

Rodney Ewing

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Frank Stanton Professor in Nuclear Security, Senior Fellow at the Freeman Spogli Institute for International Studies and at the Precourt Institute for Energy



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Bio	Teaching	Publications
<ul style="list-style-type: none"> ■ Professor, Geological Sciences ■ Senior Fellow, Freeman Spogli Institute for International Studies ■ Senior Fellow, Precourt Institute for Energy <p>Rod Ewing is the Frank Stanton Professor in Nuclear Security in the Center for International Security and Cooperation in the Freeman Spogli Institute for International Studies and a Professor in the Department of Geological Sciences in the School of Earth, Energy and Environmental Sciences at Stanford University. He is the Edward H. Kraus Distinguished University Professor Emeritus at the University of Michigan, where he was in three Departments: Earth & Environmental Sciences, Nuclear Engineering & Radiological Sciences, and Materials Science and Engineering. He is also a Regents' Emeritus Professor at the University of New Mexico.</p> <p>Ewing received a B.S. degree in geology from Texas Christian University (1968, summa cum laude) and M.S. (1972) and Ph.D. (1974, with distinction) degrees from Stanford University where he held an NSF Fellowship. His graduate studies focused on an esoteric group of minerals, metamict Nb-Ta-Ti oxides, which are unusual because they have become amorphous due to radiation damage caused by the presence of radioactive elements. Over the past forty years, the early study of these unusual minerals has blossomed into a broadly based research program on radiation effects in complex ceramic materials. This has led to the development of techniques to predict the long-term behavior of materials, such as those used in radioactive waste disposal. He is the author or co-author of over 750 research publications and the editor or co-editor of 18 monographs, proceedings volumes or special issues of journals. He has published widely in mineralogy, geochemistry, materials science, nuclear materials, physics and chemistry in over 100 different ISI journals. He has been granted a patent for the development of a highly durable material for the immobilization of excess weapons plutonium.</p> <p>Ewing has received the Hawley Medal of the Mineralogical Association of Canada in 1997 and 2002, a Guggenheim Fellowship in 2002, the Dana Medal of the Mineralogical Society of America in 2006, the Lomonosov Gold Medal of the Russian Academy of Sciences in 2006, a Honorary Doctorate from the Université Pierre et Marie Curie in 2007, Roebling Medal of the Mineralogical Society of America, and is a foreign Fellow of the Royal Society of Canada. He is also a fellow of the Geological Society of America, Mineralogical Society of America, American Geophysical Union, Geochemical Society and the European Association of Geochemistry, American Ceramic Society, the American Association for the Advancement of Science, Mineralogical Society of Great Britain and Ireland, and the Materials Research Society. He was elected to the National Academy of Engineering in 2017.</p> <p>He has been president of the Mineralogical Society of America (2002) and the International Union of Materials Research Societies (1997-1998). Ewing has served on the Board of Directors of the Geochemical Society (2012-2015) and the Board of Governors of the Gemological Institute of America (2006-2015). He is a member of the Science and Security Board of the Bulletin of the Atomic Scientists and on the Editorial Board of Applied Physics Reviews. He is a founding Editor of the magazine Elements, which is now supported by 17 earth science societies, and a Founding Executive Editor of Geochemical Perspective Letters. He is a member of the Board of Earth Sciences and Resources of the National Academy of Science, Engineering and Medicine (2017-2020).</p> <p>Professor Ewing is co-editor of and a contributing author of Radioactive Waste Forms for the Future (North-Holland Physics, Amsterdam, 1988) and Uncertainty Underground – Yucca Mountain and the Nation's High-Level Nuclear Waste (MIT Press, 2006). He has served on eleven National Research Council committees for the National Academy of Sciences that have reviewed issues related to nuclear waste and nuclear weapons. He was appointed by President Obama to Chair the Nuclear Waste Technical Review Board (2012-2017).</p>		

Administrative Appointments

- Co-Director, Center for International Security and Cooperation (2017 - 2020)

Honors and Awards

- Distinguished Public Service Medal, Mineralogical Society of America (2019)
- Robert Cahn Award for research on nuclear materials, Journal of Nuclear Materials and NuMat Meeting (2018)
- Election, National Academy of Engineering (2017)
- Grandey Distinguished Lecture, Colorado School of Mines (2017)
- Radiation Effects in Insulators Award for lifetime achievement, International Committee for REI (2017)
- Baldwin Frontiers in Geology Distinguished Lecture, University of Miami Ohio (2016)
- Director's Distinguished Lecture, Pacific Northwest National Laboratory (2016)
- IMA Medal for Excellence in Mineralogical Research, International Mineralogical Association (2015)
- Ian Campbell Medal for Superlative Service to the Geosciences, American Geoscience Institute (2015)
- Roebling Medal, Mineralogical Society of America (2015)
- Edward H. Kraus Distinguished University Professor Emeritus, University of Michigan (2014 - present)
- Honorary Fellow, Mineralogical Society of Great Britain and Ireland (2013)
- Ida Beam Distinguished Visiting Professorship, University of Iowa (2013)
- Hallimond Lecture, Mineralogical Society of Great Britain and Ireland (2010)
- Edward H. Kraus Distinguished University Professor, University of Michigan (2009 - 2013)
- Fellow, Geochemical Society and the European Association for Geochemistry (2009)
- Foreign Fellow, Royal Society of Canada (2009)
- Fellow, Materials Research Society (2008)
- Fellow, American Ceramic Society (2008)
- Docteur Honoris Causa, Université Pierre et Marie Curie, Paris VII (2007)
- Fellow, American Geophysical Union (2007)
- Hamilton Visiting Scholar, Southern Methodist University (2007)
- Award for Outstanding Editorial or Publishing Contributions, Association of Earth Science Editors (2006)
- Dana Medal, Mineralogical Society of America (2006)
- Lomonosov Great Gold Medal, Russian Academy of Sciences (2006)
- Michel T. Halbouty Distinguished Lecturer, Geological Society of America (2006)
- Umbgrove Lecture, Universiteit Utrecht, The Netherlands (2006)
- Zussman Lecture, University of Manchester (2005)
- Distinguished Lecturer, Mineralogical Society of America (2004 - 2005)
- Fellow, American Association for the Advancement of Science (2004)
- Fellowship, Guggenheim Foundation (2002)
- Hawley Medal, Mineralogical Association of Canada (2002)
- Regents' Professor Emeritus, University of New Mexico (1997 - present)
- Fellowship, Yamada Foundation, University of Tokyo (1997)
- Hawley Medal, Mineralogical Association of Canada (1997)
- Regents' Professor, University of New Mexico (1993 - 1997)
- Fellow, Geological Society of America (1985)
- Fellow, Mineralogical Society of America (1983)

University Service and Professional Activities

- President, American Geoscience Institute (2018 - Present)
- Member, Board on Earth Sciences and Resources, National Research Council (2017 - Present)
- President-Elect, American Geoscience Institute (2017 - 2018)
- Member, Editorial Board of Applied Physics Review (2014 - Present)
- Executive Editor, Geochemical Perspectives Letters (2014 - 2016)
- Member, Science and Security Board of the Bulletin of Atomic Scientists (2013 - Present)
- Director, Board of Directors of the Geochemical Society (2012 - 2015)
- Chairman, Nuclear Waste Technical Review Board (2011 - 2017)
- Principal Editor, Nano LIFE (2010 - Present)
- Governor, Board of Governors of the Gemological Institute of America (2006 - 2015)
- Founding Editor, Elements magazine (2003 - 2004)
- President, Mineralogical Society of America (2002 - 2003)
- President, International Union of Materials Research Societies (1997 - 1998)

Education

- Ph.D., Stanford University, Mineralogy (1974)
- M.S., Stanford University, Mineralogy (1972)
- B.S., Texas Christian University, Geology (1968)

Patents

- Rodney Ewing, Werner Lutze, William J. Weber. "United States Patent 5,545,797 Method of immobilizing weapons plutonium to provide a durable, disposal waste product", University of New Mexico, Sep 13, 1996

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