

Michael S. Fuhrer

Department of Physics, University of Maryland, College Park, MD 20742-4111

Tel: (301) 405-6143

Fax: (301) 314-9465

Email: mfuhrer@physics.umd.edu

Web: <http://www.physics.umd.edu/condmat/mfuhrer>

Professional Preparation

8/ 1998 – 8/ 2000	Postdoctoral Research	Lawrence Berkeley National Laboratory
9/ 1991 – 8/ 1998	Ph.D. in Physics	University of California at Berkeley
9/ 1987 – 12/ 1990	B.S. in Physics	University of Texas at Austin

Appointments

8/ 2000 – 6/2005	Assistant Professor	Dept. of Physics, University of Maryland
7/ 2005 – present	Associate Professor	Dept. of Physics, University of Maryland

Biography

Michael Fuhrer received his B.S. in Physics from the University of Texas at Austin in 1990. He received his Ph. D. in Physics from the University of California at Berkeley in 1998 after doing research on electronic and thermal transport in High- T_c and fullerene superconductors with Prof. Alex Zettl. Prof. Fuhrer remained at Berkeley as a postdoctoral researcher with Profs. Alex Zettl and Paul McEuen, working on electronic transport in carbon nanotube devices. Prof. Fuhrer joined the faculty at Maryland as an assistant professor in 2000, promoted to associate professor in 2005. He is pursuing research on carbon nanotube electronic devices, novel two-dimensional electronic nanostructures, and molecular electronics. Prof. Fuhrer studied the first carbon nanotube heterojunctions, demonstrated the first carbon-nanotube-based single-electron memory device, and showed that the room-temperature mobility in semiconducting carbon nanotubes is the highest of any semiconductor. He has published over 35 papers in technical journals, and presented his research in more than 40 invited talks.

Selected publications

- S.A. Getty, C. Engtrakul, L. Wang, R. Liu, S.-H. Ke, H. U. Baranger, W. Yang, M.S. Fuhrer, Lawrence R. Sita, "Near-perfect conduction through a ferrocene-based molecular wire," *Physical Review B Rapid Communications* **71**, 241401 (2005).
- Yung-Fu Chen, M. S. Fuhrer "Electric Field-Dependent Charge-Carrier Velocity in Semiconducting Carbon Nanotubes," *Phys. Rev. Lett.* **95**, 236803 (2005)
- T. Durkop, S. A. Getty, E. Cobas, M. S. Fuhrer, "Extraordinary Mobility in Semiconducting Carbon Nanotubes", *Nano Letters* **4**, 35 (2004).
- M. S. Fuhrer, B. M. Kim, T. Dürkop, and T. Brintlinger, "High-Mobility Nanotube Transistor Memory", *Nano Letters* **2**, 755 (2002).
- P. L. McEuen, M. S. Fuhrer, H. Park, "Single-Walled Carbon Nanotube Electronics", *IEEE Transactions on Nanotechnology* **1**, 78 (2002).
- M. S. Fuhrer, J. Nygård, L. Shih, M. Forero, Young-Gui Yoon, M. S. C. Mazzoni, Hyoungh, Joon Choi, Jisoon Ihm, Steven G. Louie, A. Zettl and Paul L. McEuen, "Crossed nanotube junctions", *Science* **288**, 494 (2000).

Students and Postdoctoral Researchers Advised

Byong Man Kim (postdoctoral researcher), Stephanie A. Getty (postdoctoral researcher), Tobias Dürkop (Ph.D. granted April 2004), Todd Brintlinger (Ph.D. granted November 2005), Yung-Fu Chen (Ph.D. granted April 2006).