geometrics, Inc.

## Schedule, Sunday 11th September 2011:

| Time | Session | Presenter |
|---|---|---|
| 10.30 | Coffee/tea : Introduction. | Victoria Lane |
| 11.00 | The theory of surface waves (formation, basic properties, dispersion etc); the measurement of surface waves; analysis of dispersion curves; the inversion methods which are currently employed; the practical interpretation of real (imperfect) data; case studies. | George Tuckwell |
| 12.00 | Novel ways to measure the dispersion curves themselves using noise-based interferometry; ; new acquisition/pre-processing methods; discussion of some of the more outlandish things that are possible using interferometry. | Andrew Curtis |
| 13.00 | Lunch (Finger Buffet lunch provided) | |
| 14.00 | During the afternoon session there will be a demonstration of the Geode seismic acquisition system on Victoria Park. | Graham Stuart |
| 15.30 | Coffee/Tea | |
| 16.00 | An overview of the SeisImager processing software, as provided by Geometrics, Inc. This will involve hands-on use at a computer terminal. | Chris Leech |
| 17.00 - 19.00 | End of workshop: Conference Icebreaker Reception | |

Sessions will consist of a combination of presentations, break-out discussions, practical demonstrations and surveys followed by case history studies. Delegate materials will consist of:

- Course notes.

To register for this course, go to www.eage.org