

## **Prof. Robert W. Carpick**



**Robert W. Carpick** is a Full Professor in the Department of Mechanical Engineering and Applied Mechanics at the University of Pennsylvania in Philadelphia, Pennsylvania. He has served as Department Chair since July 2011. He holds a secondary appointment in the Department of Materials Science and Engineering, and is a member of the Physics Graduate Group. He moved to U. Penn in January 2007 after serving on the faculty for 7 years in the Engineering Physics Department at the University of Wisconsin-Madison.

He received his B.Sc. in Physics from the University of Toronto in 1991, and his Ph.D. in Physics from the University of California at Berkeley in 1997 under the supervision of Dr. Miquel Salmeron. He spent two years as a postdoctoral appointee at Sandia National Laboratory in the Surface and Interface Science Department.

Prof. Carpick works at the intersection of mechanics, materials, and physics to conduct research into nanotribology (the atomic-scale origins of friction, adhesion, lubrication, and wear), nanomechanics, nanostructured materials, and scanning probe microscopy (SPM). His primary focus is on using SPM and other surface science and material characterization techniques to probe the fundamental nature of materials in contact, and to apply the results to nanotechnology applications. Recently he has focused extensively on the science and technology of ultrahard carbon-based thin films including nanocrystalline diamond, ultrathin materials such as graphene, and materials under extreme conditions.

Prof. Carpick was named a Fellow of the American Physical Society in 2012. He currently serves on the Editorial Board of the journal Tribology Letters. He was the recipient of a CAREER Award from the National Science Foundation in 2001, and was named Outstanding New Mechanics Educator by the American Society for Engineering Education in 2003. In 2009, he was awarded the Burt L. Newkirk award of the American Society of Mechanical Engineers. He is a co-recipient of a 2009 R&D 100 Award for the co-development of ultrananocrystalline diamond AFM probes. From 2007-2011 he

served as the U. Penn Director of the Nanotechnology Institute (NTI), a multi-university consortium that supports the commercialization of university research in nanotechnology. He has taught several invited short courses on nanomechanics and scanning probe microscopy, and is the author of over 100 peer-reviewed journal publications.