Marc F. Benedetti is a professor of geochemistry at the Université de Paris, Institut de Physique du Globe de Paris (France). He studies how major and trace elements interact with water and soil. In his studies, he determines the speciation of chemical elements in the environment mainly by experimentally studying processes at interfaces. This allows him to understand the mechanisms that control the speciation and transfer of elements in water and soil, especially the interactions between metal ions and natural organic matter. He also leads field studies on the speciation of chemical elements in the natural environment (water and soil).

Asmaa Boujibar is a postdoctoral fellow at the Carnegie Institution for Science (Washington DC, USA). She received her PhD in Earth and planetary science from Blaise Pascal University (France). She is interested in the origin of the chemical heterogeneities of extraterrestrial material and the formation of terrestrial planets. High-pressure and high-temperature experiments are allied to numerical modeling to replicate the conditions of core segregation, crust formation and magma-ocean crystallization. She also uses machine learning algorithms to evaluate the classification of meteorites and their components.

Maria Rita Cicconi is a senior researcher (Akademischer Rätin) at the Department of Materials Science and Engineering, Institute of Glass and Ceramics, of the Friedrich-Alexander-Universität Erlangen-Nürnberg (Germany). She obtained her PhD in experimental mineralogy in 2010 from the University of Camerino (Italy). She works on redox processes, structure and properties of silicate glasses, and, in particular, on the redox and structural behaviour of rare earth elements. Her research interests include the use of vibrational-, optical-, and synchrotron-based techniques to investigate the relationship between structure, redox, and optical/mechanical properties in natural glasses and melts and in functional glass-ceramics.

Melanie Davranche is a professor of geochemistry at the University of Rennes 1 (France). She researches how organic matter and iron interact and how those interactions affect the behaviour of other, associated, metals at the soil/water interface. She is particularly interested in the mobility of the rare earth elements and arsenic and employs field observation, experimentation, spectroscopic studies, and geochemical modelling to determine their mobility.

Yingwei Fei is an experimental petrologist at the Earth and Planets Laboratory of the Carnegie Institution for Science (Washington, DC, USA). He is interested in phase transitions, element partitioning, melting relations, chemical reactions, and physical properties of materials at high pressure and temperature, with applications to geophysics, geology, geochemistry, and planetary sciences. He obtained his BS in petrology, mineralogy, and geochemistry from Zhejiang University (China) in 1982 and his PhD in geochemistry from the City University of New York (USA) in 1989. Since 1991, he has been a faculty member at the Carnegie Institution for Science.

Alexandre Gélabert is a biogeochemist studying the role exerted by microorganisms on metal(loid) cycles in the critical zone. He focuses on the reactions at mineral/biofilm/solution interfaces; the physico-chemical properties of microenvironments; and the processes of metal(loid) complexation, transformation, and any resultant biominalization. To do this, he combines experimental studies with field work, thermodynamics with isotopic approaches, and uses synchrotron-based techniques. He is currently an associate professor at the Université de Paris and the Institut de Physique du Globe de Paris (France), where he is head of the geomicrobiology group.

Christopher D. Herd is a professor at the University of Alberta (Canada) who studies the mineralogy, petrology, and geochemistry of meteorites in order to elucidate the conditions of formation and evolution of the terrestrial planets. He obtained a BSc in geological sciences from Queen’s University (Canada) and a PhD in Earth and planetary sciences from the University of New Mexico (Albuquerque, USA). His research on meteorites from Mars has provided novel insights into variations in redox state, notably how such states relate to magma-ocean crystallization. He is currently a participating scientist on the returned sample aspect of NASA’s Mars 2020 mission.

Charles Le Losq obtained his PhD in 2012 from the Institut de Physique du Globe de Paris (IPGP) (University Paris VII, France) and worked as a post-doctoral fellow from 2013 to 2015 at the Geophysical Laboratory, Carnegie Institution for Science (Washington DC, USA) on the molecular structure of hydrous magmas. Following this, he conducted research on the geochemistry of magmas and minerals as a research fellow at the Research School of Earth Sciences (Australian National University, Australia). In 2019, Charles became Maître de Conférences at IPGP. He is now teaching and leading research activities on magma rheology, petrology, and geochemistry.

Roberto Moretti is a senior geophysicist at the Institut de Physique du Globe de Paris (Université de Paris, France). He received his Laurea VO degree in geological sciences at the Università di Genova (Italy) in 1996 and his PhD in Earth sciences from the Università di Pisa (Italy) in 2002. His research is on the reactive properties of Earth materials, particularly magmas and fluids, and their application to the understanding of volcanic processes and the monitoring of volcanic-hydrothermal unrest. Before moving to France, he was a researcher at the Osservatorio Vesuviano, Istituto Nazionale Geofisica e Vulcanologia (Napoli, Italy) and then an associate professor at the Università della Campania (Italy).

Daniel R. Neuville is a CNRS research director based at the Institut de Physique du Globe de Paris (IPGP), Université de Paris (France). He studies the thermodynamic and rheological properties of glasses, crystals, and melts by linking their structure at high temperature to their macroscopic properties. This has applications in Earth and materials sciences. He is the head of the geomaterials group and of the IPGP’s Masters programs in geochemistry, geomaterials, geobiology, and the environment. He is the elected President of the Union pour la Science et la Technologies Verrieres, Chair of the International Commission on Glass’s Glass Structure Committee, and Chair of the International Mineralogical Associations’ Commission on the Physics of Minerals.
Noah J. Planavsky is an assistant professor in the Department of Geology and Geophysics at Yale University (Connecticut, USA). Prior to taking on a faculty role at Yale, he received his PhD from the University of California, Riverside (USA) and held a postdoctoral fellowship at the California Institute of Technology (USA). He tracks changes in the composition of Earth’s atmosphere, understanding the links between the evolution of Earth’s surface environments and life, and tries to understand how the atmosphere on Earth and Earth-like exoplanets evolve. His research relies on a combination of petrography, nontraditional isotope geochemistry, and geochemical modeling.

Christopher T. Reinhard is a biogeochemist by training, with an interest in Earth system evolution, modern marine biogeochemistry, and the chemistry of planetary atmospheres. Reinhard’s research aims to integrate information from Earth’s rock record with theoretical models in an effort to reconstruct, understand, and predict the dynamics of Earth’s coupled carbon, oxygen, sulfur, and nutrient cycles, and to leverage this understanding in the search for temperate terrestrial planets beyond the solar system.

Kevin Righter is a planetary scientist and curator for both the Antarctic meteorites and the Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer (OSIRIS-REx) asteroid samples within the Astromaterials Research and Exploration Science (ARES) Division at the Johnson Space Center (Texas, USA). Righter applies igneous petrology, experimental petrology, and geochemical analysis to understand core formation, the origin of the Earth and the Moon, as well as differentiated and chondritic meteorites and the role of volatiles in the origin of basaltic magmatism. Righter’s research and curation activities help understand the origin and evolution of the solar system and the potential for life elsewhere.

Vincenzo Stagno is an experimental petrologist interested in understanding the role of volatile elements before, during, and after the formation of Earth (and other planets), as well as the mantle redox state, melting processes, magma rheology, diamond formation, and the speciation of Fe in minerals. After obtaining his PhD at the Bayerisches Geoinstitut (Bayreuth, Germany) he worked at the Geophysical Laboratory of the Carnegie Institution for Science (Washington DC, USA) and the Geodynamics Research Center (Ehime University, Japan) to investigate geomaterials at extreme conditions. Since 2015, he has been a professor at the Sapienza University of Rome (Italy) and works in collaboration with Italy’s National Institute of Geophysics and Volcanology.

Andri Stefansson is a professor of geochemistry at the University of Iceland. He works on volcanic and geothermal fluid geochemistry, including fluid–rock and redox reactions in the crust, the hydrogeology of volcanic geothermal systems, the sources and cycling of volatile elements, and the thermodynamics of hydrothermal fluids.