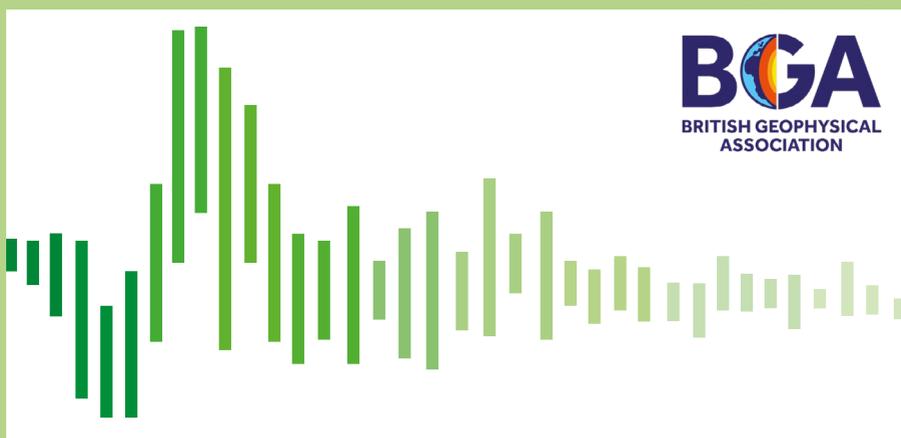


# British Seismology Meeting

New Advances in  
Multi-Disciplinary Seismology



Downing College, Cambridge  
12-14 September 2022

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# for your diary

Conference Dinner  
at Corpus Christi College

Tuesday 13 September 19:00 - late

## Monday 12 September

Registration 9:00 - 11:00

Introduction 11:00 - 11:15

Volcano Seismology 11:15 - 12:45

- 11:15 Recent unrest on the Reykjanes Peninsula and eruption in 2021 - **Kristin Jonsdottir (invited)**
- 11:45 What can evolving seismic anisotropy tell us about the 2018 Kilauea eruption? - **Jessica Johnson**
- 12:00 Illuminating the magmatic plumbing system beneath Askja caldera, Iceland with seismic tomography - **Jifei Han\***
- 12:15 Co-eruptive seismicity and caldera subsidence during the June 2018 eruption at Sierra Negra, Galapagos Archipelago - **Sophie Butcher\***
- 12:30 Relatively-relocated seismicity during the 2021 Fagradalsfjall dyke intrusion, Reykjanes Peninsula, Iceland: detailed evolution of a lateral dyke, and comparison to Bárðarbunga-Holuhraun - **Esme Glastonbury-Southern\***

lunch

Ground Motion & Nuclear Monitoring 14:00 - 15:30

- 14:00 Relocating and evaluating ground motions from deep earthquakes in Malawi, Africa - **Joanna Holmgren**
- 14:15 Modern multi-disciplinary explosion monitoring - **Michael Pasayanos (invited)**
- 14:45 Nuclear test monitoring in the United Kingdom - a 60 year history - **Alexandra Nippress**
- 15:00 Recent array deployments and processing strategies for monitoring earthquakes and explosions - **Tormod Kværna (invited)**

break

Distributed Acoustic Sensing (DAS) 16:00 - 17:00

- 16:00 Towards regional subsurface characterization and monitoring using Dark Fiber DAS: challenges and opportunities - **Veronica Rodriguez-Tribaldos (invited)**
- 16:30 Listening to ice sheets - fibre optic cables as seismic sensors - **Alex Brisbane**
- 16:45 Environmental and seismological observations on an array of seafloor sensors created from a trans-oceanic submarine cable - **David Fairweather\***

icebreaker & posters

## SEDI & Seismic Imaging

8:30 - 10:30

- 08:30 Core seismology – **Jessica Irving (invited)**
- 09:00 Bayesian imaging of the Hawaiian ULVZ from Sdiff postcursors – **Carl Martin\***
- 09:15 Optimal resolution tomography of Ireland and Britain: evidence for a lithospheric control on the Paleogene uplift and volcanism – **Raffaele Bonadio**
- 09:30 Using joint geophysical-petrological inversions to determine temperature and image the lithosphere and asthenosphere beneath Ireland and Britain – **Emma Chambers**
- 09:45 Simultaneous measurement of attenuation and velocity anisotropy using shear-waves – **Joseph Asplet**
- 10:00 Observing phase transitions in the lower mantle: insights from combining new mineral physics data with seismology and geodynamics – **Paula Koelemeijer (invited)**

break

## Earthquakes & Waveforms

11:00 - 13:00

- 11:00 Bringing slow slip processes into focus – **Rebecca Bell (invited)**
- 11:30 Evidence for various-duration low-frequency earthquakes near Parkfield, CA: linking the scaling of tremor and slow slip – **Hui Huang**
- 11:45 Depth phase picking at the ISC to refine ISC-EHB and other ISC products – **Sakarya Burak**
- 12:00 Assessing and measuring moment tensor uncertainty in global moderate magnitude earthquakes – **Tom Garth**
- 12:15 The seismicity of Mars as recorded by InSight's Marsquake Service – **Anna Horleston**
- 12:30 Fylde Peninsular magnitude residuals – **Richard Luckett**
- 12:45 Towards assessing the quality of surface wave associations in the Reviewed Event Bulletin – **John Condon**

lunch and posters

## Cryosphere

14:30 - 16:00

- 14:30 Seismic anisotropy tomography from glacial microseismicity: an Antarctic example – **Sofia-Katerina Kufner (invited)**
- 15:00 Using icequakes to measure friction and slip at the bed of an Antarctic ice stream – **Tom Hudson**
- 15:15 Listening to glaciers and whales with seafloor seismology – **Evgeny Podolskiy**
- 15:30 Extreme seasonal changes in shallow rigidity in the Arctic Tundra – **Toshiro Tanimoto**
- 15:45 An opportunistic seismic experiment on a floating ice shelf: preliminary results – **Tom O'Toole** (instrument manufacturer – StrydeFurther)

break

# Tuesday 13 September

## South East Asia

16:30 - 17:45

- 16:30 Seismicity and structure of subduction zones in Indonesia: implications for seismic hazard in Java – **Sri Widiyantoro (invited)**
- 17:00 Identification of a hidden fault associated with the Mw 6.1 (February 25, 2022) Pasaman Earthquake, West Sumatra, Indonesia – **Pepon Supendi**
- 17:15 Intricate post-subduction crust and upper mantle structure of Sabah, northern Borneo, from teleseismic receiver functions – **Dave Cornwell**
- 17:30 Structure and evolution of the Australian plate and underlying upper mantle from waveform tomography with massive datasets – **Janneke de Laatz\***

# Wednesday 14 September

## Machine Learning & Geophysical Inversion 8:30 - 10:30

- 08:30 Emerging directions in geophysical inversion – **Andrew Valentine (invited)**
- 09:00 3D variational full-waveform inversion – **Xin Zhang**
- 09:15 Automated slowness vector measurements with uncertainty estimates using array methods and unsupervised learning – **James Ward**
- 09:30 Optimal transport and geophysical inversion – **Malcolm Sambridge**
- 09:45 Comparing multiple deep learning models to detect hydraulic-fracturing induced seismicity – **Cindy Lim\***
- 10:00 On wave equation inversion with seismic wavefield gradiometry for 3D velocity and density estimates of the near-surface zone – **Marthe Faber\***
- 10:15 Using geological process models as prior information in rapid Bayesian inversion and imaging – **Hugo Bloem\***

break

## Seismic Imaging & Instrumentation

11:00 - 13:00

- 11:00 The development of multiple phases of superposed rifting in the Turkana Depression, East Africa: evidence from receiver functions – **Chris Ogden**
- 11:15 Lithospheric control on the distribution of seismicity in Britain and Ireland – **Sergei Lebedev**
- 11:30 The crust and uppermost mantle structure of the Turkana Depression in East Africa: insights from surface-wave analysis – **Rita Kounoudis\***
- 11:45 High-frequency (> 1 Hz) noise interferometry: methods and applications – **Yihe Xu**
- 12:00 The seismicity of Cyprus & its implications for hazard and neotectonics – **Tom Merry\***
- 12:15 Interrogating the East Irish Sea sedimentary basins using probabilistic tomographic results – **Xuebin Zhao\***
- 12:30 Risks presented by slope failure: how can broadband seismology assist seismic hazard assessment? – **Will Reis** (instrument manufacturer – Guralp)
- 12:45 A case study of co-located downhole strong and weak motion measurements in Taiwan – **Bruce Townsend** (instrument manufacturer – Nanometrics)

lunch & closing remarks

close: 14:30