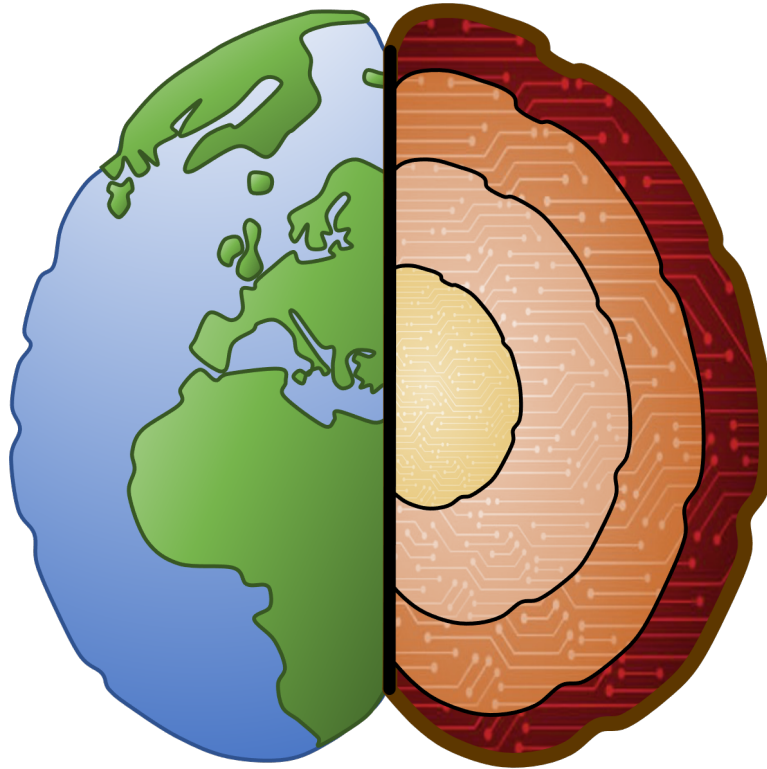


Machine Learning



In Geophysics

A New Advances in Geophysics
Conference

University of East Anglia 11th – 13th
September 2023.

Scientific Programme

Sponsors



BRITISH GEOPHYSICAL
ASSOCIATION



Scientific Programme

Monday 11th September

New Science Building

Oral presentations in Room 0.06

Poster presentations and refreshments in Rooms 0.07 and 0.08

08:30 *Tea/Coffee served*

09:20 Welcome

09:40 **Invited: Fatma Jebri** **Machine Learning for understanding ocean bio-physical interactions**

10:20 Janice Zhao Automatic crater detection using semi-supervised machine learning

10:40 *Refreshments*

11:00 Posters

12:20 *Lunch*

13:20 **Invited: Andrew Valentine** **Imaging the Earth's interior with machine learning**

14:00 Joseph Fone Using neural networks to accelerate the single step ambient noise tomography forward problem enabling rapid 3D Monte Carlos Markov Chain inversions.

14:20 Jack Muir TerraPINN: solving the wave equation with approximately axisymmetric physics informed neural networks

14:40 James Panton Unsupervised machine learning to identify mantle plumes in geodynamic models.

15:00 *Refreshments*

15:40 **Invited: Sacha Lapins** **The first link in the information chain: using deep learning to better process seismic monitoring data**

16:20 Andy Nowacki Automatic waveform earthquake location using convolutional neural networks

16:40 Statements from sponsors

17:00 *Close*

18:00 Icebreaker

Tuesday 12th September

New Science Building

Oral presentations in Room 0.06

Poster presentations and refreshments in Rooms 0.07 and 0.08

08:30 *Tea/Coffee served*

09:20 Welcome

09:40 **Invited: Paul Wilkinson** **Feature classification in Electrical Resistivity Tomography imaging and monitoring**

10:20 Rochelle Taylor Predicting Urban Traffic Patterns Using AI and Seismic Signatures: Insights for Sustainable Urban Planning

10:40 *Refreshments*

11:00 Posters

12:20	<i>Lunch</i>	
13:20	Invited: Claire Birnie	Self-supervised seismic denoising: Deep learning without labels
14:00	Hugo Bloem	Introducing Conceptual Geological Prior Information into Bayesian Tomographic Imaging
14:20	Andrew Curtis	3D and Time-Dependent Variational Bayesian Full Waveform Inversion
14:40	Xuebin Zhao	Bayesian Inversion using Boosting Variational Inference
15:00	<i>Refreshments</i>	
15:40	Dominik Strutz	Variational Bayesian Experimental Design for Geophysical Application
16:00	Cindy Lim (she/her)	Deep learning phase pickers: how well do they detect induced seismicity?
16:20	Statements from sponsors	
16:40	Closing Statements	
17:00	<i>Close</i>	
18:30	Conference Dinner at	

Wednesday 13th September
Meadow Building Room 0.126

08:30	<i>Tea/Coffee served</i>
09:30	NVIDIA Fundamentals of Deep Learning Workshop
10:40	<i>Refreshments</i>
12:20	<i>Lunch in Vista Cafe</i>
15:00	<i>Refreshments</i>
17:00	<i>Close</i>