

Natural Hydrogen - Understanding the Geoscience

1 - 2 July 2025

Hybrid Conference, Burlington House, and Zoom, BST

Final Programme

Day One	
08.30	Registration
08.50	Welcome remarks Owain Jackson, H2Au
	Session 1 – Natural Hydrogen Systems
09.10 Virtual	The migration of hydrogen from planetary to basin scale Bhavik Lodhia, <i>Curtin University</i>
09.35	The character and habitat of natural hydrogen resources Chris Ballentine, <i>University of Oxford</i>
10.00	Hydrogen systems analysis and play based exploration – A global perspective Michael Lawson, <i>Snowfox Disco very</i>
10.25	Modelling hydrogen-generation potential of water-rock reaction Andy Barnicoat, <i>NHSG</i>
10.50	Break (Poster Session)
11.50	Iron redox state of serpentinized mantle rocks through a Wilson cycle: implications for serpentinization-sourced hydrogen systems Francesca Dimasi, <i>Université de Strasbourg</i>
12.15	Full-physics numerical models for hydrogen migration: One step closer to model natural hydrogen plays in sedimentary basins Javier Garcia-Pintado, <i>MARUM, Center for Marine Environmental Sciences, University of Bremen</i>
12.40	Lunch
13.40 Virtual	A Systems Approach to Hydrogen Migration, Migration Efficiency, and Preservation Jay Huang, <i>Northlight Recourse Analytics</i> <i>Keynote</i>
14.05	Keynote – Challenges and opportunities related to geologic hydrogen prospectivity mapping Geoff Ellis, <i>US Geological Survey</i>
14.30	Break
	Session 2 – Geological Hydrogen Stimulation
14.50	Keynote - Initiating a first pilot for stimulated geological hydrogen production in peridotite rocks Alexis Templeton, <i>University of Colorado</i>
15.15	Scientific challenges for Stimulated Geologic Hydrogen Florian Osselin, <i>Vema Hydrogen</i>
15.40	Turning Subsurface Gambles into a Factory of Hydrogen Certainty Alexei Tcherniak, <i>Geokiln Energy Innovation</i>
16.05	Hydrogen Stimulation in Ultramafic Systems: Reactive Reservoirs and Their Associated Challenges Owen Sutcliffe, <i>Halliburton</i>
16.30	Electrical Reservoir Stimulation: Lab-Scale Hydrogen Generation Experiments of Fractured Peridotite Cores and Upcoming Field Pilot in Oman Mark Hansford, <i>Eden GeoPower</i> , Alexis Templeton, <i>University of Colorado</i>
16.55	20 min Closing Remarks/Questions/Discussion (tbc)
17.15- 18.15	Drinks Reception

Day Two	
08.30	Registration
08.50	Keynote – Natural Hydrogen Development-Potential and Challenges Arnout Everts, AEGeo Sdn Bhd
	Session 3 - Settings, Plays & Case Studies
09.15	Keynote - Following the Yellow Brick Road to Natural Hydrogen: Early Exploration Insights from Kansas Ben Mee, Hyterra
09.40	Could rift-inversion orogens host large-scale natural H2 accumulations? Frank Zwaan, University of Lausanne, Switzerland - GFZ Helmholtz Centre for Geosciences, Potsdam, Germany - University of Fribourg, Switzerland
10.05 Virtual	Natural hydrogen occurrences in Mpumalanga, South Africa, and their relationship with underlying geology Prof Adam Bumby, University of Pretoria, South Africa
10.30	A Top Down Approach to Natural Hydrogen Exploration in the Semail Ophiolite, Ras Al Khaimah, United Arab Emirates Daniel Holloway, RAK Gas
10.55	Break
11.10	Prospect of Natural Hydrogen in Himalayan region, India Annapurna Boruah, UPES Dehradun
11.35	Overview of the natural hydrogen potential of Senegal and Republic of the Congo (Congo-Brazzaville) Richard Cooke, HydroGenesis
12.00	Lunch
13.00	A potential H2-He-N2 gas province in southern Denmark: insights from legacy well data Kasper H. Blinkenberg
13.25	The role of fractures in the genesis and migration of natural hydrogen in ophiolites Keith Rawnsley, SubsurfaceLabs
13.50	Mafic sheet intrusions in sedimentary basins: insights from field and subsurface data implications for hydrogen exploration Simon Holford, University of Adelaide
14.15	Break
	Session 4 – Technology & Data in Hydrogen Exploration
14.30	Keynote - Rock physics for quantitative geophysical interpretation of natural hydrogen resources Yashee Mathur, Stanford University
14.55	Using Potential Fields Data to Model Potential Natural Hydrogen Production from Ultramafic Bodies: Assorted Case Studies from Around the World David Tierney, Getech Group plc
15.20	Mössbauer spectroscopy to characterize Fe in H2-generating rocks Ugo Geymond, Vema Hydrogen
15.45	Regional 4He Basement Flux Assessment in South Australia: implications for H2 Transport Zak Milner, Durham University
16.10	Numerical Simulation of Stimulated Hydrogen Generation at Varying Serpentinitization Rates: Impacts and Benefits of Code Comparisons Mark White, Kansas Geological Survey
16.35	Closing Remarks
17.00	End of Conference

Posters
Understanding hydrogen production in continental lithosphere: effect of spinel on olivine serpentinization Emanuele Fanesi, <i>University of Bristol</i>
Assessment of natural hydrogen potential in Iberia from serpentinization of shallow lithospheric mantle rocks Jesús García Senz, <i>CN IGME-CSIC; Geological and Mining Institute of Spain</i>
Pathfinder Modelling of H₂ solubility and migration in sedimentary basins Alexander Hartwig, <i>Geos4 GmbH</i>
Assessing Finland's Natural Hydrogen Potential and Key Influencing Factors Timo Jaakko Olavi Hietava, <i>Geological Survey of Finland</i>
Investigation of the geological-hydrogen potential of the MCR in Northeastern Minnesota Valentine Combaudon, <i>University of Colorado Boulder</i>
Enhancing Low-Temperature Serpentinisation for Hydrogen Production: Catalytic Role of Awaruite and Chromite Jeffrey Akuoko, <i>University of Manchester</i>
Hidden Energy Streams: Evaluating Serpentinization-driven Hydrogen Generation in the Ronda Peridotite (S. Spain) Inés Membrado-Royo, <i>University of Granada</i>
Natural Hydrogen Exploration Workflow - a pragmatic evaluation matrix from Regional to Play to Prospect scales Dominique Pourtoy, <i>Pole Avenia – earth2</i>
The Global Search for Commercial Natural Hydrogen – An Update Alan Driscoll, <i>NVentures</i>
The role of organic matter in the H₂ system of the western Pyrenees, A missing player? Nicolas Lefevre, <i>Université de Pau et des Pays de l'Adour</i>
Unlocking the evaluation and scalability of Natural Hydrogen Exploration: the HOREX Techno Pilot. Part 1: Play-based strategy Emmanuel Masini, <i>Mantle8</i>
Natural hydrogen prospect assessment and the difference with traditional oil and gas workflows Martin Neumaier, <i>ArianeLogiX</i>
Natural Hydrogen Occurrences in the Western Portion of Northern Apennines, Italy Vivian Azor de Freitas, <i>University of Parma</i>
Time-resolved 2D and 3D Imaging of Two-Phase Hydrogen and Brine Injection into Porous Clashach Sandstone Eike Thayesen, <i>Institute for Environmental Assessment and Water Research</i>

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