

## Speaker Profile



**Donald R. Baer,**  
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**Dr. Baer** is Lead Scientist for Interfacial Chemistry and Interim Chief Science Officer, Environmental Molecular Sciences Laboratory (EMSL), a US Department of Energy User Facility located at PNNL. He has a Ph. D. in Physics from Cornell University and has interests in nanoparticles in the environment, characterization of nanomaterials, and nanotechnology education. He was part of a team responsible for developing materials and interfaces for EMSL, has served as Co-Director of the PNNL/University of Washington Joint Institute for Nanoscience and as Deputy Manager of the PNNL Nanoscience and Nanotechnology Initiative (2001-2005).

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Since joining PNNL in 1976, Dr. Baer has specialized in the use of surface sensitive techniques to study surface and interphase reactions and material surface chemistry. He specializes in adapting established and new surface sensitive methods to unusual problems and has more than 220 publications. Specific research activities include study of the reaction properties and environmental variability of nanoparticles, synthesis and properties of oxide nanostructures, nanoparticle preparation and characterization for toxicology studies, corrosion and stress corrosion cracking, and the surface chemistry and reactivity of calcite. He has direct experience with vacuum-based surface analysis methods (XPS, AES, SIMS) and methods used for direct analysis of the solid-solution interface (atomic force microscopy, electrochemical characterization).

Dr. Baer's other activities include serving as Adjunct Professor of Physics at Washington State University, Adjunct Professor of Chemistry at the University of Washington, Reviews Editor of Surface and Interface Analysis, and Associate Editor for Surface Science Spectra. He is a member of the American Association for the Advancement of Science (Fellow), American Chemical Society, American Vacuum Society (AVS Fellow and past chair of Applied Surface Science Division), American Physical Society, the Electrochemical Society, past Chair of ASTM E42 Committee on Surface Analysis and serves as secretary of ISO TC 201 on Surface Chemical Analysis Vocabulary and is the author of an ISO technical report on use of surface analysis methods to characterize nanoparticles.

Baer has received the Albert Nerken Award from the AVS (2009) and the Riviere Prize from the UK Surface Analysis Forum (2011), the PNNL Directors Award for Excellence and a DOE Division of Materials Sciences Outstanding Scientific Accomplishment Award in 1992, the 2000 PNNL Fitzner-Eberhardt Award for contributions to science education and a 2001 Federal Laboratory Consortium Award for technology transfer. From 1984 to 1985 Dr. Baer was a Visiting Research Fellow in the Department of Materials Science and Engineering at the University of Surrey, Guildford, England.

