USGS SCIENTIST MARTIN GOLDHABER RECEIVES PRESIDENTIAL RANK AWARD

Dr. Martin Goldhaber, a U.S. Geological Survey senior scientist, was recently awarded a prestigious 2008 Presidential Rank Award. During his 33-year career, Dr. Goldhaber has played a pivotal role as a national and international scientific leader. His research has yielded numerous high-impact contributions to the field of geochemistry. Recipients of this prestigious award are strong leaders, professionals, and scientists who achieve results and consistently demonstrate strength, integrity, industry, and a relentless commitment to excellence in public service. They are nominated by their agency heads, evaluated by boards comprised of private citizens, and approved by the president of the United States.

Throughout his career, Dr. Goldhaber has shown an exceptional ability to develop innovative approaches to solving impressively complex problems in diverse fields of the Earth sciences. His early work on sulfur dynamics fundamentally altered the course of international research on the mechanisms of microbial and inorganic sulfur transformations in sediments. His seminal papers in this area provided a comprehensive understanding of these “diagenetic” processes. Such interactions dominate the long-term global sulfur cycle, are critical to understanding the formation of mineral deposits, and aid in the ability of soils and rocks to recover from and mitigate contamination.

In response to the energy crisis of the mid-1970s, Goldhaber applied his geochemical knowledge to sedimentary mineral deposits in the western United States and rapidly gained international recognition as one of the world’s foremost authorities on the origin of sediment-hosted uranium ores, which represent approximately 90 percent of U.S. uranium reserves. Dr. Goldhaber has been a leader in characterizing environmental impacts from coal and mineral mining. He is currently cochair of a USGS project to map the baseline geochemistry in soil of the entire continental United States and Alaska. In collaboration with the Canadian and Mexican geological surveys, this project will encompass all of North America. Because the quality of soil is of vital importance to our well-being, this study will help inform the complex choices we make in using and managing this vital resource.

Most recent and most significant of Dr. Goldhaber’s contributions to the USGS is his guidance as cochair and scientific leader of the USGS Science Strategy Team. The goal of this team was to develop a comprehensive vision based on clearly stated science goals and priorities that would unite all Bureau capabilities toward challenges for the future. The strategy has subsequently become the basis for long-range decision making in the USGS. A summary version published in Science received international exposure and elicited broad praise from outside scientists and managers and from USGS colleagues.

Adapted from the USGS website (December 18, 2008)

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Our reasoning seems to be that as long as we are doing good or even transformational research, then this is good enough. The results will somehow, someday, find application. But what if we are wrong? What if very good scientific research does not find proper or timely application?

If the medical and materials scientists see this problem, why don’t we have the same problem or feel the urgency to find solutions to environmental problems? Is there someone else who has the responsibility for carrying through on our work? For the medical sciences, the sense of urgency is driven by the desire to live a long and healthy life. Stretching the medical science analogy, our planet is sick, suffering from huge environmental and ecological trauma. Is there a role for translational research in finding solutions to these environmental traumas? The readership of Elements numbers over 10,000, representing a large fraction of the geoscience community working on environmentally relevant issues. Yet, what fraction of our work finally has an important impact? What would an Institute for Translational Geochemical Research look like? What types of research would be supported? Do we want to continue to rely on the trickle down theory of the benefits of basic research? Or, should we adopt more directed and demanding goals for our discipline? I do not have answers to these questions, but when I see other disciplines struggling with the issue of the societal impact of basic research, I wonder why we are not.

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CARL SAGAN MEDAL TO JEFF TAYLOR

G. Jeffrey Taylor, a planetary scientist at the Hawai‘i Institute of Geophysics and Planetology (HIGP) at the University of Hawai‘i at Manoa, has been named the 2008 recipient of the Carl Sagan Medal for excellence in public communication in planetary science. The prize is named after Carl Sagan (1934–1996), a distinguished planetary scientist who, through public lectures, television, and books, contributed significantly to the public’s understanding of planetary science. The Sagan Medal is awarded by the Division for Planetary Sciences of the American Astronomical Society to recognize and honor outstanding contributions by active planetary scientists to the public’s understanding of, and enthusiasm for, planetary science. Taylor is the ninth recipient of the Sagan Medal.

Taylor’s gift for science writing spans time, space, and audiences. His work includes his novel Impact!, coauthored with R. V. Fodor and published in 1979. Taylor’s first book for children, A Close Look at the Moon, was awarded the Outstanding Science Trade Book for Children in 1980 and was followed in 1983 by his second award-winning book for young readers, Volcanoes in Our Solar System. Taylor’s popular writing appears in Scientific American, Natural History, The Planetary Report, and Elements, among other publications. Taylor’s educational products include a program Explore the Planets (on CD-ROM, produced in collaboration with Tasa Graphic Arts), NASA classroom activities, a teacher’s guide on exploring the Moon, online hands-on activities (Exploring Planets in the Classroom: www.spacegrant.hawaii.edu/class_act/), and the online educational science journal Planetary Science Research Discoveries (www.psrd.hawaii.edu), which he co-founded with HIGP colleague Linda Martel. The PSRD website, now in its twelfth year, sheds light on the science questions that researchers are actively pursuing about our solar system and explains how the answers are discovered and what they mean.

An HIGP faculty member since 1990, Taylor’s professional interests range from laboratory studies of rocks and meteorites, through geologic field observations, to remote sensing, all of which he combines to further our understanding of planetary processes that operate on Earth, the Moon, the planets, and asteroids. He is involved in planning future missions to the Moon and Mars, in the use of robotics in field geological studies, and in remote sensing mapping.

In addition, Taylor serves as associate director for space science for the Hawai‘i Space Grant Consortium and was director of the consortium, from 1998 to 2002, overseeing statewide K-14 educational programs in space science and exploration. He serves tirelessly at the university as academic advisor, teacher, mentor, and leader, and on a variety of teams and panels for NASA and the greater scientific community.