



**Salt Tectonics in the Energy Transition**  
**23rd – 24<sup>th</sup> September 2024**

**HYBRID CONFERENCE PROGRAMME**



**The  
Geological  
Society**

## Monday 23<sup>rd</sup> September

<b>09:00-09:15</b>	Opening & Welcome	
<b>09:15-09:35</b>	Paleogeography and tectono-stratigraphic evolution of the Aptian Ezanga-Loémé evaporites along the proximal domain of the south Gabon-Congo-Cabinda margin	<b>Alexandre Pichat</b> ( <i>TotalEnergies / Univeristé de Pau et des Pays de l'Adour</i> )
<b>09:35-09:55</b>	Depositional models for giant salt deposits and their implications for the safety and stability of hydrogen storage cavern	<b>Frank J Peel</b> ( <i>The University of Texas at Austin</i> )
<b>09:55-10:15</b>	Basinwide development of km-scale gypsum networks: evidence for heterogeneity in evaporitic depositional systems	<b>Jimmy Moneron</b> ( <i>University of Oxford</i> )
<b>10:15-10:35</b>	Salt Tectonics synchronous with salt deposition in the Santos Basin (Ariri formation, offshore Brazil)	<b>Naim Célini</b> ( <i>Akkodis</i> )
<b>10:35-11:10</b>	<b>Break</b>	
<b>11:10-11:30</b>	Geomechanical Insights into Salt-Bearing Rifted Margins: Numerical Modeling and Implications for Geological Storage	<b>Mahdi Bakhtbidar</b> ( <i>Institut de Recerca UB-Geomodels</i> )
<b>11:30-11:50</b>	The Birth, Evolution, and Death of Polygonal Diapir Arrays: Insights from the Norwegian Central North Sea	<b>Mar Moragas</b> ( <i>Geosciences Barcelona (GEO3BCN-CSIC), Barcelona, Spain</i> )
<b>11:50-12:10</b>	3D Geometry and Evolution of Salt Walls and Surrounding Minibasins: Contrasting Styles from the Norwegian Central North Sea	<b>Umut Isikalp</b> ( <i>University of Bergen</i> )
<b>12:10-12:30</b>	Fifth-order characterisation of sedimentology within halokinetic sequences	<b>Kathryn Amos</b> ( <i>Adelaide</i> )**Virtual
<b>12:30-13:30</b>	<b>Lunch</b>	
<b>13:30-13:50</b>	Variable diapir origins and histories in the Basque Pyrenees: implications for intrasalt deformation	<b>Mark G Rowan</b> ( <i>Rowan Consulting Inc</i> ),
<b>13:50-14:10</b>	Architecture and controlling factors of intra-salt layers in diapiric structures: A numerical modelling approach	<b>Manel Ramos</b> ( <i>Université de Pau et des Pays de l'Adour / University of Bergen</i> )
<b>14:10-14:30</b>	The role of intra-salt stratigraphy and lithological variability on the internal and external geometry of salt bodies – a numerical modelling approach	<b>Leonardo Pichel</b>
<b>14:30-14:50</b>	Influence of intra-Zechstein Supergroup (ZSG) composition on internal deformation styles: Examples from the United Kingdom and Norwegian Continental Shelves	<b>Harya Dwi Nugraha</b> ( <i>University of Bergen / Center Sustainable Geoscience and Outreach (CSGO) / Universitas Pertamina, Indonesia</i> )
<b>14:50-15:10</b>	A semi-automated method to interpret layered evaporite sequence (LES) lithologies based on well-logs	<b>Gabriela Salomao Martins</b> ( <i>Imperial College London (currently at AtkinsRéalis)</i> )
<b>15:10-16:10</b>	<b>Break</b>	
<b>16:10-16:30</b>	Welding a layered evaporite sequence	<b>Christopher A.L. Jackson</b> ( <i>Imperial College London (currently at WSP)</i> )
<b>16:30-16:50</b>	Reproducing deformation of complex salt stratigraphies using analogue modelling: new insights in the frame of the energy transition	<b>Naim Célini</b> ( <i>Akkodis</i> )
<b>16:50-17:10</b>	Diversity of turtle anticlines: from seismic examples to field observations	<b>María Carrión-Jiménez</b> ( <i>Universitat Autònoma de Barcelona</i> )
<b>17:10-17:30</b>	Revisiting the structural evolution model of the Gina Krog Field: Implications for near-field exploration in a mature field amidst for the energy transition	<b>Asdrúbal Bernal</b> ( <i>Equinor ASA</i> )
<b>17:30</b>	<b>End of Day One</b>	

## Tuesday 24<sup>th</sup> September

<b>09:00-09:05</b>	Opening words	
<b>09:05-09:35</b>	Microphysics of rocksalt deformation: State of the art and implications for solution mining and energy storage	<b>Chris Spiers</b>
<b>09:35-09:55</b>	Internal Deformation of a thin Layered Evaporite Sequence: Implications for hydrogen storage (Neuquén Basin, Argentina)	<b>Rodolfo Uranga</b> ( <i>Universitat de Barcelona</i> )
<b>09:55-10:15</b>	A lifecycle approach to hydrogen storage cavern design and execution – examples from Project HyStock in The Netherlands	<b>Allard Van der Molen</b> ( <i>Nobian</i> )
<b>10:15-10:35</b>	Subsurface Energy Storage Potential in Salt Structures in the UK and Dutch Sectors of the Southern North Sea	<b>Sjastri Hansen</b> ( <i>Royal Holloway, University of London</i> )
<b>10:35-11:10</b>	<b>Break</b>	
<b>11:10-11:30</b>	The Seismic Imageability of Internal Salt Architectures and Inclusions	<b>Chris Willacy</b> ( <i>Shell Research Limited</i> )
<b>11:30-11:50</b>	On the role of thermal stresses in salt caverns for fast cyclic hydrogen storage	<b>Herminio Tasinafo Honorio</b>
<b>11:50-12:10</b>	Potential and challenges of offshore salt caverns for energy storage in the southern North Sea	<b>David Waltham</b> ( <i>Royal Holloway, University of London</i> )
<b>12:10-12:30</b>	The energy potential in salt	<b>Jørgen Clausen</b> ( <i>SaltPower</i> )
<b>12:30-13:30</b>	<b>Lunch</b>	
<b>13:30-13:50</b>	Underground Hydrogen Storage in salt– views and lessons from a mining authority	<b>Elisenda Bakker</b> ( <i>State Supervision of Mines</i> )
<b>13:50-14:10</b>	3D Geological Modelling of the Internal Structure of the Asse Salt Diapir, Germany	<b>York Fisser</b> ( <i>Federal Institute for Geosciences and Natural Resources (BGR)</i> )
<b>14:10-14:30</b>	Salt as a Host Rock for Caverns and Radioactive Waste Storage: Multiscale Challenges and Insights from Coupled Numerical Modeling	<b>Tobias S. Baumann</b> ( <i>smartTectonics GmbH</i> )
<b>14:30-15:10</b>	Salt-embedded basins as geothermal reservoirs: a petrological and thermophysical study of the sedimentary succession of the Estopanyà and Boix synclines (South-Central Pyrenees, NE Spain)	<b>Pedro Ramirez-Perez</b> ( <i>SGR Geologia Sedimentària / IR Geomodels, Universitat de Barcelona (UB)</i> ) <b>**Virtual</b>
<b>15:10-15:50</b>	<b>Break</b>	
<b>15:50-16:10</b>	Understanding the riddles of energy and CO2 geostorage in and around salt structures from field examples in Portugal.	<b>Pedro Barreto</b> ( <i>Geo Logica XYZ</i> )
<b>16:10-16:30</b>	Tectono-Stratigraphy Of The Norwegian-Danish Basin: Halokinetic Control On The Plays For CO2 Storage	<b>Simon Blondel</b> ( <i>University of Oslo</i> )
<b>16:30-16:50</b>	Salt diapirs and minibasins of the Hummer Fault Zone, offshore Southern Norway – structural evolution and CO2-storage perspectives	<b>Torsten Hundebøl Hansen</b> ( <i>University of Oslo</i> )
<b>16:50-17:10</b>	Catastrophic leakage through thick evaporite seals	<b>Joe Cartwright</b> ( <i>University of Oxford</i> )
<b>17:10-17:30</b>	Closing Remarks	
<b>17:30</b>	<b>End of Day Two</b>	

Author	Poster Title
<b>Sophie Godefroy</b> ( <i>SLB</i> )	Simulating long-term CO2 geological storage in depleted reservoirs and aquifers
<b>Emma Bedda</b> ( <i>British Geological Survey</i> )	Zechstein halites as a potential hydrogen storage solution – Interim Results
<b>Naomi Van Den Ameele</b> ( <i>Delft University of Technology</i> )	Quantification of the probability of induced seismicity associated with large-scale underground hydrogen storage in Dutch salt formations
<b>Rachel E. Brackenridge</b> ( <i>University of Aberdeen</i> )	A drill down into the Zechstein: learnings from legacy hydrocarbon wells to understand drilling and salt cavern placement hazards.
<b>Naïm Célini</b> ( <i>Akkodis</i> )	Reproducing deformation of complex salt stratigraphies using analogue modelling: new insights in the frame of the energy transition
<b>Antonio Teixell</b> ( <i>Universitat Autònoma de Barcelona</i> )	High-resolution structure and salt-sediment interaction around an exposed salt sheet
<b>Prosper Deitch</b> ( <i>Vrije Universiteit Amsterdam</i> )	Discovery of Palaeogene Halokinesis in the North Sea Basin
<b>Daniele Blancone</b> ( <i>University of Stavanger</i> )	Hydrogen storage in salt caverns: a first screening of the potential in the Southern Norwegian North Sea

**Co-convenors:**

Dr. Gonzalo Zamora (Repsol, Spain)  
Dr. Oliver Duffy (Chevron, Houston, USA)  
Dr. Oriol Ferrer (University of Barcelona, Spain)  
Dr. Sian Lianne Evans (University of Oslo, Norway)  
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**THANK YOU**

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