



# OCEANIC GATEWAYS: MODERN AND ANCIENT ANALOGUES AND THEIR CONCEPTUAL AND ECONOMIC IMPLICATIONS

23 to 25 November 2022

The Geological Society (Burlington House, Piccadilly, London) & Virtual via Zoom

*Schedules of this program are in London time zone*

Day One	
08.30	<b>Registration</b>
08.50	<b>Welcome</b>
	<i>Session One: Tectonic Controls on Gateways</i>
09.00 Virtual	<b>Keynote: OCEANIC GATEWAYS DURING THE LAST 750 MILLION YEARS</b> Christopher R. Scotese ( <i>Northwestern University, USA</i> )
09.40	<b>Mesozoic and Cenozoic Oceanic gateways evolution and global tectonics: palaeoceanographic and sedimentary implications</b> F. Javier Hernández-Molina ( <i>Royal Holloway University of London, UK</i> )
09.55 Virtual	<b>The location and timing of the Early and Middle Jurassic Atlantic-Pacific Oceanic Gateway: An Open and Shut Case</b> Frank J. Peel ( <i>The University of Texas at Austin, USA</i> )
10.10	<b>Geological evidence for Late Cretaceous emergence of the Panama island arc and palaeoceanographic implications</b> David M. Buchs ( <i>Cardiff University, UK</i> )
10.25 Virtual	<b>Cenozoic palaeogeography of the Tethys and West Siberian Seaway: Implications of plate kinematics and dynamic topography on ocean circulation and climate</b> Eivind Olavson Straume ( <i>The University of Texas at Austin, USA</i> )
10.40 Virtual	<b>Ocean gateways along transform margins and transform marginal plateaus</b> Lies Loncke ( <i>CEFREM, Perpignan, France</i> )
10.55	<b>Break &amp; Posters</b>
11.15	<b>The kinematics of the first stages of opening of the Equatorial Atlantic realm: the final disruption of Africa and South America, and its recording in the conjugated Demerara and Guinea marginal plateaus</b> Thomas Lesourd-Laux ( <i>Univ Brest, CNRS, Ifremer, France</i> )
11.30	<b>The opening and evolution of the Equatorial Atlantic Gateway: state of the art and future ocean drilling proposals</b> Uisdean Nicholson ( <i>Heriot-Watt University, Edinburgh</i> )
11.45	<b>Implication of palinspastic reconstructions in the evolution of the central Mediterranean sills during the Messinian Salinity Crisis</b> Romain Pellen ( <i>Univ Brest, CNRS, Ifremer, France</i> )
12.00	<b>Closure of the Central American Seaway: a review</b> Camilo Montes ( <i>Universidad del Norte, Colombia</i> )
12.15	<b>Biogeographic mechanisms involved in the colonization of Madagascar by african vertebrates: rifting, rafting and runways</b> Judith Masters ( <i>Univ. Fort Hare &amp; Stellenbosch Univ., South Africa</i> )
12.30	<b>Lunch &amp; Posters</b>
	<i>Session Two: Oceanographic, Palaeoceanographic and Sedimentary processes and deposits</i>
13.30	<b>Keynote: WATER MASSES CIRCULATION AND OCEANOGRAPHIC PROCESSES AT GATEWAYS: THE CASE STUDY OF THE STRAIT OF GIBRALTAR</b> Ricardo F. Sánchez-Leal ( <i>Spanish Institute of Oceanography, Cádiz</i> )
14.10	<b>Contourite processes associated with the overflow of Pacific Deep Water within the Luzon Trough: conceptual and regional implications</b> Shaoru Yin ( <i>Second Institute of Oceanography, China</i> )

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14.25 Virtual	<b>Sea-level control on sedimentary evolution of the Taiwan Strait</b> Xin Shan ( <i>First Institute of Oceanography, China</i> )
14.40 Virtual	<b>New data on sedimentary processes in the Charlie-Gibbs Fracture Zone area during the Late Pleistocene to Holocene</b> Evgenia Dorokhova ( <i>Shirshov Institute of Oceanology, Russian Acad. of Sciences, Russia</i> )
14.55	<b>Sedimentary processes in the Discovery Gap (Azores—Gibraltar Fracture Zone, NE Atlantic)</b> Tatiana Glazkova ( <i>Royal Holloway University of London, UK</i> )
15.10	<b>Break &amp; Posters</b>
15.30 Virtual	<b>Keynote: SEDIMENTARY PROCESSES AND DEPOSITS ASSOCIATED WITH GATEWAYS: A PERSPECTIVE FROM THE ANCIENT SEDIMENTARY RECORD</b> Heiko Hüneke ( <i>Universität Greifswald, Greifswald, Germany</i> )
16.10	<b>Mixed carbonate-siliciclastic contourite drift deposits associated with the entrance of an Atlantic-Mediterranean corridor (late Miocene, southwest Spain)</b> Jesús Reolid ( <i>Departamento de Estratigrafía y Paleontología, Universidad de Granada</i> )
16.25	<b>Mixed carbonate-siliciclastic tidal sedimentation in the Mediterranean-Atlantic connection through the Zagra Strait (Betic Cordillera)</b> Ángel Puga-Bernabéu ( <i>Departamento de Estratigrafía y Paleontología, Univ. de Granada</i> )
16.40 Virtual	<b>Closing of the Betic-Rif corridors: considerations from the Late Miocene evolution of the Gulf of Cadiz</b> Zhi Lin, Ng ( <i>Royal Holloway University of London, UK</i> )
16.55 Virtual	<b>Investigating Miocene Mediterranean-Atlantic Gateway Exchange (IMMAGE): an amphibious drilling project</b> Rachel Flecker ( <i>University of Bristol, UK</i> )
17.10	<b>General discussion (Session One)</b> Chaired by Eleanor Stirling (BP); and Giancarlo Davoli (Eni SpA)
17:30	<b>End of day one</b>
17:30-18:30	<b>Drinks reception</b>

<b>Day Two</b>	
08.30	<b>Registration</b>
	<i>Session Two: Oceanographic, Palaeoceanographic and Sedimentary processes and deposits</i>
09.00	<b>Keynote: PALAEOCEANOGRAPHY AND GATEWAYS</b> André Bahr ( <i>Heidelberg University, Heidelberg, Germany</i> )
09.40	<b>Seismic stratigraphy of the Guinea plateau: a 150-Myr history of structural deformation, sediment routing and magmatism</b> Benedict Aduomahor ( <i>Heriot-Watt University, Edinburgh</i> )
09.55 Virtual	<b>Impact of the Pyrenean Gateway on deep-water circulation in the NE Atlantic during the Middle and Late Cretaceous</b> Shan Liu ( <i>School of Marine Science, Sun Yat-sen University, China</i> )
10.10	<b>Late Cretaceous palaeotemperature records from the Australian southern margin: a link between temperature and the opening of the Australo-Antarctic Gulf?</b> Lauren K. O'Connor ( <i>University of Manchester, UK</i> )
10.25 Virtual	<b>Bottom currents deposits in NW Australia: evidences of the onset and evolution of the Australia - Indian Ocean Gateway</b> Oswaldo Mantilla ( <i>Ecopetrol S.A, Colombia</i> )
10.40 Virtual	<b>Contourite depositional systems within the Orange Basin, South Africa</b> Anthony Fielies ( <i>Petroleum Agency SA</i> )
10.55	<b>Break</b>



11.15 Virtual	<b>The impact of Atlantic palaeogateways on the growth of ancient mixed depositional systems: palaeoceanographic, sedimentary and economic implications</b> Sara Rodrigues ( <i>Royal Holloway University of London, UK</i> )
11.30	<b>Eocene to middle Miocene contourite deposits in Cyprus: a record of Indian Gateway evolution</b> F. Javier Hernandez-Molina ( <i>Royal Holloway University of London, UK</i> )
11.45 Virtual	<b>The late Miocene Panamanian Isthmian strait was shallow</b> Elena Stiles ( <i>Universidad del Norte, Colombia</i> )
12: 00	<b>Lunch &amp; Poster</b>
13.00 Virtual	<b>Keynote: ICHNOLOGICAL RECORD ON GATEWAYS AND OTHER HIGH-ENERGY DEEPWATER ENVIRONMENTS</b> Francisco J. Rodríguez-Tovar ( <i>Universidad de Granada, Spain</i> )
	<b>Session Three: Data integration &amp; multidisciplinary analysis</b>
13.40	<b>Mapping Ocean Gateways from 3D Seismic Data: Modern Seafloor and Ancient Analogues</b> Andreas Laake ( <i>Schlumberger, Germany</i> )
13.55	<b>Using seismic data to image water masses – sedimentation interactions at the Demerara plateau offshore Surinam and French Guyana.</b> Thomas Lesourd-Laux ( <i>Univ Brest, CNRS, Ifremer, France</i> )
14.10	<b>General discussion (Session Two &amp; Three)</b> Chaired by Domenico Chiarella and F. Javier Hernández-Molina (RHUL)
15.00	<b>Break &amp; Posters</b>
16.30	<b>End of day two</b>
19.30	<b>Dinner – to be offsite and arranged separately of the Geological Society – more details to follow</b>

Day Three	
08.30	<b>Registration</b>
	<b>Session Four: Gateways in Polar regions</b>
09.00 Virtual	<b>Keynote: FINGERPRINTS OF GEOLOGICAL-SCALE CHANGE IN THE ANTARCTIC CIRCUMPOLAR CURRENT: INSIGHTS FROM THE PRESENT DAY</b> Alberto Naveira Garabato ( <i>Univ. Southampton, National Oceanography Centre, UK</i> )
09.40	<b>Modelling the role of seabed topography in the life and fate of dense overflows in Antarctica</b> David Amblas ( <i>Department of Earth and Ocean Dynamics, Univ. of Barcelona, Barcelona</i> )
09.55	<b>The role of Southern Ocean gateway opening in the evolution of Southern Ocean surface oceanography: latitudinal gradients, subpolar gyres and the Antarctic Circumpolar Current</b> Frida. S. Hoem ( <i>Department of Earth Science, Utrecht University, Utrecht, the Netherlands</i> )
10.10	<b>IN PERSON / VIRTUAL</b> <b>IODP Expedition 382: a tale from scientific drilling in the Drake Passage</b> Lara F. Pérez ( <i>Geological Survey of Denmark and Greenland, Denmark</i> )
10.25	<b>Does tectonics or climate control Atlantic Meridional Overturning Circulation through the Greenland-Scotland Ridge oceanic gateway?</b> Stephen M Jones ( <i>School of Geography, Earth &amp; Environmental Science, University of Birmingham, UK</i> )
10.40	<b>Underexplored continental shelf gateways: timing, mechanisms and role of SW Barents Sea Gateway, Norwegian Arctic</b> Amando P. E. Lasabuda ( <i>Dept. Geosciences, The Arctic University of Norway, Norway</i> )
10.55	<b>Break &amp; Posters</b>
11.15	<b>Keynote: SOUTHERN OCEAN GATEWAYS AND THE DEVELOPMENT OF THE ANTARCTIC CIRCUMPOLAR CURRENT</b> Carlota Escutia ( <i>Instituto Andaluz de Ciencias de la Tierra, CSIC-UGR, Granada</i> )



11.55	<b>Drake Passage opening: origins and dispersal of the continental fragments that formed the North and South Scotia Ridges</b> Andrew Carter ( <i>London Geochronology Centre, UCL, London, UK</i> )
12.10	<b>Bering Strait gateway currents and effect on sediment distribution</b> Hans Nelson ( <i>Instituto Andaluz de Ciencias de la Tierra, CSIC-UGR, Granada</i> )
12.25	<b>Timing and consequences of Bering Strait oceanic gateway opening: new insights from <sup>40</sup>Ar/<sup>39</sup>Ar dating of the Barmur Group (Tjörnes beds), northern Iceland</b> Jonathan R Hall ( <i>Univ. Birmingham, UK</i> )
12.40	<b>Lunch &amp; Posters</b>
13.45	<b>General discussion (Session Four).</b> Chaired by Lara Perez (GEUS); Kelly A. Hogan (BAS); Dimitrios Evangelinos (Univ. Barcelona) and Fernando Bohoyo (IGME).
	<b>Session Five: Implications of gateways and contourite deposits on energy geosciences</b>
14.30 Virtual	<b>Keynote: IMPLICATIONS OF GATEWAYS AND CONTOURITE DEPOSITS ON ENERGY GEOSCIENCES</b> Neil Hodgson and Karyna Rodriguez ( <i>Searcher, UK</i> )
15.10 Virtual	<b>Entrapment and expansion of water masses in oceanic gateway-related environments and its implication for the birth of source rocks: sedimentary geochemistry from the Permian and Aptian/Albian Gondwanan geological record</b> Lucas Pinto Heckert Bastos ( <i>Rio de Janeiro State University, Rio de Janeiro, Brazil</i> )
15.25 Virtual	<b>Sedimentology and ichnology of Upper Jurassic to Lower Cretaceous contourites in an unconventional shale reservoir (Vaca Muerta Formation, Argentina)</b> Maximiliano Paz ( <i>Department of Geological Sciences, University of Saskatchewan, Canada</i> )
15.40	<b>Break &amp; Posters</b>
16.00 Virtual	<b>The contourite depositional systems in the offshore basins of Sulawesi and their implications for reservoir distribution</b> Cahyagempita Agustina Putri ( <i>Pertamina Hulu Energi</i> )
16.15	<b>Hydrocarbon potential seismic evaluation of hybrid turbidite contourite systems</b> Karyna Rodriguez and Neil Hodgson ( <i>Searcher, UK</i> )
16.30	<b>“ROUND TABLE”: OCEANIC GATEWAYS &amp; ENERGY GEOSCIENCES</b> Chaired virtual by Adriano R. Viana ( <i>Petrobras, Brazil</i> ) and Cindy Yeilding ( <i>Ex-BP, USA</i> )
17.30	<b>Closure</b>
17:35	<b>End of day three</b>

<b>Posters</b>	
Session Two	<b>Bottom-current morpho-sedimentary features of the Messina Strait</b> Eleonora Martorelli ( <i>CNR-IGAG, Rome, Italy</i> )
	<b>Facies-based tidal strait model and implications for interpreting ancient gateways</b> Sergio G. Longhitano ( <i>Univeristà degli Studi della Basilicata, Italy</i> ) & Domenico Chiarella ( <i>Royal Holloway University of London, UK</i> )
	<b>Echo-character distribution with respect to bottom current pathways in the Western Gap (Azores—Gibraltar Fracture Zone, NE Atlantic)</b> Tatiana Glazkova ( <i>Royal Holloway University of London, UK</i> )
	<b>Contourites in the eastern part of the Vema Fracture Zone (Tropical Atlantic)</b> Dmitrii G. Borisov ( <i>Shirshov Institute of Oceanology, Russian Academy of Sciences, Russia</i> )
	<b>Deep-sea terrigenous and biogenic calcareous contourite systems around the northern exit of the Vema Channel</b> Elena V. Ivanova ( <i>Shirshov Institute of Oceanology, Russian Academy of Sciences, Russia</i> )
	<b>Late Miocene to Quaternary bottom current deposits in the Gulf of Cadiz related to the Mediterranean - Atlantic exchange evolution: decoding bottom currents behaviour and oceanographic processes associated with gateways</b> F. Javier Hernandez-Molina ( <i>Royal Holloway University of London, UK</i> )
	<b>Contourite channels and gateways: the study case of the late Miocene South Riffian Corridor, Morocco</b> Wouter de Weger ( <i>Royal Holloway University of London, UK</i> )
	<b>Contourite (palaeo)channels and gateways: evidences of the intermittent MOW circulation after the opening of the Gibraltar Strait</b>

	Estefanía Llave ( <i>Instituto Geológico y Minero de España, IGME-CSIC, Spain</i> )
Session Four	<b>Contour current deposition in the South Orkney Microcontinent (southern Scotia Arc, Antarctica) and their link with the opening and evolution of the Drake Passage</b> Cecilia Morales-Ocaña ( <i>Instituto Andaluz de Ciencias de la Tierra, CSIC-UGR, Granada</i> )

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