

Meet the Authors

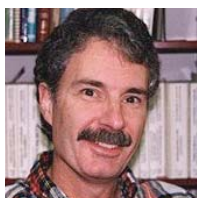


Patrica M. Dove is a professor of geochemistry at Virginia Tech. After receiving her PhD at Princeton University in 1991, she was an NSF Graduate Fellow at Stanford, then a professor at Georgia Tech (1993–2000). She is a Fellow of AGU and MSA, is the recipient of a University Best Teaching Award and the Geochemical Society's Clarke Medal (1996), and was twice recognized through DOE Best University Research Contributions (1998, 2005). In studies of silicification and calcification, she and her research group are investigating processes and mechanisms of mineral nucleation, growth, and demineralization in skeletal tissues and Earth environments.



Niles Eldredge is a paleontologist on the curatorial staff of the American Museum of Natural History, where his specialty is the evolution of trilobites. Throughout his career, Eldredge has used

repeated patterns in life's history to refine ideas on how evolutionary process work. The theory of "punctuated equilibria," developed with Stephen Jay Gould in 1972, was an early milestone. Eldredge also developed a hierarchical vision of evolutionary and ecological systems, and a comprehensive theory (the "sloshing bucket") that specifies in detail how environmental change governs the evolutionary process. Eldredge was curator-in-chief of the American Museum's Hall of Biodiversity, and he has combated the creationist movement through lectures, articles, and books.



John M. Ferry is a professor of Earth and planetary sciences at Johns Hopkins University, where he has taught petrology and thermodynamics for 25 years. Much of his research is summed

up by the statement, "Chemically reactive fluids are important." He and his students and collaborators have conducted field, theoretical, computational, and experimental studies of the role of reactive fluid flow in the formation of contact and regional metamorphic rocks, ductile shear zones, veins, ore deposits, and dolomite. John is a past president of the Mineralogical Society of America and has been an associate editor of *Geochimica et Cosmochimica Acta*, *Contributions to Mineralogy and Petrology*, and *American Journal of Science*.



Robert M. Hazen is Senior Staff Scientist at the Carnegie Institution's Geophysical Laboratory and the Clarence Robinson Professor of Earth Science at George Mason University. He

received his BS and SM degrees in geology at MIT and his PhD in Earth science at Harvard University. A past president of the Mineralogical Society of America, Hazen's recent research focuses on the role of minerals in the origin of life and the coevolution of the geo- and biospheres. He currently serves as Principal Investigator of the Deep Carbon Observatory (<http://dco.ciw.edu>).



Timothy J. McCoy received his MS from the University of New Mexico and PhD from the University of Hawai'i. He has worked at the Smithsonian Institution since 1996 and is the curator-

in-charge of the meteorite collection. He studies meteorites and works on unmanned spacecraft missions to understand a variety of geologic problems, in particular the melting of asteroids in the early history of the solar system.



Namhey Lee is a graduate student in the Department of Earth and Planetary Sciences at Johns Hopkins University. She holds an MSE in environmental engineering from Johns Hopkins University,

where she worked on contaminant fate and transport, and a BE in civil and environmental engineering from Korea University. Her current research interests include the study of surface chemistry, in particular the interaction of organic molecules on mineral surfaces in aqueous solutions using experimental and theoretical methods. Currently she is a Visiting Investigator at the Geophysical Laboratory of the Carnegie Institution of Washington.



Dominic Papineau is a postdoctoral research associate at the Geophysical Laboratory of the Carnegie Institution of Washington. He received his PhD in Earth sciences and astrobiology from the

University of Colorado at Boulder. Papineau is a Precambrian biogeochemist interested in the early evolution of life and in microanalytical

approaches for investigating potential biological signatures in Archean metasedimentary rocks. The overarching goals of his research are to develop these techniques to pave the way for the analysis of samples returned from Mars and to elucidate the evolutionary connections between life, the chemical composition of the atmosphere and oceans, and climate.



Hendrik Schatz is a professor in the Department of Physics and Astronomy and at the National Superconducting Cyclotron Laboratory at Michigan State University. He is also associate director and

cofounder of the Joint Institute for Nuclear Astrophysics, an NSF Physics Frontiers Center. He is an APS Fellow and a member of the Nuclear Science Advisory Committee. After receiving his PhD at the Ruprecht-Karls Universitaet Heidelberg for work largely performed at the University of Notre Dame, he held postdoctoral appointments at UC Berkeley and GSI, Germany. His research interests include experimental and theoretical studies of nuclear processes with rare isotopes in astrophysical environments, such as X-ray bursts, neutron stars, and supernovae.



Dimitri A. Sverjensky is a professor of geochemistry in the Department of Earth and Planetary Sciences at Johns Hopkins University. Professor Sverjensky received his BSc from the University

of Sydney (Australia) in 1973 and a PhD from Yale University in 1980. He has worked in the fields of economic geology, isotope geochemistry, and theoretical aqueous solution chemistry. In recent years, his research has focused on integrating theoretical and experimental studies of the geochemistry of the mineral-water interface, mainly with applications to environmental geochemistry and to the role of surface chemistry in the origin of life. He has been a Visiting Investigator at the Geophysical Laboratory of the Carnegie Institution of Washington since 2005.