

Carbon nanostructures form the future of electronics and optoelectronics

23 September 2008

This year's Julius Springer Prize for Applied Physics will be awarded to Phaedon Avouris and Tony Heinz for their pioneering work on the electrical and optical properties of nanoscale carbon materials including carbon nanotubes ? from basic science to exciting applications. The award, accompanied by US\$ 5,000, will be presented at the Julius Springer Forum on Applied Physics 2008 at Harvard University in Cambridge, MA, on 27 September 2008.

Future electronics and optoelectronics will be based on carbon nanostructures. Avouris and Heinz's studies of the electronic properties of nanotubes and graphene aim at developing a future nanoelectronic technology with devices that will be vastly more compact, fast and energy efficient than the current silicon-based devices. The optoelectronic studies aim at uniting and integrating this electronic technology with an optical technology based on the same materials. Their research will aid in the development of future high-speed electronics, communications systems, and sensors for diverse applications. Industries ranging from automobile, aviation, space and energy conversion/conservation to bionanotechnology and medicine are likely to benefit from their research.

Phaedon Avouris received his B.Sc. degree from Aristotle University in Greece and was awarded his Ph.D. degree in physical chemistry at Michigan State University. He is currently an IBM Fellow and manager of Nanoscience and Nanotechnology at IBM's Research Division at the Watson Research Center in Yorktown Heights, NY. He has also been an adjunct professor at Columbia University and the University of Illinois.

Tony Heinz earned his B.Sc. from Stanford University and his Ph.D. degree in physics from the University of California, Berkeley. He is the David M. Rickey Professor in the Departments of Physics and Electrical Engineering at Columbia University,

where he has been since 1995. Previous to this, he worked at IBM's Research Division at the Watson Research Center.

The Julius Springer Prize for Applied Physics recognizes researchers who have made an outstanding and innovative contribution to the fields of applied physics. It has been awarded annually since 1998 by the Editors-in-Chief of the Springer journals *Applied Physics A – Materials Science & Processing* and *Applied Physics B – Lasers and Optics*.

Source: Springer

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