CO_2 *Mineralization* for *in situ* Storage and *ex situ* Enhanced Metals Recovery

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M.Geol., & PhD in geology - University of Leicester, UK

20 years as a research geologist across a broad range of geoscience disciplines related to volcanic and magmatic processes, mainly physical rather than chemical.

Current research on the physical properties of diabase sills in PA as CO2 stores or seals, and participant in IODP Expedition 396 (summer 2021) to the Norwegian volcanic margin.

Technology or focus area

- CO_2 sequestration in terrestrial and submarine mafic volcanic successions.
- CO_2 sequestration in mafic intrusive rocks
- Mafic rocks as seals

Ideas, Interests, Concepts to be Explored

Combining geothermal energy production with CO_2 sequestration in volcanic successions.

Super-critical H_2O & CO_2 as geothermal fluids before and during sequestration.

Concentration of Mg and Mn critical elements in silicate minerals by leaching and fixing with CO_2 for further refining.

Optimal volcanic lithofacies and physical properties for CO_2 sequestration by rapid mineralization.