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## Summary

I am interested in geofluids (aqueous solutions and silicate melt)—determining their physical and geochemical properties and understanding the consequences of flow and interaction with surrounding rocks in the subsurface. This involves writing and applying computer code for modeling fluid flow and thermodynamic processes and making observations in the field. My current focus is on molecular-scale phenomena via *ab initio* molecular dynamics.

This work has application to predicting the lifetimes and performance of a variety of natural and engineered geosystems. I am particularly interested in magma evolution and dynamic fate, petroleum and geothermal reservoir processes, and ore systems.

## Memberships

### Organisations

[School of Earth Sciences](#)

### Other sites

- [Earthsciences](#)
- [Engineering](#)

## Recent publications

- Fowler, SJ, 2019, '[Petrogenesis of the Campanian Ignimbrites: a review](#)'. in: Benedetto De Vivo, Harvey E Belkin, Giuseppe Rolandi (eds) *Vesuvius, Campi Flegrei, and Campanian volcanism*. Elsevier, Amsterdam, Netherlands, pp. 231-272
- Erol, S, Fowler, SJ, Nehler, M, De Boever, E, Harcouët-Menou, V & Laenen, B, 2019, '[An Analytical Algorithm of Porosity–Permeability for Porous and Fractured Media: Extension to Reactive Transport Conditions and Fitting via Flow-Through Experiments Within Limestone and Dolomite](#)'. *Transport in Porous Media*, vol 129., pp. 343-383

[View complete publications list](#) in the University of Bristol publications system