

4th INTERNATIONAL WORKSHOP ON HIGHLY SIDEROPHILE ELEMENT GEOCHEMISTRY



Attendees of the 4th International Workshop on Highly Siderophile Element Geochemistry

The 4th International Workshop on Highly Siderophile Element Geochemistry was held 11–14 July 2016 at Durham University (UK). The workshop was attended by 75 delegates from all over the globe, their 73 abstracts offering all attendees both broad and exciting science for the week.

The scientific programme covered a range of topics in Earth and planetary sciences, exploring mineralogical and textural observations, highly siderophile element (HSE) abundances and their fractionation, stable and radiogenic isotope systematics, and chalcophile element data that included S–Se–Te variations and isotopic compositions. The variety of data on all aspects were shown to trace low-temperature processes such as environmental contamination, Earth's geochemical cycles and erosion processes, and to high-temperature processes, such as those linked to ore formation, mantle melting on Earth, and some of the major phases of planetary evolution. A full day was devoted to the presentation of new findings arising from meteoritical and lunar studies, and a number of related posters were presented during the mid-week poster session. A public talk titled “How do meteorites tell us the story of our Solar System” was delivered by the workshop's keynote speaker, James M. D. Day (SCRIPPS, University of California San Diego, USA), and effectively advocated for the collection and study of planetary materials: it was well received by a mixed audience of workshop delegates, academics from the wider university, members of the Royal Astronomical Society, and the general public. This talk was recorded and is available online: <https://www.youtube.com/watch?v=NA9kkv-VKs>.



FROM LEFT TO RIGHT: Kate Horan (Best Poster), Leanne Staddon (Highly-Commended Poster), President of the Geochemical Society Laurie Reisberg, Fienke Nanne (Best Talk), and Luke Daly (Highly-Commended Talk).

Twelve student travel bursaries (totaling ~3500 pounds) were awarded by the Meteoritical Society, the Geochemical Society, and the European Association of Geochemistry. Two student talks supported by the Meteoritical Society provided interesting new tungsten stable isotope data for a range of meteorite types, along with innovative atom probe tomography results for refractory metal nuggets in chondrites. The best and the highly commended student talks and posters were judged by a body of external volunteers, and the prizes were presented by Laurie Reisberg, President of the Geochemical Society.

The successful post-conference field trip to the Isle of Rum (Scotland) was coordinated by Pierre Bouilhol (Durham University, UK) and involved a party of approximately 30 delegates and workshop committee members. The excursion was very ably led by Brian O'Driscoll (University of Manchester, UK).

We'd like to thank the workshop sponsors, including the Meteoritical Society, the Geochemical Society, the European Association of Geochemistry, Engineering Design Plastics, Thermo, Nu Instruments, and four groups from the UK: the Geochemistry Group, the Applied Mineralogy Study Group, the Mineral Deposits Study Group and the Volcanic and Magmatic Studies Group. Gratitude is offered to the organising committee and voluntary team for their tireless efforts that ensured the success of the workshop and its fieldtrip. Edward Inglis and Katie Schweitzer arranged an excellent ice-breaker, and Fienke Nanne coordinated a highly successful, and very memorable, banquet, complete with a ceilidh! Geoff Nowell contributed much and provided a number of informative laboratory tours. Chris Ottley is thanked for coordinating the panel of judges and supporting some of the student prizes. Chris Dale and Alex McCoy-West were responsible for the scientific aspects of the programme. Chris Dale is also thanked for scheduling volunteers and session chairs. Marc-Alban Millet and Paul Savage formed and ably guided the bursary committee. Kevin Burton, Helen Williams, and Dave Selby are thanked for their encouragement and advice.



Isle of Rum field party, 4th International Workshop on Highly Siderophile Element Geochemistry. Expert field leader, Brian O'Driscoll, is second from the left in the front row.

Alexandra Witze, 2016 winner of AGU's David Perlman Award for Excellence in Science Journalism, wrote a feature article in the August 6th edition of the online journal *ScienceNews*. This edition had the workshop as its cover page and included a discussion on the constraints that iron-loving elements place on Earth's evolution: see <https://www.sciencenews.org/article/iron-loving-elements-tell-stories-earth%E2%80%99s-history?tgt=nr>.

Prior to our meeting, a successful affiliate session titled “Tracing Ocean Circulation – Past and Present” was convened by Ruza Ivanovic, Tina van de Flierdt and David Wilson at the 2016 Annual Goldschmidt Meeting. Following the HSE workshop, Fienke Nanne and Thomas Kruijer chaired a special session titled “Planetary evolution: Advances in meteoritical and lunar isotopic analyses” at the 79th Annual Meeting of the Meteoritical Society, which was well-attended and engaged a broad scientific audience.

In relation to the Durham workshop, a *Geochimica et Cosmochimica Acta* (GCA) special issue, provisionally titled “Highly Siderophile Element [and closely-related] Constraints on Low- and High-Temperature Earth and Planetary Processes”, is in preparation and will enable the timely publication of pertinent contributions of new research findings. We are soliciting relevant high-calibre contributions from workshop delegates and the wider community. The deadline for submission is midnight (GMT) on 28 October 2016. All prospective authors must meet the fundamental criteria for publication in GCA. This includes a high degree of novelty and broad geochemical significance, as well as quality of data and presentation. Further information: <http://www.hseworkshop.co.uk/special-issue-gca>.