SEES Colloquium, Spring 2026
Science Building Room C207 and by zoom (see below for zoom link)
Wednesday January 28th, 12:15-1:15pm

Our first session of the Spring 2026 Colloquium will include two short talks (15-20 mins each) by SEES faculty (Blanford and Longpre).

Towards monitoring volcanoes through their rocks
Marc-Antoine Longpre, Associate Professor, SEES

Volcano monitoring has traditionally relied on seismicity, ground deformation, and gas emissions, which provide indirect constraints on subsurface magmatic processes. Petrology offers a direct view of magma properties through erupted rocks, but until recently has been too slow to inform monitoring in real time. This talk will highlight recent advances enabling temporally-resolved and near-real-time petrological monitoring, with an application to the 2021 eruption in the Canary Islands and a discussion of future directions and potential contributions from SEES in this area.

Predicting the Fate and Transport of Organic Contaminants in Sandstone Aquifers
William Blanford, Assistant Professor, SEES.

The Blanford Lab has conducted high-resolution tracer experiments tracking the transport of BTEX and related hydrocarbons through Berea sandstone to understand how real contaminants move through drinking-water aquifers. The research shows that even in seemingly uniform rock, sorption behavior is highly heterogeneous, which strongly affects plume persistence and risk assessment. These results have direct implications for understanding groundwater contamination from hydraulic fracturing, chemical spills, and subsurface energy technologies such as CO_2 storage. Building on this dataset, they developed an interpretable machine-learning model that predicts full breakthrough curves from molecular properties, offering a path toward faster, data-driven screening of contaminant behavior without requiring new experiments for every compound.

Zoom link:
Topic: SEES Colloquium
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