



Etna International Training School of Geochemistry, 2018. Science meets practice

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Mount Etna, located in eastern Sicily, is the largest stratovolcano in Europe and one of the most intensely degassing volcanoes of the world (Allard et al., 1991; Gerlach, 1991). In particular, previous estimates highlighted that Mt Etna emits about 1.6 % of global H₂O fluxes from arc volcanism (Aiuppa et al., 2008) and 10 % of global average volcanic emission of CO₂ and SO₂ (D'Alessandro et al., 1997; Caltabiano et al., 2004). Furthermore, Gauthier and Le Cloarec (1998) underscored that Mt. Etna is an important source of volcanic particles, having a mass flux of particle passively released from the volcano during non-eruptive period estimated between 7 to 23 tons/day (Martin et al., 2008; Calabrese et al., 2011). In general, Etna is considered to be still under evolution and rather 'friendly', which, along with the above, makes it a favorable natural laboratory to study volcanic geochemistry. During the previous years, 6 field campaigns and the first 2 editions of the "Etna International Training School of Geochemistry. Science meets practice" were carried out at Mt. Etna and hosted in the Volcanological Observatory of Pizzi Deneri, a picturesque building located at the base of the N-E Crater at an altitude of 2850 m a.s.l, on the rim of the Ellittico caldera. The basic idea was to share scientific knowledge and experiences in a multidisciplinary community, using local resources with a low-cost organisation. The "Etna International Training School of Geochemistry, 2018. Science meets practice" is addressed to senior graduate students, postdoctoral researchers, fellows, and newly appointed assistant professors, aiming to bring together the next generation of researchers active in studies concerning the geochemistry and the budget of volcanic gases. Direct sampling of high-to-low temperature fumaroles, plume measurement techniques (using CO₂/SO₂ sensors such as Multi-GAS instruments, MAX-DOAS instruments and UV SO₂ cameras, alkaline traps and particle filters) and measurement of diffuse soil gas fluxes of endogenous gases (CO₂, Hg⁰, CH₄ and light hydrocarbons) are introduced during brief theoretical sessions before being directly applied in the field. An active participation of the students to the fieldwork is always requested. Hence, the teaching approach includes frontal lesson, practical demonstrations and field applications. "Etna International Training School of Geochemistry, 2017. Science meets practice" was partially funded by EGU. Highlights of the 2016 and 2017 summer school will be presented and a new summer school for 2018 is announced...

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