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From domes to supervolcanoes, in unrest and eruption: Experimental insights

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Within the earth sciences, the looming and perpetual threat of volcanic activity comprises a major research task for the coming decades. Volcanoes are chemical and physical conduits linking the aesthenosphere, lithosphere, hydrosphere, atmosphere, biosphere and more. For solid earth scientists, their astonishingly short timescales and large fluxes, whether in eruption, unrest or quiescence give them unique importance. The timescales also afford an opportunity very rare in the solid earth sciences - that of direct experimental investigation of magma dynamics in "real-time". This has led to the development of volcanological applications amongst the experimental earth sciences. This talk will highlight some of our most recent advances in experimental volcanology and their place in the scientific debate surrounding active volcanic centers.