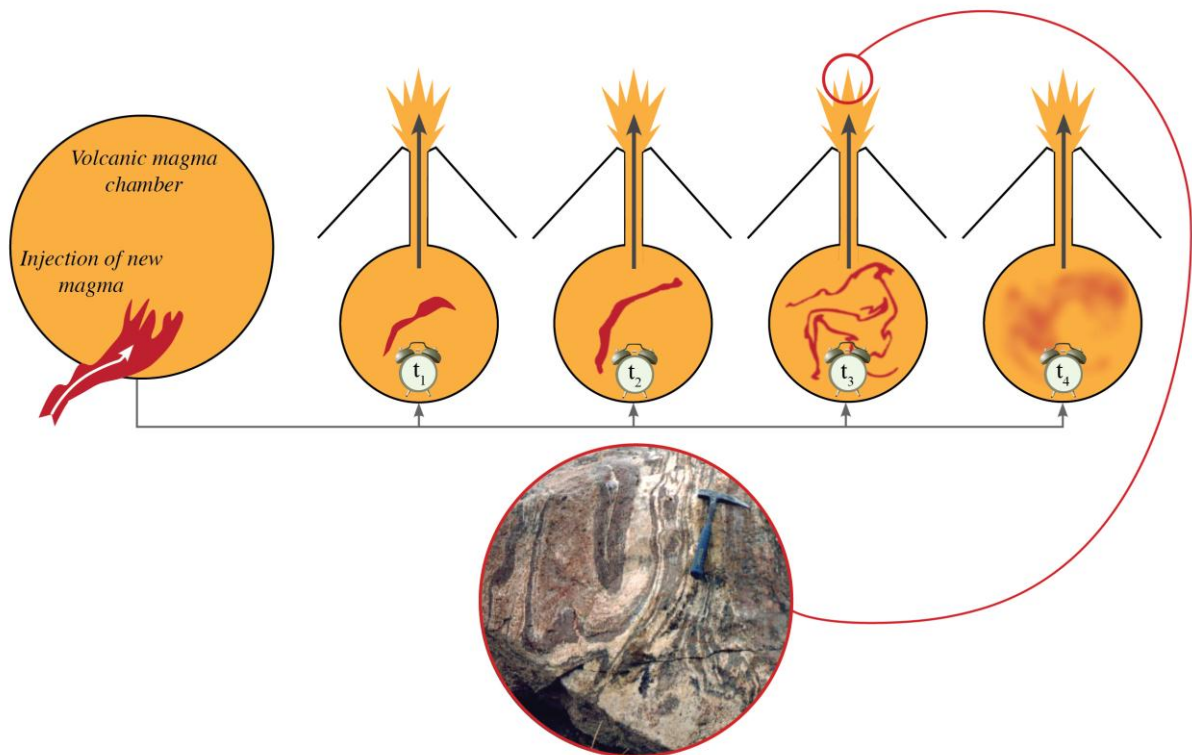




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Countdown to eruption: A geochemical clock for volcanoes

ERC Consolidator 2013 – Striking projects



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Volcanic eruptions, and their aftermath, have scarred human history – from the explosion of Vesuvius in 79 AD to the outpouring of Eyjafjallajökull in Iceland (2010). The main event that triggers such eruptions is the re-filling of a sub-volcano magma chamber and the mixing of magmas within it. Diego Perugini and his team hope to use these processes to analyse the exact timescales of eruptions.

When the different magmas mix, they cause chemical elements to undergo changes which are recorded in the volcanic rocks, as if frozen in time. The researchers will use this geochemical record to measure the time elapsed between mixing and eruption, much like a broken clock at the Soufriere Hills volcano in the Caribbean, which became active in 1995 with catastrophic effects. The team will also conduct the first experimental 'magma mixing' in a laboratory. If successful, their project could allow very precise prediction of volcanic eruptions, in order to mitigate their huge social and environment impact.



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Project details

Principal Investigator: Diego Perugini

Host institution: Università degli Studi di Perugia (Italy)

Project: A geochemical clock to measure timescales of volcanic eruptions (CHRONOS)

ERC call: ERC Consolidator Grant (CoG) 2013

ERC funding: € 1.9 million

Researcher's [webpage](#)