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The MRS Von Hippel Award includes a \$10,000 cash prize, honorary lifetime membership in MRS, and a unique trophy—a mounted ruby laser crystal, symbolizing the many faceted nature of materials research. The award recognizes those qualities most prized by materials

scientists and engineers—brilliance and originality of intellect, combined with vision that transcends the boundaries of conventional disciplines, as exemplified by the life of Arthur von Hippel (<http://vonhippel.mrs.org>).



## Rodney S. Ruoff selected for 2014 David Turnbull Lectureship

The Materials Research Society's (MRS) David Turnbull Lectureship recognizes the career of a scientist who has made outstanding contributions to understanding materials phenomena and properties through research, writing, and lecturing, as exemplified by the late David Turnbull of Harvard University. This year Rodney S. Ruoff, Director of the Center for Multidimensional Carbon Materials (CMCM), Institute for Basic Science (IBS), and Distinguished Professor at the Ulsan National Institute of Science & Technology (UNIST) in South Korea has been selected to give the 2014 Turnbull Lecture. Ruoff is cited for "pioneering discoveries related to carbon materials and their innovative preparation, characterization, and mechanics." He will be presented with the award at the 2014 MRS Fall Meeting in Boston.

Devoting his career to research into carbon-based nanostructures, Ruoff has made numerous fundamental breakthroughs in the chemistry and physics of these materials that shaped the research and practical applications of these materials as they are known today. His contribution created the chemical foundation of virtually all the processing schemes involving these materials,

from dispersions to devices and composites. His early work included extensive studies of fullerenes. Ruoff then made a series of significant contributions to carbon nanotube science, and more recently he has gained an international reputation for his work on graphenes.

Ruoff and his colleagues were the first to discover encapsulation of metal particles inside supergiant fullerenes. His group demonstrated that carbon nanotubes deform from a perfect cylindrical shape with profound consequences that lend themselves to new approaches for studying chemistry. Ruoff's group was the first to measure the tensile and fracture mechanics of individual carbon nanotubes, and also the first to use solubility parameters to rationalize the solubility of fullerenes, nanotubes, and graphene sheets. And recently, his extensive studies of the growth of graphene by chemical vapor deposition and graphene oxide in composites and for use in electrical energy storage initiated a large number of similar research studies worldwide.

The technological impact of his works can be seen from the multiple companies that emerged from his general studies of carbon nanostructures, especially

in the area of synthesis of carbon nanostructures. Ruoff is the co-founder of several companies. Several other start-up companies were founded by his students, which is indicative of the inspiration and guidance Ruoff provided to graduate education. Ruoff received his BS degree in chemistry from The University of Texas at Austin (1981) and his PhD degree in chemical physics from the University of Illinois at Urbana-Champaign (1988, H.S. Gutowsky; Advisor). After completing his studies, he was awarded a Fulbright Postdoctoral Fellowship at the Max Planck Institut für Strömungsforschung, Göttingen, Germany, followed by a postdoctoral fellowship at IBM-Watson Research Laboratory. In 1991, Ruoff joined the Molecular Physics Laboratory at SRI International as a research staff scientist. He was appointed associate professor of physics at Washington University, Missouri, in 1997, and in 2000, he joined the Department of Mechanical Engineering at Northwestern University, Illinois, as full professor where he also directed the Biologically Inspired Materials Institute and was the John Evans Professor of Engineering. From 2007 to 2013, Ruoff served as Cockrell Family Regents Chair at The University of Texas at Austin. He is a Fellow of MRS, the American Physical Society, and the American Association for the Advancement of Science. Ruoff received the Lee Hsun Lecture Award, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China, in 2009, and was Distinguished Chair Visiting Professor (2005–2007) at the Sungkyunkwan University Advanced Institute of NanoTechnology.