

Meet the Authors



Andreas Audétat is a senior researcher at the Bavarian Geoinstitute in Bayreuth (Germany). He received his PhD degree at ETH Zürich (Switzerland) in 1999, where he was involved in the development of LA-ICP-MS analysis of fluid and melt inclusions. His research concentrates on magmatic-hydrothermal ore deposits and involves studies on natural samples allied to high P - T experiments. He is particularly interested in the chemistry and metal content of magmas and fluids in barren and mineralized systems and in the development of petrological tools to characterize their formation conditions.



Isabelle Chambefort is a senior geoscientist at GNS Science (New Zealand). She joined the geothermal group at the Wairakei Research Centre in September 2010, after post-docs at Oregon State University (USA) and the Centre for Ore Deposits and Earth Sciences (CODES) University of Tasmania (Australia). She received her PhD in Earth sciences from the University of Geneva (Switzerland) and an MSc and BSc from the University Blaise Pascal, Clermont-Ferrand (France). Her research interests include both fossil and active hydrothermal systems, and she is currently leading several research programs on the high-enthalpy geothermal systems of New Zealand.



Marie Edmonds is Chair of Volcanology and Petrology in Earth Sciences at the University of Cambridge (UK). Her current research focuses on cycling of volatiles between the atmosphere and the mantle and the role that magmatic volatiles play in melting, magma genesis, storage and transport, volcanic eruption style and climate modulation over a range of timescales. She uses a wide range of approaches, including microanalysis of volcanic rocks and innovative methods to characterise volcanic gases. Prof. Edmonds develops quantitative frameworks to understand complex physical and geochemical datasets in collaboration with a diverse range of geochemists, geophysicists and volcanologists.



Katy A. Evans is an associate professor in the School of Earth and Planetary Sciences at Curtin University (Perth, Australia). Her research focuses on fluid-rock interaction and open system processes. Her current interests include the redox budget of subduction zone processes, the thermodynamics of sulfur-bearing fluids and non-hydrostatic stress, sulfur cycling in the continental crust, and nickel in Proterozoic terranes.



Maria Luce Frezzotti is a professor of petrology and serves as vice-president of the Doctoral School at the University of Milano-Bicocca (Italy). She earned her undergraduate degree in Earth sciences from Siena University (Italy) and performed her PhD project on the petrology of fluid phases in crustal rocks at both Siena University (Italy) and

the Amsterdam Free University (The Netherlands). Prior to coming to Milano-Bicocca in 2012, she spent two years at the Free University in Amsterdam and 20 years at the University in Siena (Italy). Her research interests include fluid chemistry and thermodynamics, metamorphic petrology, igneous petrology, and geochemistry. She is a fellow of the Mineralogical Society of America, and in 2019 she was awarded the medal of the Accademia delle Scienze, detta dei XL, otherwise known as the National Academy of Science award in Natural and Physics Sciences.



Craig E. Manning is a professor of geology and geochemistry at the University of California, Los Angeles (USA). He studies hydrothermal fluids at high pressure and temperature in terrestrial and extraterrestrial systems. He has received the Bowen Award of the American Geophysical Union (AGU) and is a fellow of the AGU, the Geochemical Society, and the Mineralogical Society of America.



Andrew G. Tomkins is an Australian Research Council Future Fellow and an associate professor at Monash University (Australia). He has a broad range of research interests, and generally likes to apply the principles of metamorphic petrology and geochemistry to settings where they have not traditionally been used. Examples include improving our understanding of the behaviour of metals and ligands in the source regions of the fluids and magmas that form a variety of ore deposits, and improving our understanding of high-temperature metamorphism and core formation in asteroids.



Esther M. Schwarzenbach is a petrologist and geochemist at the Freie Universität Berlin (Germany), where she has a junior professorship in mineralogy with a focus on the interaction between fluid, rock, and microorganisms. She received a diploma and a doctoral degree at ETH Zurich (Switzerland). In 2012, she moved for a postdoc to Virginia Tech (USA) and, since 2015, she is at the Freie Universität Berlin. Her research interests focus on fluid-rock interactions along the oceanic spreading centers and their impact on global geochemical cycles. She has also been extensively working on serpentinization processes and how mineral reactions support life.



Matthew Steele-MacInnis is an assistant professor of geology at the University of Alberta (Canada). His research mainly focuses on the properties and roles of the hydrothermal fluids that form mineral deposits. He has been awarded the Hisashi Kuno Award from the American Geophysical Union, the Young Scientist Award from the Mineralogical Association of Canada, and a Faculty Early Career Development (CAREER) Award from the US National Science Foundation.



Andri Stefánsson is a professor of geochemistry at the University of Iceland. He applies geochemical analysis, element speciation studies, and isotope systematics to understand hydrothermal fluids and the thermodynamics and kinetics of fluid-rock interactions. He also uses experimental and modeling approaches to understand how inorganic and organic compounds and major and trace elements are transported in volcanic and hydrothermal systems. Stefánsson's research helps understand elemental sources and cycling and the range of environments in which potential life might exist in terrestrial hydrothermal systems.