



## Schatz Receives Feynman Prize

George C. Schatz, Charles E. and Emma H. Morrison Professor of Chemistry in the Northwestern University Weinberg College of Arts and Sciences, has received the 2008 Foresight Institute Feynman Prize in the theory category for his theoretical contributions to nanofabrication and sensing.

Foresight Institute is a leading think tank and public interest organization focused on nanotechnology. The prizes, named in honor of pioneer physicist Richard Feynman, are given in two categories, one for theory and one for experimental work to individuals whose work in nanotechnology is moving society toward the goal of atomically precise manufacturing.

Schatz was cited for his sophisticated modeling and optimization of the Dip-Pen Nanolithography method of nanofabrication and for his explanation of plasmon effects in metallic nanodots. The impact of this theoretical work on nanofabrication and single-molecule sensing and characterization is leading toward molecular machine systems.

James M. Tour of Rice University received the Feynman Prize in the experimental category for his synthesis of nanocars.

"This year we honor major advances in both understanding and building of nanoscale structures," said Christine Peterson, president of Foresight Institute. "This work moves us forward on the path to systems of complex, atomically precise molecular machinery."

Schatz's research is concerned with theory and computational modeling in a variety of nanoscience topics as well as in related fields of biophysics and materials. His nanoscience work has focused on the optical properties of noble metal nanoparticles, nanoholes in films and other nanostructured materials of relevance to chemical and biological sensing applications, and on modeling nanopatterning and molecular self-assembly processes.

Schatz also has studied DNA structures and thermal properties, transport in ion-channels and the formation of water droplets on nanoscale structures. In addition, he has worked actively in the theory and modeling of the mechanical properties of hard materials, including diamond films, graphene and carbon nanotubes.

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Schatz is a member of the National Academy of Sciences (2005), the American Academy of Arts and Sciences (2002) and the International Academy of Quantum Molecular Sciences (2001). He is editor-in-chief of the Journal of Physical Chemistry.

Awards include fellowships from the Camille and Henry Dreyfus Foundation and the Alfred P. Sloan Foundation, the Fresenius Award of Phi Lambda Upsilon, the Max Planck Research Award, the Bourke Medal of the Royal Society of Chemistry, and the Dorothy Ann and Clarence L. Ver Steeg Distinguished Research Fellowship of Northwestern. Schatz is a fellow of the American Association for the Advancement of Science and the American Physical Society.

Schatz is co-author of three books and author of more than 500 publications. His research is supported by the National Science Foundation, the Department of Energy, the National Institutes of Health, the Air Force Office of Scientific Research and the Defense Research Advanced Projects Agency.