Meet the Authors

Georges Calas is professor of mineralogy at the Université Paris VI and deputy director of the Institute of Mineralogy, Universités Paris VI & VII, CNRS and Institut de Physique du Globe de Paris. He is affiliated with the Stanford Environmental Molecular Science Institute (SEMSI). His research interests concern the control of physical and chemical properties of minerals, glasses, and melts by molecular-scale processes and how this relates to problems in Earth and environmental sciences and materials science. Past president of the Société Française de Minéralogie et Cristallographie, he is a Fellow of the Mineralogical Society of America.

Laurent Charlet is professor of water geochemistry at Université Joseph Fourier Grenoble-I and head of the Environmental Geochemistry Group. His research focuses on process-oriented studies of complex geochemical systems and especially the fate of contaminants in anoxic environments, including deep nuclear waste repositories, sediments, hypolimnic waters, and groundwaters, such as the Ganga River Delta aquifer. He rigorously characterizes the physical and chemical processes, understanding of which is required for predicting the fate of contaminants in these systems, by combining measurement campaigns in the field with detailed macroscopic (kinetic and thermodynamic) studies and direct physical diffractometric (e.g. neutron) and spectroscopic (Mössbauer, XAS, LITRF) measurements in the laboratory.

Claudia Hopenhayn received an MPH in epidemiology/biostatistics and a PhD in epidemiology at the University of California, Berkeley. She joined the University of Kentucky in 1998 and is currently an associate professor of epidemiology in their College of Public Health. Her primary research interests have focused on cancer and reproductive outcomes, in the context of environmental and occupational epidemiology and cancer control. She has worked on a number of international projects related to arsenic exposures from drinking water and from mining activities in Latin America, and has served as member and expert advisor on several EPA, WHO, and IOM committees and short assignments. She has a long track record of publications and invited presentations on the effects of arsenic on human health. Dr. Hopenhayn is originally from Argentina but resides in the United States.

Jonathan R. Lloyd is professor of geomicrobiology at the School of Earth, Atmospheric and Environmental Sciences, The University of Manchester, UK. His research interests are in the general area of environmental microbiology, with a specific interest in geomicrobiology. His research approach is multidisciplinary, encompassing aspects of microbiology, molecular biology, geochemistry and mineralogy, and focuses on the mechanisms, environmental impact and biotechnological application of microbial metal reduction. A recent interest of the Manchester geomicrobiology group has been the role of metal-reducing bacteria in the mobilization of arsenic in Southeast Asian aquifers.

Guillaume Morin is a CNRS research associate at the Institute of Mineralogy in Paris. After graduating from the School of Geology in Nancy, France, he received his PhD in 1994 on the crystal chemistry of bauxites. He has contributed to the development of spectroscopic methods, such as ESR, for studying the crystal chemistry of trace impurities in clays. His research focuses on the molecular-scale processes governing the mobility of contaminants at the Earth's surface, mainly using synchrotron radiation. His recent areas of interest include the role of microorganisms in controlling metal speciation in natural soils and waters. His joint study with Gordon Brown's group, on lead scavenging in soils and mine tailings, received the 1999 American Mineralogist Best Paper Award.

Peggy O'Day is a professor and Founding Faculty member at the University of California, Merced. She received her BS from the University of California, Davis, her MS from Cornell University, and her PhD from Stanford University. She was on the faculty of Arizona State University for nine years before joining UC Merced in 1993. Her current research focuses on field and laboratory studies of environmental contaminants, particularly arsenic, and the application of spectroscopic and microscopic methods to determine the speciation, distribution, and reactivity of metal and metalloid contaminants in natural systems.

Ronald S. Oremland received his BS in biology at Rensselaer Polytechnic Institute in 1968 and his PhD from the Rosenstiel School of Marine and Atmospheric Sciences of the University of Miami in 1976. After a short postdoctoral associateship at the NASA Ames Research Center, he joined the US Geological Survey in Menlo Park, California, where he has been employed since 1977. His research interests have been in the field of geomicrobiology, where he has worked primarily with such processes as methanogenesis and the oxidation of methane and methyl halides. For the past 20 years he has focused much of his investigations on the microbial metabolism of toxic elements like arsenic, selenium, tellurium, and mercury. Although he has worked at a number of diverse field locations, much of this aspect of his research has been conducted in alkaline and saline soda lakes of the western USA, such as Mono Lake, California.

Dave Polya is a Tasmanian and was educated at the Friends' School, Hobart, and the University of Tasmania. He completed his PhD in 1987 at The University of Manchester on the geochemistry of the Panasqueira tungsten-tin deposit, Portugal. Polya has worked as a field hydrogeologist (Tasmanian Mines Department), computer programmer (Monash University), high-temperature experimentalist (Oak Ridge National Laboratory, Tennessee), and geochemical consultant (GeoScience Limited, Falmouth, UK). His current research interests include field, laboratory, and theoretical studies in environmental geochemistry, particularly with respect to arsenic in shallow aquifers in Bengal and Southeast Asia. Polya is currently a senior lecturer at The University of Manchester and is director of the Manchester Analytical Geochemistry Unit.

David J. Vaughan is professor of mineralogy and director of the Williamson Research Centre for Molecular Environmental Science at The University of Manchester. He has DPhil and DSc degrees from Oxford University and he worked in Canada (at CANMET) and the USA (at MIT) before returning to Britain. His research centres on mineral chemistry, particularly of sulfides and oxides, mineral surface science, and ore and environmental mineralogy, areas in which he has written or edited textbooks as well as original papers. He has served as president of the (UK) Mineralogical Society and president of the European Mineralogical Union, and was Mineralogical Society of America Distinguished Lecturer in 2004.