

Meet the Authors



Olivier Alard is a CNRS researcher in the core-mantle group at Geosciences Montpellier (France). Since his PhD (GEMOC, Macquarie University, Australia), he has been interested in the formation and differentiation

of Earth-like planets and in the long-term evolution of the Earth's mantle. His approach uses *in situ* techniques to determine the micron-scale elemental and isotopic distribution of the siderophile and chalcophile elements within their main sulfide and metal-alloy host phases.



James M. Brenan is an associate professor in the Department of Geology at the University of Toronto. He obtained a PhD at Rensselaer Polytechnic Institute in 1990 and then did postdoctoral work at the

Geophysical Laboratory and Lawrence Livermore National Laboratory. He simulates rock-forming conditions in the laboratory to establish inter-phase partitioning of minor and trace elements, to assess the role of diffusion in controlling the rates at which natural systems approach equilibrium, and to determine the extent to which geological fluids influence mass transfer. His recent work has focused on understanding the role of sulfide, oxide, and metal phases in controlling the behavior of highly siderophile elements in magmatic systems.



Richard W. Carlson is a staff scientist in the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. He pursues various applications of isotope and trace element geochemistry in

the fields of cosmochemistry and solid-Earth science. His recent work has focused on isotopic anomalies in solar system materials, early planetary differentiation using the ^{146}Sm and ^{107}Pd chronometers, the causes of continental intraplate volcanism, and the processes that form continental crust and its underlying sections of mantle lithosphere, the latter done mostly with the Re-Os system.



Jean-Pierre Lorand is a research director at the Centre National de la Recherche Scientifique (CNRS). He works at the Museum National d'Histoire Naturelle (Paris) as head of the Laboratory of Mineral-

ogy. After pioneering work on mantle-derived sulfide minerals in the 1980s, his research topics focused on the abundance of sulfur in

the mantle. More recently, his major topic of research was platinum-group elements (PGE), their distribution among mantle minerals, and their fractionation in response to igneous processes involving the mantle. Now, he centers his attention on the origin of PGE-rich micronuggets in mantle sulfides. He was involved in the organization of the first three International Workshops on Highly Siderophile Elements.



Ambre Luguët is an assistant professor at the Steinmann Institut of Bonn University. She completed her PhD at the Paris Natural History Museum in 2000, which was followed by postdoctoral work at the

Carnegie Institution of Washington (DTM) and at Durham University. She was involved in the organization of the 3rd International Workshop on Highly Siderophile Elements held in Durham and in the resulting special issue of *Chemical Geology* (volume 248). Her research interests focus on the isotopic compositions of the highly siderophile elements (HSE) and osmium in mantle-derived peridotites and lavas with a particular emphasis on the role of HSE host minerals in controlling these geochemical signatures.



Gregory M. Morrison is a professor in the Department of Civil and Environmental Engineering at Chalmers University of Technology, Sweden. His research interests include water-quality analysis,

water-systems assessment, and water engineering. He started research on the platinum-group elements during a postdoctoral visit in Australia in 1988 and has maintained his interest in the subject since then.



James E. Mungall is an associate professor in the Department of Geology at the University of Toronto. His research is largely oriented toward understanding the genesis of magmatic ore deposits,

using inputs from igneous and hydrothermal geochemistry, extensive field work, and experimental petrology. A major focus of his work in recent years has been the use of platinum-group elements as tracers to illuminate the genetic processes that form magmatic ores, spanning the range from melting and magma transport to phase separation and collection.



Anthony J. Naldrett is a University Professor emeritus at the University of Toronto. Although he retired from the university 10 years ago, he has continued both his research into the origin of magmatic

sulfide deposits and advising mining companies in their exploration for them. Currently he spends five months each year at the University of the Witwatersrand, where he holds an honorary professorship and is studying the concentration of PGE in the Merensky Reef, UG-2, and Platreef.



Herbert Palme is professor of geochemistry and mineralogy in the Department of Geology and Mineralogy at the University of Cologne. Earlier he had spent more than 20 years in the

Cosmochemistry Department of the Max-Planck Institute for Chemistry in Mainz. His main interest is in the formation and early evolution of the solar system, including the Earth. He has published papers on PGE in terrestrial crater samples, in meteorites and their components, and in lunar rocks. Together with Alexander Borisov, he has experimentally determined one-bar solubilities of PGE in silicate melts. These data lead to extremely high metal-silicate partition coefficients for the PGE.



Sebastien Rauch is an associate professor in the Department of Civil and Environmental Engineering at Chalmers University of Technology, Sweden. His research deals primarily with emerging metallic contami-

nants and the biogeochemical processes controlling the fate of these contaminants. Platinum-group elements have been a major component of this research, resulting in over 30 peer-reviewed articles on platinum-group element analysis, emissions, environmental levels and physicochemical forms, dispersion mechanisms, bioaccumulation, and toxic effects.



Maria Schönbacher is a lecturer at the University of Manchester, UK, since October 2007. She received her PhD in cosmochemistry from ETH Zürich, Switzerland, which was followed by postdoctoral studies in

the Department of Terrestrial Magnetism of the Carnegie Institution of Washington and in the Imperial College London. She is partic-

ularly interested in extinct radionuclides, mainly ^{107}Pd and ^{92}Nb , in order to understand processes in the early solar system, such as the depletion of volatile elements, the differentiation and evolution of planetary bodies. Further research subjects include stable-isotope fractionation of non-traditional volatile elements, isotopic anomalies in solar system materials, and the development of new techniques for the analysis of isotopes in geologic materials.



Steven B. Shirey

is a staff scientist in the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. He is a trace-element and isotope geochemist interested in problems of

continent formation, Archean mantle evolution, and the geodynamics of the modern oceanic mantle. Recent work has centered on the onset of subduction on Earth, the petrogenesis of diamonds, and novel applications of the Re-Os isotopic system to geological processes in the mantle keels beneath continents.



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