From Hooke to Helioseismology

The UK’s contribution to Seismology - past, present & future

Thursday 9th April

10.15 Welcome
Professor Paul Boyle, President and Vice-Chancellor of the University of Leicester

Earthquakes

10.30 Early British thinking on earthquakes from Shakespeare to Hooke
Dr Roger Musson, British Geological Survey, Edinburgh
11.00 Earthquake prediction – the Holy Grail
Professor Ian Main, Geosciences, Edinburgh
11.30 Long term slip deficit and the forecasting of slip in future earthquakes
Professor John McCluskey, Environmental Sciences, Ulster
12.00 Seismological investigations of the subduction zone plate interface: advances and challenges
Professor Andreas Rietbrock, Earth, Ocean and Ecological Sciences, Liverpool
12.30 Capturing the formation of a mid-ocean ridge using broadband seismometers: dyke propagation and eruption in Iceland
Professor Robert (Bob) White, Ballard Laboratories, Earth Sciences, Cambridge

13.00 – 14.00 Lunch (Posters)

Instruments and Institutions

14.00 UK seismic monitoring through the decades
Drs Chris Browitt and Alice Walker, Former Heads of BGS UK Seismic Monitoring and Information Service, Edinburgh
14.30 Research on test-ban verification and the history of seismology in the UK
Dr David Bowers, AWE Blacknest, Aldermaston
15.00 Marine seismics: 60 years of instrument development at Cambridge
Tim Owen and Mel Mason, Earth Sciences, Cambridge
15.30 School seismology development in the UK and around the world
Paul Denton, British Geological Survey, Keyworth

16.00 – 16.30 Tea Break (Posters)

Controlled-Source Seismology and Crustal Studies

16.30 Explosion seismology – Thirty years evolution from Heligoland to LISPBP
Dr David Bamford, formerly Head of Exploration, BP; Finding Petroleum
17.00 The KRISP and EAGLE projects: crustal structure in the East African Rift
Professor Randy Keller, School of Geology and Geophysics, University of Oklahoma, Norman, OK, USA
17.30 Earthquakes, explosions and North Korean nuclear tests
Professor Anton Ziolkowski, Geosciences, Edinburgh
18.00 Poster Session
20.00 Conference Dinner

Friday 10th April

9.00 Reflections on BIRPS
Dr Richard Hobbs, Earth Sciences, Durham
9.30 Inversion of the full seismic wavefield; high-fidelity imaging of Chicxulub, subduction zones and active volcanoes
Professor Joanna Morgan, Earth Sciences and Engineering, Imperial College, London
10.00 Sizing up to the energy challenge: seismology and the oil and gas industry
Dr Patrick Bermingham, Exploration Chief Geophysicist, Shell International Exploration and Production
10.30 Reservoirs under stress: the microseismic response to fracture stimulation
Professor Mike Kendall, Earth Sciences, Bristol

11.00 – 11.30 Coffee Break (Posters)

Passive Seismology

11.30 Seismic tomography and the Earth’s upper mantle
Dr Stewart Fishwick, Geology, Leicester
12.00 Seismic imaging of upper mantle discontinuities; implications for the tectonic plate
Dr Catherine Rychert, National Oceanography Centre, Southampton
12.30 Seismic anisotropy: past, current and future perspectives
Dr James Woolley, Earth Sciences, Bristol

13.00-14.00 Lunch (Posters)

14.00 Seismic Interferometry
Professor Andrew Curtis, Geosciences, Edinburgh
14.30 Helioseismology: revealing the sun’s internal structure and dynamics
Dr Michael J. Thompson, National Centre for Atmospheric Research, Boulder, CO, USA
15.00 Contributions to seismology by scientists from the UK
Dr Walter Mooney, Research Seismologist and former Head of Seismology, USGS, Menlo Park, CA, USA
15.30 Open Discussion