

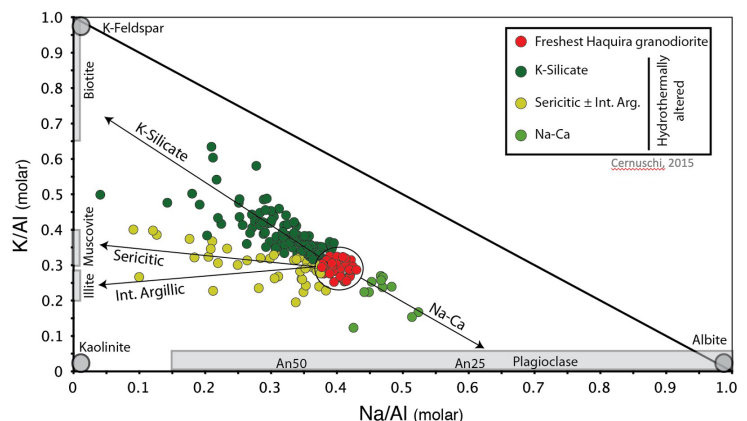


## SC7: Geochemistry and spectral mineralogy for the exploration of porphyry and epithermal deposits

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Post-conference short course 02-03 September 2023, ETH Zürich

The ability to gather, study and interpret geochemical and spectral data has become a required skill for exploration geologists. This workshop will review basic exploration geochemistry and mineral spectroscopy concepts and analytical methods. We will focus on applications to porphyry and epithermal deposits, and therefore, we will review the current understanding of their geology, alteration footprints zonation, and geo-metallurgical constrains. We will discuss how to use compositional and spectral data to infer key geologic features and vector for mineralization within these ore depositional environments. Participants will do hands-on practical work with a real-world data set. Basic use of ioGAS is encouraged.



Federico Cernuschi has a BSc in Geology from the National University of Uruguay, and a MSc and PhD from Oregon State University in the USA. With more than 15 years of international experience in the exploration and mining industry, Federico specializes in the geology and geochemistry of porphyry-type ore deposits. He combines detailed field mapping and core-logging using the Anaconda method with geochemistry and spectroscopy to further infer mineralogic features that cannot be readily observed with a hand lens. He is a consultant at Eclectic Rock, based in Punta del Este, Uruguay. He works for First Quantum Minerals supporting their porphyry exploration teams and providing ad-hoc services to other clients like Fortescue and Rio Tinto. In these roles, he has done work in magmatic and magmatic-hydrothermal deposits in several countries in the Americas, Eastern Europe, Africa, Asia, and Australasia.



István Márton has obtained BSc and MSc in Romania at the Babeş-Bolyai University, Cluj and University of Bucharest, respectively. Following a 3 years period working as Exploration Geologist in the Apuseni Mts (Romania) he continued studies at the University of Geneva (Switzerland), where he obtained a PhD in 2008. After a short academic post-doc research period he has joined the exploration and mining industry as an Exploration Geologist and Geochemist. István has been involved in target generation, greenfield- and brownfield- exploration and geo-metallurgical works in 9 countries being focused on Cretaceous-Miocene epithermal Au-Ag, polymetallic carbonate replacement Pb-Zn-Cu-Au, porphyry Cu-Au-Mo, sedimentary rock-hosted gold and Archean orogenic gold deposits. More recently, István is acting as principal geoscientist consultant at Dundee Precious Metals with focus on exploration geochemistry, 3D modelling and drill target generation efforts of the company in greenfield and near-mine projects in Bulgaria, Serbia, Armenia and Canada. Since 2009 has collaborated also as a visiting lecturer at the Babeş-Bolyai University, teaching Introduction to Ore Deposits and Economic Geology courses and supervising Bachelor/Master student projects in Romania.