

Meet the New 2006 GS Directors

Martin Goldhaber received his BS in Chemistry (1968) and PhD in Geochemistry (1973) both from UCLA. After spending a year as a Post Doc at Yale he joined the USGS in 1975. He is currently a Senior Scientist at the USGS where he received the Department of the Interior Meritorious Service Award and recently served a term as the Chief Scientist for Geology. Marty has been a member of the Geochemical Society since 1972 and has been involved in the Society in a number of roles; most recently as Program Chair. He is a fellow of the Geological Society of America and the Society of Economic Geologists. Marty has served on the editorial boards of *Economic Geology*, *American Journal of Science*, and *Geochimica* (two terms) and has served on advisory boards for the Geological Society of America, the Ocean Drilling Program, NASA, and NSF. His association with the Colorado School of Mines and University of North Carolina at Chapel Hill as adjunct professor resulted in the mentoring of thirteen masters and doctoral students. Marty's research interests have evolved during his career. His early work was on the biogeochemistry of sulfur in modern marine sediments.

After joining the USGS, he applied these perspectives on sulfur geochemistry toward understanding the origin of sediment-hosted ore deposits. This interest in ore genesis led to a focus on large scale crustal fluid flow processes that drive not only genesis of some



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ore types, but also impact the modern environment by enriching shallow crustal rocks with potentially toxic constituents. His research then evolved into understanding the environmental impacts of these crustal flow processes. One example of these impacts is the regional enrichment of aquifer rocks in the mid-continent of the U.S. with trace amounts of potentially toxic metals such as Pb and As which can leach into groundwater aquifers. Another example is the enrichment in coal and coal-bearing rocks of the Appalachian Basin in As, Hg, Se, and Tl by fluids mobilized during the Alleghanian orogenic event.

He has researched the mobilization of these coal-related constituents into streams by natural weathering and mining and into the atmosphere and soils by coal combustion. He is currently co-chief of a USGS project to map the inorganic and selected organic constituents in soils of the U.S., and together with the Canadian and Mexican Geological Surveys, all of North America.

Andreas Lüttge's research focuses on the processes that govern fluid/mineral or fluid/rock interactions from low-temperature conditions to the pressures and temperatures of the deep crust. He is particularly interested in the participation of microorganisms in these processes. His work includes various experimental and modeling techniques that he applies to questions of mineral reactions in sedimentary basins, weathering, the fate of nanoparticles in the environment, atmospheric and global change,



Andreas Lüttge

environmental pollution, hydrothermal systems, and the containment of radioactive wastes. Lüttge received his PhD. in 1990 at the University of Tübingen (Germany), spent 3 years as a Humboldt fellow and associate research scientist at Yale University, and currently holds a double appointment as associate professor of Earth Science and Chemistry at Rice University.

Mark McCaffrey received his B. A. degree (1985) from Harvard University, magna cum laude with highest honors in geological sciences, and his Ph.D. (1990) in geochemistry from the Massachusetts Institute of Technology/ Woods Hole Oceanographic Institution Joint Program. Prior to co-founding *OilTracers*, Mark spent 10 years at Chevron and Arco solving a variety of oil exploration and production problems. Mark is a California Registered Geologist (License #5903), a Texas Professional Geoscientist (License #350), and an AAPG Certified Petroleum Geologist (Certificate #5339). He is a senior or co-author of 30 articles on petroleum exploration, reservoir management, oil biodegradation, hazardous waste remediation, paleoenvironmental reconstruction, and marine chemistry. Mark was the 1995 recipient of the Pieter Schenck Award from the European Association of Organic Geochemists for "outstanding work on biomarkers in relation to paleoenvironmental studies and petroleum exploration." In 1998, with project team members, Mark received the Arco Award of Excellence "for developing a new charge and migration model for the Brookian petroleum system, allowing improved charge risk assessment for prospects on the Central North Slope of Alaska. Mark was a 2001-2002 Distinguished Lecturer for the Society of Petroleum Engineers, and was the Chairman of the 2002 Organic Geochemistry Gordon Conference.



Yaoling Niu is a Professor of Earth Sciences at Durham University, UK. He obtained a BSc degree in Geology in 1982 (Lanzhou University, China), an MS degree in Economic Geology in 1988 (University of Alabama, USA), and a PhD degree in Marine Geology and Geophysics in 1992 (University of Hawaii, USA). After one-year postdoctoral research at Columbia University in New York, Yaoling joined The University of Queensland, Australia in 1993 as a Lecturer, and was promoted to Senior Lecturer with tenure in 1997. In 2001, Yaoling joined Cardiff University as a Senior Research Fellow of Natural Environmental Research Council of the UK. In 2003, he gave up this Fellowship and joined University of Houston as an Associate Professor. He then joined the faculty of Durham University in December 2004. Yaoling has lectured on a number of courses including Mineralogy, Petrology, Geochemistry, Global Tectonics and Chemical Geodynamics at both undergraduate and graduate levels in Geology/Earth Sciences Departments in China, USA, Australia and UK since 1982, while studying and conducting research in the intervening years. Yaoling's research uses petrology and geochemistry as a means to understanding how the Earth works on all scales today and in Earth's history. He has published over 60 refereed papers in leading Earth Science journals. He has been honored with guest professorships by several Chinese Universities (China University of Geosciences in Beijing, Northwest University in Xi'an, Nanjing University and Peking University), and honored as an *Outstanding Overseas Chinese Scientist* by Chinese National Science Foundation. He has recently taken the leadership as the Chairman of the IUGS Commission on Solid Earth Composition and Evolution (SECE). Dr. Niu also serves as an Executive Editor of the Chinese Science Bulletin, and is on the Editorial Board of Earth Science Frontiers and the Geological Journal of China Universities. (<http://www.dur.ac.uk/yaoling.niu/index.htm>)

