



School of Earth Sciences Seminar Series

Marco Fiorentini

Associate Professor, School of Earth Sciences, UWA

Post-collisional alkaline magmatism as gateway for metal and sulfur enrichment of the continental lower crust.

The School of Earth Sciences is pleased to invite you to a Lecture in the SES Seminar Series given by Marco Fiorentini entitled “Post-collisional alkaline magmatism as gateway for metal and sulfur enrichment of the continental lower crust”.

The Ivrea Zone of northwest Italy represents a natural laboratory where it is possible to investigate the rate and dynamics of metal and sulfur transfer from the mantle into the lower continental crust. Exciting new data show that a series of alkaline pipes were emplaced sequentially over at least 40 million years following a large crustal underplating event. The pipes form 100-300m-thick cumulate-rich conduits, display a notably hydrated and carbonated nature with an unusually high abundance of incompatible elements, and contain blebby metal-rich magmatic sulfides. The pipes did not self-organise into a substantial high-flux plumbing system, but rather dispersed their metal- and volatile-rich cargoes at various deep crustal levels, producing readily fusible, fertile “pods” along a sutured paleo-continental margin. This process fundamentally connected lithospheric scale structures with metal- and volatile-rich lithospheric domains, providing the necessary conditions for the genesis and focusing of mineralising fluids during subsequent magmatic-tectonic events.

Marco is an Associate Professor at the School of Earth Sciences at UWA. Since receiving his PhD in 2005, he has held a number of industry and ARC funded postdoctoral appointments and was made an ARC Future Fellow in 2011. His research portfolio reflects the multiple interests that characterise his work. His PhD examined the siderophile element budget of the Early Earth and his ongoing research investigates the processes that led to the genesis of mineralising systems in various terrestrial (and non) geodynamic settings throughout Earth history. More recently, Marco has also focused on unravelling the cryptic planetary sulfur cycle. Marco promotes a philosophy that applied research and pure science are two sides of the same coin. He is a dedicated mentor to many PhD students and values close collaboration in the pursuit of scientific knowledge.

VENUE Woolnough Lecture Theatre (G.107), Geography and Geology Building
University of Western Australia, 35 Stirling Hwy, Crawley 6009

TIME **4:00 - 4:45pm Thursday 21 September, 2017**
You are invited to join us afterwards for refreshments provided for sale by our local SEG Student Chapter in the Resource Room, Robert Street Building.

