



**Advances in Isotope Ratio and related analyses for
mapping migrations from Prehistory to the Viking Age**
**Joint meeting of the Royal Society of Chemistry & Society of
Antiquaries, Monday 13th June 2022**

One day meeting to be held at the Royal Society of Chemistry, Burlington House, Piccadilly, London. Organised by **Steve Harding** (Universities of Nottingham, Oslo & FRSC), **Mark Pearce** (University of Nottingham & FSA) & **Chas Jones** (Fulford Battlefield Society & MRSC)

The meeting is in honour of J.D. Bu'Lock (1928–1996), founding Chairman of the RSC Biotechnology Group and distinguished Viking Age antiquarian.

Purpose: Recent advances in analytical methods - in particular solid state mass spectroscopic analysis - have increased the potential of stable isotope ratio of biological (using principally carbon, oxygen, nitrogen and strontium isotopes) and non-biological (glass/metal) analysis, using principally strontium and lead isotopes. This will hopefully catalyse the establishment of international isotope ratio geo-databases of high resolution data (such as the lead isotope database GlobalID and similar to the highly successful protein data bank in molecular biology) which when sufficiently populated will ultimately allow the resolution of important questions regarding diet, historical movements, trade routes - and the provenance or origins of people and objects.

Programme:

9:30-10.30 Welcome and Registration
10.30-10.40 Opening remarks (Steve Harding/ Mark Pearce/ Chas Jones)

Session I: Advances in Instrumentation & the need to create extensive isotope databases

Chair: Steve Harding

10.40-11.00 Jane Evans (British Geological Survey, Notts UK) "All models are wrong, but some are useful. Construction and use of spatially distributed multi isotope datasets"

11.00-11.20 Till Sonnemann (Otto-Friedrich-Universität Bamberg) "Isotopes, isoscapes, and the search for geographic origins: unrealized potential or unrealistic expectations?"

11.20-11.40 Yiu-Kang Hsu (Deutsches Bergbau-Museum Bochum) "*GlobalID*: a FAIR lead isotope database"

11.40-12.00 Mark Jobling (School of Genetics, University of Leicester) "Past human population migrations: lessons from genomes, ancient and modern"

12.00 -12.50 **Poster introductions** – 5 mins each

12.50 - 14.00 **Lunch and poster viewing**

Session II: Geo-distribution data and databanks for stable isotopes

14.00-14.20 Liz Bailey (University of Nottingham) "The merits of quadrupole-based mass spectrometers for isotope analysis"

14.20-14.40 Janet Montgomery (University of Durham) "Diet, migration and isotopes"

14.40-15.00 Julian Henderson (University of Nottingham) "Neodymium, strontium and boron isotopes in ancient glasses: new information about raw material use and provenance"

15.00-15.20 Stephen Merkel (University of Oxford & Deutsches Bergbau-Museum, Bochum) "Application of lead isotope and elemental modelling in reconstructing long-distance trade of Viking-period silver"

15.20-15.40 **Coffee/Tea**

Chair: Chas Jones

15.40-16.00 Gilberto Artioli (University of Padua) "A geologically based database of lead isotopes: updates and applications"

16.00-16.20 Daniel Berger (Curt-Engelhorn-Zentrum Archäometrie GmbH, Mannheim) "Applications of stable isotopes in archaeometallurgical research with special reference to tin isotopes"

16.20-16.40 Jean Milot (ENS de Lyon & Université de Toulouse) "Provenance study of Roman iron artefacts using Fe isotopes"

Concluding Remarks

16.40-17.00 Patrick Degryse (KU Leuven/ Leiden University)

The meeting will take place in the Library, Burlington House (Capacity 100) and Posters/ Buffet Lunch will be in the Hinshelwood Room. Additional registrations for participants wishing to join the meeting by Teams will be available.

Registration

Attendance at the RSC, Burlington House, London (including lunch & tea/coffee):

RSC & Society of Antiquaries members £45

Non-members £60

Students £30

Attendance on-line: £30

Booking/Registration is now possible (EventBrite link will be posted shortly).

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