



SGA 2023



Visit us in Zurich in 2023 • 28th August – 1st September 2023

Pre-conference excursion FT1

Oberhalbstein valley, the Platta nappe, and ultramafic-hosted VMS deposits (Switzerland)

Start:	24.08. afternoon, Zurich airport
End:	27.08. afternoon, Zurich airport
Duration:	2.5 days in the field
Participants:	max. 16
Leaders:	Clifford Patten (KIT, Germany), Rémi Coltat (IACT, Spain)
Price:	670 CHF/person

The excursion fee covers transportation by minibus, accommodation in Hotel (breakfast and dinner included) and excursion guidebook. *Lunch cost not included.*

The Platta nappe corresponds to the former ocean-continent transition of the Adriatic margin, formed during the opening of the Jurassic Alpine Tethys Ocean. Extensional tectonics related to the opening of the oceanic domain led to mantle exhumation at the seafloor. Consequently, the Platta nappe is now primarily made of serpentinized peridotite on which basaltic rocks (lava flow, massive basalts and hyaloclastites) and post-rift sedimentary rocks lie.

Synmagmatic mantle exhumation along extensional detachment faults was accompanied with hydrothermal fluid circulation. Besides extensive serpentinization, fluid flow triggered the formation of sulfides and magnetite-rich hydrothermal systems in the ultramafic rocks as well as late carbonation of the oceanic lithosphere. Because of limited Alpine-related orogenic overprint, seafloor-related structures and hydrothermal mineral assemblages have been preserved and can be observed in their almost original position.

We propose you to (re)discover the Platta nappe and its oceanic hydrothermal alteration. The first day on the field will be devoted to the understanding of the Platta nappe situation, its relationships with the different paleogeographic units of the former Adriatic margin and with the European units. We will go up to Falotta (400 m way up) and visit an exposed oceanic detachment surface, juxtaposing basalt and serpentinized peridotite that has been strongly carbonated during the Jurassic. The next day will be devoted to the mineralizations and we will go up to the Cotschen ultramafic-hosted mineralization (600 m way up) and visit an old Cu mine. We will observe the relationships between mafic intrusives and mineralization as well as coeval Fe-Ca metasomatism in mantle rocks. We will also investigate the relationships between mineralization and carbonation in mantle rocks. On the last day we will visit the ultramafic-hosted mineralization close to the Marmorera lake and then return to Zurich on time for the icebreaker.

Contact us on sga2023.ch