



UNIVERSITÀ DEGLI STUDI
DI PERUGIA

AVVISO DI SEMINARIO

nell' ambito del ciclo: *"La Ricerca nel Dipartimento
presentata dai Giovani Ricercatori"* – A.A. 2014/2015.

Mercoledì 4 Febbraio 2015 - ore 15:00

Aula " A " - 1° piano edificio di Via A. Pascoli snc

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"Magma Mixing: history of a struggle for acceptance. Recent developments from field to experimental volcanology: case of study Yellowstone Volcanic system."

Abstract: In the history of geosciences the idea of magma mixing went through a long period of strong opposition and delays in acceptance. The first investigation on magma mixing dates back to 1851, when the chemist Robert W. Bunsen from the University of Heidelberg published a research on the chemical variation of some igneous rock samples collected in the western region of Iceland. Since the first hypothesis on the origin of mixed igneous rocks (Bunsen 1851), a plenty of evidence of mixing, in all tectonic environments, throughout geological times, has been recorded (e.g. Eichelberger 1978, 1980; Blundy and Sparks 1992; Wiebe 1994; Kratzmann et al. 2009 Perugini and Poli 2012). Magma mixing is a physical-chemical process by which two or more batches of magma mingle and by chemical diffusion mix (e.g. Flinders and Clemens, 1996); never the less it has been demonstrated that magma mixing is also an eruption trigger. Understanding the mechanisms that control magma mixing, therefore, is of primary importance for petrology and volcanology, with direct implications in the compositional variability of igneous rocks as well as in hazard assessment in active volcanic areas. Here we focus on the Yellowstone Volcanic System (YVF), located in northwest Wyoming and southeast Idaho (U.S.A.), as a case study for magma mixing. Since in Yellowstone the extra-caldera system contains some of the youngest volcanism in the YVF (Nastanski, 2005; Bennet, 2006; Christiansen et al., 2007) and those volcanic units shows large evidence of magma mixing therefore are for us astonishing units to study, as they may provide some of the most relevant information for possible future volcanism.

Tutti quanti gli interessati sono invitati a partecipare.

Il Coordinatore del Ciclo di Seminari

Prof. Lucio Cerrito

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