



The  
Geological  
Society

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# William Smith Meeting 2017: Plate Tectonics at 50

3-5 October 2017

## Programme

Tuesday 3 <sup>rd</sup> October 2017	
09.30	<b>Registration and tea &amp; coffee (Main foyer and Lower Library)</b>
10.20	<b>Welcome</b> Malcolm Brown (President of the Geological Society)
	<b>Session 1: Session Chair: Rob Butler (University of Aberdeen, UK)</b>
10.30	<b>Introduction</b> Tony Watts (University of Oxford, UK)
11.00	<b>KEYNOTE: Morgan's and McKenzie's discovery of plate tectonics</b> Hank Frankel (University of Missouri, USA)
11.30	<b>Why Wegener missed plate tectonics</b> Wolfgang Jacoby (Mainz University, Germany)
11.45	<b>KEYNOTE: Rigidity and Plate Tectonics</b> Xavier Le Pichon (Collège de France)
12.15	<b>Discussion</b>
12.30	<b>Lunch and posters (Lower Library and Main library/Fellows Room)</b>
	<b>Session 2: Session Chair: Jim Briden (University of Oxford, UK)</b>
13.30	<b>KEYNOTE: Plate Tectonic Evolution during the Last 1.3 Billion Years: The Movie</b> Christopher R. Scotese (Northwestern University, USA)
14.00	<b>True Polar Wander and The Origin of the Hawaiian-Emperor Bend: New Evidence</b> Richard G. Gordon (Rice University, USA)
14.15	<b>The Development of a Deformable Plate Model: A Fundamental Requirement for the Reconstruction of Extensional and Compressional Tectonic Environments and for Data Constrained, Global, Palaeogeographic Mapping</b> John Watson (CGG Robertson)
14.30	<b>Role of the Equatorial Atlantic reconstruction in deducing palaeogeographic and continental margin evolution in the Gulf of Mexico and Caribbean</b> Jim Pindell (ION Geophysical)
14.45	<b>Reconstructing Phanerozoic and Proterozoic Earth Evolution: building on pre-existing efforts and data</b> Bruce Eglington (University of Saskatchewan, Canada)

15.00	<b>Discussion</b>
15.15	<b>Tea, coffee, refreshments and posters (Lower Library &amp; Main Library/Fellows room)</b>
	<b>Session 3: Session Chair: Nicky White (University of Cambridge, UK)</b>
15.45	<b>KEYNOTE: Rifting and the Wilson Cycle: New Plate Tectonic Perspectives from Africa and N. America</b> Cynthia Ebinger (University of Rochester, USA)
16.15	<b>Active Tectonics in Turkmenistan and the South Caspian region</b> Richard Walker (Oxford University, UK)
16.30	<b>How do the continents deform?</b> Tim J Wright (University of Leeds, UK)
16.45	<b>The Spreading Plate Boundary across Iceland: Rifting and Volcanism</b> Robert S White (Bullard Laboratories, University of Cambridge, UK)
17.00	<b>Intra-ocean Ridge Jumps, Oceanic Plateaus &amp; Upper Mantle Inheritance</b> Nick Kusznir (University of Liverpool, UK)
17.15	<b>Discussion</b>
17.30 – 18.30	<b>Reception and posters (Lower Library &amp; Main Library/Fellows room)</b>
<b>Wednesday 4th October 2017</b>	
	<b>Session 4: Session Chair: Gareth Roberts (Imperial College London, UK)</b>
08.30	<b>Registration and tea, coffee &amp; refreshments (Main Foyer &amp; Lower Library)</b>
09.00	<b>KEYNOTE: Plate Tectonics, mantle convection, and the dynamics of subduction zones</b> Peter van Keken (Carnegie Institution for Science, Washington DC, USA)
09.30	<b>Residual Depth Anomalies and the Nature of Mantle Convection</b> Nicky White (Bullard Laboratories, University of Cambridge, UK)
09.45	<b>Robust measurement of anisotropy in the mechanical strength of oceanic lithosphere</b> Lara M. Kalnins (University of Edinburgh, UK)
10.00	<b>Depth through time in the South Atlantic</b> L. Pérez –Díaz (Royal Holloway University London, UK)
10.15	<b>Large-Slab Obducted Ophiolite Complexes and their role in the Plate Subduction Inception, Arc Plate Growth and Crustal Evolution</b> John F. Casey (University of Houston, USA)
10.30	<b>Discussion</b>
10.45	<b>Tea, coffee, refreshments &amp; posters (Lower Library &amp; Main Library/Fellows room)</b>
	<b>Session 5: Session Chair: Karin Sigloch (University of Oxford, UK)</b>
11.15	<b>KEYNOTE: Insights into subduction zone dynamics from seismic anisotropy</b> Michael Kendall (University of Bristol, UK)
11.45	<b>Subduction-transition zone interaction: a review</b> Saskia Goes (Imperial College London, UK)
12.00	<b>Seismic probe of mantle mixing/unmixing in the Earth's transition zone</b> Teh-Ru Alex Song (University College London, UK)
12.15	<b>The Atlas of the Underworld: a catalogue of slab remnants in the mantle imaged by seismic tomography and their geological interpretation</b> Douwe G. van der Meer (Utrecht University, Netherlands & Nexen Petroleum)
12.30	<b>Discussion</b>
12.45	<b>Lunch and Posters (Lower Library &amp; Main Library/Fellows room)</b>

	<b>Session 6: Session Chair: Lidia Lonergan (Imperial College London, UK)</b>
14.00	<b>KEYNOTE: Plate Tectonics and the geology of plate boundary zones</b> John Dewey (University College Oxford, UK)
14.30	<b>Plate Tectonics in the Andes: old paradigms and new insights</b> Victor A. Ramos (University of Buenos Aires, Argentina)
	<b>The plate tectonic Approximation: An Update</b> Richard G. Gordon (Rice University, USA)
15.00	<b>The East African Transform Margin: - a major new interpretation using potential fields geophysics</b> Andrew J. Long
15.15	<b>From inland-sea basins to confined orogens: An example from the Neoproterozoic Araçuaí-West Congo orogeny and implications for Plate Tectonics</b> Antonio Pedrosa-Soares (Federal University of Minas Gerais, Brazil)
15.30	<b>Discussion</b>
15.45	<b>Tea, coffee, refreshments and posters (Lower Library &amp; Main Library/Fellows room)</b>
	<b>Session 7: Session Chair: Mike Daly (University of Oxford, UK)</b>
16.15	<b>KEYNOTE: Cenozoic growth of the Tibetan Plateau and its influence on Asian climate: One opinion about 21<sup>st</sup> century continental tectonics and its role as an environmental agent</b> Peter Molnar (University of Colorado Boulder, USA)
16.45	<b>Intraplate orogenesis: Eureka Orogen</b> Randell Stephenson (University of Aberdeen, UK)
17.00	<b>Intraplate Mountain Building in Non-Cratonised Continental Interiors: Lessons from Central Asia</b> Dickson Cunningham (Connecticut State University, USA)
17.15	<b>Revolution in the Earth Sciences: An African plate perspective</b> Chris J.H Hartnady (Umvoto Africa (Pty) Ltd)
17.30	<b>Tectonic roles of South America tectonostratigraphic terranes in the Brasiliano collage</b> Benjamin Bley de Brito Neves (S. Paulo University, Brazil)
17.45	<b>Discussion</b>
18.00 – 19.00	<b>Wine reception and posters (Lower Library &amp; Main Library/Fellows room)</b>
<b>Thursday 5 October 2017</b>	
08.30	<b>Registration and tea, coffee &amp; refreshments (Main Foyer &amp; Lower Library)</b>
	<b>Session 8: Session Chair: Alan Roberts (Badley Geoscience Ltd)</b>
09.00	<b>KEYNOTE: Sedimentation and tectonics in the plate tectonic era</b> Nicholas Christie-Blick (Lamont-Doherty Earth Observatory Columbia University, USA)
09.30	<b>Kilometre-scale burial and exhumation of passive margins and continental interiors: an overlooked consequence of plate tectonics?</b> Paul F. Green (Geotrack International)
09.45	<b>How important are intrabasement structures in controlling the geometry of sedimentary basins? Insights from the Taranaki Basin, offshore New Zealand</b> Luca Collanega (University of Padova, Italy)
10.00	<b>Tectonic causes of Cenozoic thin-skin deformation in the Gulf of Mexico</b> Teunis Heyn (BP America Inc)

10.15	<b>The Aleutian Trench, a study of sediment sourcing and delivery that emphasizes the cyclic nature of plate tectonic processes</b> M.R Dobson
10.30	<b>Discussion</b>
10.45	<b>Tea, coffee, refreshments and posters (Lower Library &amp; Main Library/Fellows room)</b>
	<b>Session 9: Session Chair: Jonathan Turner (Radioactive Waste Management)</b>
11.15	<b>KEYNOTE: Plate tectonics and the petroleum industry – a 50 year symbiosis</b> Tony Doré (Statoil, UK)
11.45	<b>Plate tectonics in hydrocarbon exploration – From time-animated 2D maps to data-rich Paleo-Earth models as next generation exploration toolkit</b> Christian Heine (Shell & Institute for Geology, Germany)
12.00	<b>Plumetectonics nature forming geological structure of Kazakhstan with large deposits and basins</b> Adilkhan Baibatsha (Kazakh National Research Technical University, Republic of Kazakhstan)
12.15	<b>Plate Tectonics and the Phenomenon of North American Oil and Gas Shales</b> Frank R. Ettensohn (University of Kentucky, USA)
12.30	<b>Deep Seismic data from the North Carnarvon Basin, North Western Australia, exposes ancient in-place oceanic lithosphere</b> Paul Bellingham (ION Geophysical)
12.45	<b>Discussion</b>
13.00	<b>Lunch and Posters (Lower Library &amp; Main Library/Fellows room)</b>
	<b>Session 10: Session Chair: Mary Fowler (University of Cambridge, UK)</b>
14.30	<b>KEYNOTE: Tectonics beyond Earth: No Plates, Different States</b> Catherine L. Johnson (University of British Columbia, Canada)
15.00	<b>The Plate Tectonics of Exoplanets</b> David Waltham (Royal Holloway University London, UK)
15.15	<b>Secular geochemistry evolution and the Siderian magmatic shutdown</b> Hugo Moreira (University of Portsmouth, UK)
15.30	<b>KEYNOTE: Plate Tectonics and Continental Growth</b> Chris Hawkesworth (University of Bristol, UK)
16.00	<b>Discussion</b>
16.15	<b>Tea, coffee, refreshments and posters (Lower Library &amp; Main Library/Fellows room)</b>
	<b>William Smith Lecture</b>
16.45	<b>Introduction</b> James Jackson (University of Cambridge, UK)
17.15	<b>Plate Tectonics at 50</b> Dan McKenzie (University of Cambridge, UK)
18.15	<b>Discussion</b>
18.30	<b>Close</b>