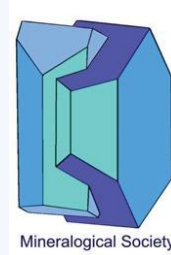




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# Geochemistry Group Research in Progress Meeting

# *GGRiP 2019*

## PROGRAMME

University of Portsmouth  
16-17<sup>th</sup> April 2019

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## Oral Presentations

MONDAY 15TH APRIL					
Session	Chair	Start	Authors	Lead Affiliation	Title
Arrival		17:00	-	-	-
Public Lecture	Craig Storey	17:30	Parrish, R	University of Portsmouth	Searching for the environmental smoking gun of Gulf War Illness
Icebreaker	Craig Storey	18:30	-	-	-

TUESDAY 16TH APRIL					
Session	Chair	Start	Authors	Lead Affiliation	Title
Arrival and Registration		09:00	-	-	-
Welcome & Intro	Craig Storey	09:45	-	-	-
Year of Carbon	Gordon Inglis	10:00	Badger, M.P.S.	The Open University	Fixing the alkenone palaeobarometer
		10:30	Babila, T.L. & Foster, G.L.	University of Southampton	The Monterey Event and the Paleocene-Eocene Thermal Maximum - two contrasting oceanic carbonate system responses to LIP emplacement and eruption
		10:45	McIntyre, A.J., Sexton, P.F. & Anand, P.	The Open University	Reconstructing the structure of Atlantic Ocean circulation during early-middle Eocene extreme climatic warmth
Coffee		11:00			
Method/Technique Development	Marie-Laure Bagard	11:30	Mottram, C.	University of Portsmouth	Directly dating deformation with calcite U-Pb dating; the good, the bad and the ugly!
		12:00	Bevan, D.G., Coath, C.D., Lewis, J. & Elliott, T.	University of Bristol	In situ Rb-Sr dating: Triple Quad v Proteus
		12:15	Standish, C.D., Chalk, T.B., Babila, T.L., Milton, J.A., Palmer, M.R. & Foster, G.L.	University of Southampton	The effect of matrix interferences on in situ boron isotope analysis by laser ablation MC-ICP-MS
Poster Introduction	Susan Little	12:30	-	-	-
Lunch & Posters		13:00			
Investigating Planetary Interiors	Craig Storey	14:30	Wade, J.	Oxford University	Why is Earth habitable and Mars like the solar system's worst pub*? (*no atmosphere, no life and dry)
		15:00	Clarke, E., De Hoog, J.C.M., Kirstein, L.A., Harvey, J. & Debret, B.	University of Edinburgh	Boron isotopes in metamorphic olivine record external fluid infiltration during serpentinite dehydration in subduction zones
		15:15	Villalobos-Orchard, J., Freymuth, H., O'Driscoll, B. & Willbold, M.	University of Manchester	Tracing subduction zone fluids in Izu arc lavas using molybdenum isotopes
Coffee		15:30			
Resources and Contamination	Chris Pearce	16:00	Bullen, J.C., Weiss, D.J., Vilar, R., Skinner, S., Kafizas, A., Fearn, S. & Kenney, J.	Imperial College London	Arsenic remediation using TiO <sub>2</sub> /Fe <sub>2</sub> O <sub>3</sub> composites: investigating mixed mineral adsorption via SCM and LEIS
		16:15	Dean, J., Srivastava, P. & Perkins, B.	Aberystwyth University	The determination of the sources and cycling of Ni and associated elements in an industrialised floodplain, South Wales
		16:30	Valeriano, C.M., Neumann, R., Alkmim, A.R., Evangelista, H., Heilbron, M., Neto, C.C.A. & Guerra, L.	University of Salzburg	Sm-Nd and Sr isotope fingerprinting of iron mining tailing deposits from the failed SAMARCO Fundão dam 2015 accident at Mariana, SE-Brazil
Posters and Wine Reception		17:00			

<b>WEDNESDAY 17TH APRIL</b>					
<b>Session</b>	<b>Chair</b>	<b>Start</b>	<b>Authors</b>	<b>Lead Affiliation</b>	<b>Title</b>
<b>Arrival and Registration</b>		08:30	-	-	-
Marine Biogeochemistry	Susan Little	09:30	Lohan, M.	University of Southampton	Hydrothermal vents an important source of iron and zinc to the ocean interior
		10:00	Crocket, K.C., Baer, T., Abell, R.E., Beveridge, C., Hughes, D. & Hathorne, E.	Univeristy of Edinburgh	Rare earth elements in marine biogenic carbonate as proxies for the marine carbonate system?
		10:15	de Carvalho Ferreira, M.L., Robinson, L.F., Li, T., Stewart, J., Chen, T. & Taylor, C.	University of Bristol	The age distribution of deep-sea corals in the Pacific, Atlantic and Southern Oceans
		10:30	Packman, H., Little, S.H., Rehkamper, M., van De Flierdt, T., Bridgestock, L. & Baker, A.	Imperial College London	The isotope compositions of Zn and Cu in atmospheric aerosols and their role in biogeochemical cycles
<b>Coffee</b>		<b>10:45</b>			
Earth Surface Processes	Chris Pearce	11:15	Tostevin, R.	Oxford University	Microbial evolution in a ferruginous, silica-rich ocean
		11:45	Murphy, M.J., Stevenson, E.I. & von Strandmann, P.A.E.	University College London	Impact of permafrost thaw on chemical weathering in the high Arctic Zackenberg River, NE Greenland
		12:00	Pogge von Strandmann, P.A.E., Jones, M.T., Schmidt, D.N. & Murphy, M.J.	University College London	Lithium isotope evidence for weathering changes across the PETM
AGM	Chris Pearce	12:15	-	-	-
<b>Lunch &amp; Posters</b>		<b>12:30</b>			
Crustal Evolution and Magmatic Processes	Marc-Alban Millet	13:30	Saji, N.S.	Cardiff University	Hadean geodynamics inferred from time-varying $^{142}\text{Nd}/^{144}\text{Nd}$ in the early Earth rock record
		14:00	Moreira, H., Storey, C., Fowler, M., Seixas, L. & Dunlop, J.	University of Portsmouth	Latest TTG to sanukitoid transition: implications for the evolution of the continental crust during the magmatic lull
		14:15	Hoare, L., Millet, M.-A., Lissenberg, C.J., Saji, N.S., Klaver, M. & Parkinson, I.J.	Cardiff University	What controls titanium stable isotope fractionation during magma evolution?
		14:30	Stubbs, D., Coath, C.D. & Elliott, T.	University of Bristol	Tungsten in Mariana arc basalts: evidence for mobility and isotopic fractionation during subduction
<b>Coffee</b>		<b>14:45</b>			
Awards & Close	Chris Pearce	15:15	-	-	-

## POSTER PRESENTATIONS

Authors	Lead Affiliation	Title
Brown, R., Chalk, T., Wilson, P., Rohling, E. & Foster, G.	University of Southampton	High Resolution CO <sub>2</sub> Record of the First Great Glaciation Using Boron Isotopes
Chalk, T.B., Hain, M.P., Foster, G.L., Nuber, S., Rohling, E.J. & Wilson, P.A.	University of Southampton	Atmospheric CO <sub>2</sub> change over the past 1.5 million years
Chen, L., Little, S.H., Kreissig, K., McManus, J. & Severman, S.	Imperial College London	Isotopically light cadmium in organic-rich sediments
Crocket, K.C.	University of Edinburgh	NERC Changing Arctic Ocean: Implications for marine biology and biogeochemistry
Crumpton-Banks, J.G., Burke, A., Greenop, R., Rae, J.W.B. & Mackenson, A.	University of St Andrews	Boron isotope evidence for Southern Ocean stratification at the onset of the last glacial period
Curtis, E., Granger, I., Dubb, M., Walker, J., Stanley, T., Hammond, S.J., Walshaw, R.D., Manning, C. & Harvey, J.	University of Leeds	The petrogenesis of pyroxenites from Kilbourne Hole, New Mexico: insights into melt-rock reactions beneath the Rio Grande rift, SW USA
Freymuth, H., Williams, H., Jenner, F. & Baptiste, D.	University of Cambridge	Copper isotope constraints on Cu enrichment in arc magmas
Gregson, C.R., Lord, O.T., Kohn, S.C. & Walter, M.	University of Bristol	Water in Earth's Mantle? An Experimental and <i>Ab-initio</i> study of CaSiO <sub>3</sub> -walsstromite
Groome, N.T., Buchs, D.M., Fagereng, A., Wood, M., Campbell, S. & Horak, J.M.	Cardiff University	Geochemical discrimination of metabasites from a Neoproterozoic accretionary complex in Anglesey, North Wales
Harvey, J., Konig, S., Ackerman, L. & Georgiev, B.	University of Leeds	Siderophile and chalcophile element insights into the petrogenesis of pyroxenite xenoliths from Kilbourne Hole, NM: exploring a potential genetic relationship with the Potrillo Volcanic Field
Holder, L., Lambelet, M., Plancherel, Y., van de Flierdt, T., McKay, R.M., De Santis, L., Kulhanek, D. & the IODP Expedition 374 Scientists	Imperial College London	Reevaluating the neodymium isotopic signature of Ross Sea Bottom Water – Implications for paleoceanographic reconstruction
Lipp, A.G., Shorttle, O. & Syvret, F.	Imperial College London	A model for fine-grained sediment major element composition in terms of weathering and provenance
Littley, E., Rae, J., Burke, A., Greenop, R., Vogel, H. & Thornalley, D.	University of St Andrews	CO <sub>2</sub> perturbations during rapid climate change. What is the role of the North Atlantic?
Marschalek, J., van de Flierdt, T., Carter, A., Vermeesch, P., Siegert, M., Licht, K., McKay, R.M., De Santis, L., Kulhanek, D. & the Expedition 374 Scientists	Imperial College London	A Multi-Proxy Sediment Provenance Record of Antarctic Ice Sheet Change in the Early to Middle Miocene: Preliminary Results from IODP Site U1521 (Ross Sea)
Menzies, C.D., Ryan, J.G., Price, R.E., Sissmann, O., Teagle, D.A.H., Boyce, A.J. & Foster, G.L.	University of Aberdeen	Fluid flow in the mantle wedge of the Mariana Forearc: insights from Serpentinite Mud Volcanoes
Mulders, J.J.P.A. & Oelkers, E.H.	University College London	An experimental study of sepiolite dissolution rates and mechanisms at 25°C
Murphy Quinlan, M.E., Muller, T., Walker, A., Mound, J. & Harvey, J.	University of Leeds	Deciphering planetary processes on the microscale
Nilsson-Kerr, K., Anand, P., Sexton, P.F., Leng, M.J. & Hammond, S.J.	The Open University	Location, location, location & proxies! Disentangling Indian Summer Monsoon dynamics across Marine Isotope Stage 5
Pickard, H., Rehkamper, M., Palk, C. & Wood, B.J.	Imperial College London	The Origin of Earth's Volatiles
Savage, P.S., Trail, D. & Moynier, F.	University of St Andrews	Calibration of Si isotope fractionation between quartz and zircon
Schannor, M., Freymuth, H. & Williams, H.M.	University of Cambridge	Do Molybdenum isotopes of Gorgona komatiites trace deeply subducted oceanic lithosphere?
Ward, J., Freitas, S.F., Hendry, K., Arndt, S. & the ChAOS Team	University of Bristol	Atlantification of the Barents Sea and implications for Benthic-Pelagic coupling
Weiss, L., Mottram, C., Parrish, R. & Darling, J.	University of Portsmouth	Timing of brittle deformation in the Jura mountains revealed by U-Pb dating on calcite
Wilson, D.J., Pogge von Stradmann, P.A.E., Tarbuck, G., White, J. & Hopley, P.J.	University College London	Exploring lithium isotopes as a weathering tracer in natural waters