Energy Group Conference
Ground Modelling for Offshore Wind Developments

21-22 November 2024

The Geological Society, Burlington House, Piccadilly, London

Provisional Programme

Day One	
08.30	**Registration**
08.50	**Welcome**
	Session One: Quantitative Ground Models I
09.00	**Uncertainties in Ground Models for Offshore Renewables** Mark Vardy, *SAND Geophysics*
09.20	**Using machine learning property modeling with assisted forward stratigraphic modeling for offshore wind farm site characterization** Ammar Ahmad, *SLB*
09.40	**Quantifying Geotechnical Variability from Seismic Data** David Harrison, *Geo-4D*
10.00	**2-minute poster presentations** All poster presenters
10.30	**BREAK**
	Session Two: Quantitative Ground Models II
11.00	**Use of geostatistics in the prediction of 3D geotechnical variability in the shallow subsurface: an Irish Sea Case Study** Guillaume Michel, *Venterra*
11.20	**Opening the Doors of E&P Subsurface Applications to Geotechnical and Shallow Subsurface Data** Rebecca Head, C*egal*
11.40	**A Useful Model: A data-driven workflow for reconnaissance wind-farm ground-modelling projects** Francis Bukley, *Cuillin Geoscience*
12.00	**UHRS soil classification and CPT prediction - an example from the Danish Energy Island project in the North Sea** Esben Dalgaard, *Solid Ground*
12.20 Virtual	**Generation of Synthetic Geotechnical Parameters for Quantitative Ground Models in Offshore Windfarm Development – A Case Study from the German North Sea** Lennart Siemann, *Frauenhofer*
12.40	**LUNCH & posters**
	Session Three: Concepts and case studies
13.40	**When is a ground model not a ground model?** Sean Pearce, *OWC & East Point Geo*
14.00	**The story of Sørlige Nordsjø II, Norwegian North Sea: How to get to mature ground models for offshore wind** Anna Gehrmann, *GeoProvider*

14.20	**Unlocking detail of the Witch Ground Formation with 2D-UUHR: Case study from MarramWind FOWF Survey, UK** Susan Rice, *Fugro*
14.40	**An integrated geological and geophysical approach to de-risking the siting and operation of an inter-continental subsea HVDC cable; a case study from the Marinus Link project, Bass Strait, offshore southern Australia** Ewan Fountain, *Jacobs*
15.00	**BREAK**
	Session Four: Engineering focus
15.30	**Site Characterisation Strategy and Preliminary Anchor Selection for Floating Wind Developments** Neil Dyer, *Cathie Group*
15.50	**Regional modelling of layered soils in the shallow subsurface across the North Sea for offshore cable burial** Catriona Macdonald, *British Geological Survey*
16.10	**Use of ground models to understand mechanical trencher performance for offshore wind cable installation** Jim Pyrah, *Ørsted*
16.30	**Ground model frameworks and commercial ground models** John Davis, *Geotechnical Consulting Group*
16.50	**"Offshore Site Characterisation: Engineering Geology, Geomorphology and Geohazards. Update on Engineering Group Working Party Report"** Chris Martin, *Engineering Group*
17.10	**End of day one**
17.15-18.15	**Drinks Reception**
18.30 – 20:30	**Eneering Group - Annual Glossop Evening** https://www.geolsoc.org.uk/11-Glossop-Medal-and-Award-Evening *Royal Institute*
20.00-23.00	**Engineering Group - Evening Reception (separate registration required)** https://billetto.co.uk/e/glossop-24-evening-reception-tickets-1092048

Day Two

08.30	**Registration**
08.50	**Summary of Day 1**
	Session Five: Stratigraphic elements
09.00	**Glacial elements and their impact on offshore wind farm development** Roxana Stanca, *Venterra*
09.20	**Mapping BGS Quaternary Geology for Early-Phase Ground Modelling** Holly Cairns, *Global Maritime*
09.40	**Geological challenges in ground modelling for offshore wind farms in the German North Sea area** Magrethe Dalgaard, *Ramboll*
10.00	**Making space – Multi-phase Quaternary channels in the Southern North Sea are exceptional paleoenvironmental archives** Dayton Dove, *British Geological Survey*

10.20	**Geological screening for offshore wind in Danish waters** Thomas Vangkilde-Pedersen, *Geological Survey of Denmark and Greenland*
10.40	**BREAK**
	Session Six: Properties, hazards
11.10	**Hitting rock bottom in ground modelling; effects of periglacial weathering on rockhead competency** Gareth Carter, *Arup*
11.30	**Integrating geo-data to increase interpretation confidence and geohazard identification for offshore wind farm ground models** David O'Dowd, *Geowynd*
11.50	**Reading between the lines: process-based ground modelling and geohazard assessment for offshore wind developments using 3D HR seismic data and seismic geomorphology approach. A case study from the Northern North Sea** Bartosz Kurjanski, *University of Aberdeen*
12.10	**Subsurface boulder identification and quantification; existing techniques and best approaches** Aggie Georgiopoulou, *Ternan Energy*
12.30	**LUNCH & posters**
	Session Seven: The upper bounds
13.30	**Why dynamic ground models are needed for sustainable offshore windfarm developments** David Hodgson, *Leeds University*
13.50	**Predictive Stratigraphic Modelling of Holocene Facies and Engineering Implications for Offshore Wind Farms and Export Cable Corridors in Glaciated Margins** Claire McGhee, *Atkins Realis*
14.10	**Integrated Ground Modelling for Floating Offshore Wind using Brownfield Geoscience Data: The Green Volt Offshore Wind Farm Site** Jordan Geear, *Global Maritime*
14.30	**Braided channels and knowledge systems: ground modelling, archaeological research, intangible cultural landscapes, and challenges for scientists working on submerged Indigenous ancestral lands** Hannah Steyne, *Wessex Archaeology*
14.50	**Conference close**
15.00	**End of day two**

Posters
Scientific drilling of the late Plio-Pleistocene North Sea succession and its implications for ground modelling Andrew Newton, *Queens University Belfast*
WINDFARM: Wind Infrastructure planning support using a Novel Data-driven inversion Framework for geotechnical property Assessment and Risk Mitigation Sunny Singhroha, *GEUS*
Maximising the value of government funded seismic data through repurposing for the offshore wind industry Peter Cox, *Rockwave*

Marine Electrical Resistivity Tomography (MERT) as an effective technique to image the shallow subsurface Andrew Weller, *MAPPEM Geophysics*
New insights into Quaternary geology from offshore seismic surveys: vintage to UHR Mads Huuse, *The University of Manchester*
From geological complexity to engineering constraints: A road map to characterise the subsurface Nicola Dakin, *BGS*
A new member of the Wee Bankie Formation Gareth Ellery, *Global Maritime*
Archaeology and the Energy Transition in the North Sea: Mapping the Past for Enhanced Geological Ground Models Rachel Harding, *University of Bradford*
Added value – palaeolandscapes studies complement and improve ground models Andy Emery, *Wessex Archaeology*
Early development of a ground model from reconnaissance data for future survey optimisation Vicki Freeman, *Atkins*
How to 3D Print a Ground Model David Harrison, *Geo-4D*
Real-Time Prediction of Turbidity Currents Using Physics-Informed Neural Networks Farid Fazel Mojtahed, *The University of Melbourne*
Detailed Foundation Hazard Assessment using 3D UHRS Rebecca Bell, Imperial College London