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Presentation of the Mineralogical Society of America Dana Medal for 2006 to Rodney C. Ewing

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It is an honor and a joy to introduce Rodney C. Ewing, recipient of the 2006 Dana Medal. Rod has been a colleague and friend for over a decade now, though I have known his work much longer. I got to know him on a visit to New Mexico in the early nineties. Though the collaborative adventure we were both seeking then did not materialize, others did, and we have shared science, students, green chile, laughter, and sadness ever since.

Rod is both a fundamental and an applied mineralogist. His thesis at Stanford on metamict minerals led to an interest in radiation-induced amorphization and the circumstances, natural and anthropogenic, in which it occurs. In his years on the UNM faculty, this interest blossomed into work on mineral reactions associated with nuclear reactors, radioactive waste, and repositories. He has been a major proponent of the use of natural minerals, exposed over millions of years to the effects of thorium and uranium decay, as natural analogues for host phases for radionuclides and as alternatives to short term studies of actinide leaching from synthetic waste forms. After all, four billion year old zircons, holding on to their uranium, thorium, and daughter products, have something good to say about possible robust waste forms. Rod soon realized that high-resolution electron microscopy is a marvelous tool for studying radiation damage, and he has been at the forefront of applying that technique to both naturally and artificially damaged minerals and ceramics. His work with Lumin Wang on simultaneous ion beam damage and electron microscopy has put new quantitation on damage and annealing mechanisms. I and my collaborators, Kate Helean and Sergey Ushakov, have had the privilege of working with Rod to bring thermodynamics and calorimetry into the picture. Rod has also helped start the careers of many active mineralogists, Peter Burns, Brian Chakoumakos, Greg Lumpkin, and Al Meldrum, to name a few. He now has a very active research group of enthusiastic and productive young people. Rod is a wonderful mentor.

Ewing is a friendly but insistent critic of science and science policy associated with nuclear waste and the proposed Yucca Mountain repository. He demands rigorous supporting science for these efforts. He has organized symposia and workshops, served on NAS and DOE committees, and often stands his intellectual ground in the face of expediency. He exemplifies the concerned and pro-active scientist-citizen. He has also served the MSA as President and started its new publication, *Elements*.

Rod is truly interdisciplinary. When he moved to Michigan, his primary appointment was in Nuclear Engineering. His insight as a mineralogist gives him unique perspective. If in fact the United States evolves an energy policy including new nuclear technology, he will be in the thick of it. At present he has returned to his roots as chair of the Geology Department at Michigan.

Rod has a wonderful sense of humor and reaches out to people of all walks of life and backgrounds. I remember once dashing into his labs at New Mexico to find him and his group busily raising money to send a UNM English major to a poetry competition in England. I know the chap went, but did he win?

The Dana Medal recognizes achievement at a stage in career where one can not only look back but also forward. Rod's research and love of life are more vibrant and joyful than ever. We all wish him a great future.

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