



The
Geological
Society

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Lyell Meeting 2017:

Sticking Together: microbes and their role in forming sediments

7 March 2017

Programme

Tuesday 7 March 2017	
08.30	Registration & tea & coffee (Main foyer and Lower Library)
09.00	Introduction
Open Session: Chaired by Mike Rogerson (University of Hull)	
09.15	Hydrodynamic effects on the structure and functioning of reservoir biofilms: A flume investigation. Dr Sabine Gerbersdorf (Universität Stuttgart, Germany)
09.30	Travertine ridges and microbialite reefs: a rock record of GSL shorelines at Lakeside, Utah. Peter Homewood (Geosolutions TRD & University of Fribourg, Switzerland)
09.45	Insights in the spatial and temporal heterogeneity of microbial and early diagenetic lithification Anneleen Foubert (University of Fribourg, Switzerland)
10.00	The enigmatic cherts at Lake Magadi, Kenya: chemical precipitates, microbialites or both? Robin Renaut (University of Saskatchewan, Canada)
10.15	KEYNOTE SPEAKER: Biofilms and Sediment: a 'Geobiological Tango' Christophe Dupraz (University of Stockholm, Sweden)
10.45	Poster introductions (A-L)
11.00	Tea, coffee and refreshments (Lower Library) Posters (Arthur Holmes)
Session 2: Past into present: Chaired by Concha Arenas (University of Zaragoza, Spain)	
11.30	The 'sediment dilemma' in fossil microbialites: Answers from a Lower Cretaceous microbial paradise Pablo Suarez-Gonzalez (Georg-August-University, Germany)
11.45	Microbes and the phosphatic cementation of heavy-element-rich oil shale in the Green River Formation (Eocene) of Utah, USA Dave Keighley (University of New Brunswick, Canada)
12.00	Microbial mat ecology in lacustrine settings at the Meso-Neoproterozoic boundary Paul Strother (Weston Observatory of Boston College, USA)

12.15	Microbial activity as a key control on fluvial-aeolian landscapes in the Cambrian Arnold Reesink (University of Illinois at Urbana-Champaign, USA)
12.30	Microbial mats as agents in the formation of discoidal pseudofossils: observations from the Ediacaran Longmyndian Supergroup, Shropshire, England Latha Menon (University of Oxford, UK)
12.45	Microbialite mounds of the Mupe Member of the Purbeck Limestone Group (Upper Jurassic), Dorset, southern England Arnaud Gallois (Royal Holloway University of London, UK)
13.00	Lunch (Lower Library) Posters (Arthur Holmes)
Session 3: Chaired by Gernot Arp (University of Göttingen, Germany)	
13.45	Hydrochemistry and biofilm calcification in tufa canal-forming karstic streams ("Steinerne Rinnen", Southern Germany) Gernot Arp (University of Göttingen, Germany)
14.00	Microbially driven carbonate chimney construction at Mono Lake, California Alexander Brasier (University of Aberdeen, UK)
14.15	Abiotic vs biotic-influenced carbonate nucleation: towards identifying their unique textural signatures Ramon Mercedes-Martín (University of Hull, UK)
14.30	Oxygenic and anoxygenic photosynthesis in a microbial mat from an anoxic and sulfidic spring. Dirk de Beer (Max-Planck-Institute for Marine Microbiology, Germany)
14.45	Modern and ancient biosignatures in sabkha-associated microbial mats Cees van der Land (Newcastle University, UK)
15.00	The combined effects of cyclic particle flux and anaerobic oxidation of methane support growth of a laminated seep bioherm off Pakistan (northern Arabian Sea) Tobias Himmler (University of Bremen, Germany & IFREMER, France)
15.15	Poster Introductions (M-Z)
15.30	Tea, coffee and refreshments (Lower Library) Posters (Arthur Holmes)
Session 4: Chaired by Jaco Baas (University of Bangor, UK)	
16.00	Not just along for the ride – the influence of extracellular polymeric substances on fine-grained sediment gravity flows Melissa Craig (University of Adelaide, Australia)
16.15	Subaqueous sedimentary cracks: evidence for a microbial contribution Sean McMahon (Yale University, USA)
16.30	Implications of cyanobacterial response to rainfall for dryland stability Joanna Bullard (Loughborough University, UK)
16.45	Microbially-influenced Architectural Preservation in Aeolian Bedforms Robin Westerman
17.00	Microbial transport and soil integrity in drylands David Elliott (University of Derby, UK)
17.15	Biological drivers and sediment behaviour in the Dee estuary, England David Paterson (University of St Andrews, UK)
17.30	Comfort Break
Plenary Session: Chaired by Dan Parsons (University of Hull, UK)	

17.45	Microbial mat sandwiches and other anactualistic sedimentary features of the Ediacara Member (Rawnsley Quartzite, South Australia): Implications for interpretation of the Ediacaran sedimentary record Lidya Tarhan (Yale University, USA)
17.55	Hydraulic, gas exchange and biotic impacts on carbonation of high-pH waters Mike Rogerson (University of Hull, UK)
18.05	How far can biostabilisation go via EPS-mediated sediment erosion process? Xindi Chen (Hohai University, China)
18.15	Visualising the Role of Microbes in the Development of Sediment Floccs Jonathan Wheatland (Queen Mary University of London, UK)
18.15 -19.30	Drinks reception (Lower Library) Posters (Arthur Holmes)
19.30 – 21.00	Optional hot fork buffet (additional charge)