

Acceptance of the Mineralogical Society of America Award for 2010

BENJAMIN GILBERT

Earth Science Division, Lawrence Berkeley National Laboratory, 1 Cyclotron Road, Berkeley, California 94720, U.S.A.

Mr. President, members of the society, and guests. It is an enormous honor to be the recipient of the 2010 MSA award. The impact of the award is truly felt when one glances at the list of prior MSA awardees. Receiving the award was a great surprise because I am not a traditional mineralogist, although, of course, who is? Thus I would like to express deep gratitude to the mineralogy community for welcoming an enthusiastic newcomer, and for all of the individuals who have generously shared with me their knowledge and expertise.

I have had the good fortune of participating in the development of a distinct field of research, nanoparticle mineralogy, which has developed a critical mass due to the contributions of very many talented researchers. It has been thanks for the foresight of individuals such as Jill Banfield and Mike Hochella, that the key observations were made and the experiments were performed that motivated a field. I want to thank Glenn Waychunas for organizing a lively and exciting symposium on Sunday, which amply illustrated the breadth of research in this area, and the many numerous avenues still to be explored.

Throughout my career I have greatly benefitted from four scientists who left their indelible impressions. I first discovered the excitement of research in the laboratory of Elizabeth Hall at the Institute of Biotechnology at Cambridge working in biophysics, a topic I pursued during my Ph.D. at the EPFL in Lausanne.

During my graduate studies in Lausanne and at synchrotrons in the U.S., I worked with the most inquisitive and creative scientist—whom I am now overjoyed to call my wife, Pupa Gilbert. In our work together, Pupa showed me the foundational skills of an experimental scientist: rigor and logic, record keeping, and innumerable technical skills for making experiments work. Most of all, she has shown me that successful research is, in fact must be, fun.

Moving to Berkeley to take a post-doctoral position in the group of Jill Banfield was a seminal step in my career. I was fascinated by the notion that microorganisms made minerals—in fact, nanoparticles. What captivated me, however, was my education by Jill about the much bigger picture of how biological and inorganic cycles intersect in ways that not only involve nanoparticle formation but also contribute to some of the most important



processes on the surface of our planet. By sharing her breadth of knowledge and clarity of vision, she has performed, initiated, and guided research that has led to innumerable insights. She is a stellar mentor and a continuing inspiration.

The nanogeoscience group at Berkeley was, and remains, a lively place, full of interesting observations and intriguing ideas. But how to capture this creativity and perform important research? No one has shown more clearly how to identify interesting fundamental questions—and actually figure out an experimental approach in order to address them—than Glenn Waychunas. Glenn's career is marked by a commitment to performing the right experiments, even though they are challenging, not the usual experiments, which are easy.

Elizabeth, Pupa, Jill, and Glenn have set wonderfully high standards for conceiving and accomplishing challenging, important research, and I give my sincere thanks to them.