



DR SAM CLARKE
MA (Cantab), MSci, PhD

Cargo Scientist

Telephone +44151 236 0083
Liverpool, UK
sam.clarke@brookesbell.com

Nationality British
Mobile +44757 068 8537

Dr Sam Clarke joins Brookes Bell as an experienced multi-disciplinary scientist with a PhD in Earth Sciences from Cambridge University. His primary research background is in fluid dynamics and hydrology of porous media, and he also has research experience in mineralogy, microscopy and structural geology.

During his PhD, Sam developed a series of laboratory techniques to investigate potential threats to the long-term integrity of nuclear waste repositories, working alongside the Nuclear Decommissioning Authority and British Geological Survey to help develop the safety case for deep geological disposal. His broader scientific training includes physics, evolutionary biology and experimental psychology, and he is familiar with a wide range of research methods and statistical analyses.

Sam has published as a lead author in Physical Review Fluid and has presented frequently to both scientific and non-scientific audiences.

Within Brookes Bell, Sam advises on the carriage of and damage to bulk and packaged cargoes, including IMSBC/IMDG Code regulations on self-heating, gas emission and cargo liquefaction hazards and resulting casualties/cargo claims, with particular focus on mineral cargoes, coal, ores/concentrates, and other mining products.

Academic Qualifications

PhD in Earth Sciences (Cambridge University)

MSci in Natural Sciences (Cambridge University)

BA in Natural Sciences (Cambridge University)

Professional Associations

Fellow of The Geological Society

Publications and Talks

- Clarke, S., Harrington, J., Norris, S. and Woods, A. (2025). Experiments on buoyancy-driven instability ahead of a dissolution front in a porous rock. *Physical Review Fluids*, 10(2)
- Clarke, S. (2025). ‘The dynamics of buoyancy-driven instabilities in reactive porous media’ [Presentation], *G.K. Batchelor Lab Talks*. Department of Applied Mathematics and Theoretical Physics, University of Cambridge. 2 May.
- Clarke, S. (2025). ‘Reactions in porous media’ [Seminar], *Institute for Energy and Environmental Flows Seminar Series*, University of Cambridge. 6 March
- Clarke, S. (2023). ‘Dissolution reactions in halite; implications for GDF safety’ [Conference presentation], *Radioactive Waste Management Ltd Annual Conference*. Leeds. 13 January.