

Chris Rogers

Born: May 17, 1963

Married

3 Children

Education:

Degrees	Ph.D.	Stanford University (w/ John Eaton)	1989
	M.S.	Stanford University	1985
	B.S.M.E.	Stanford University (w/ distinction)	1984

Employment History:

Visiting Professor, ETH, Zürich, Switzerland	2006-2007
Director, Center for Engineering Education Outreach	2003-present
Professor, Tufts University, Medford, MA	2001-present
Kenan Professor of Distinguished Teaching, Princeton, NJ	2002-2003
Fulbright Senior Scholar, Lincoln University, Christchurch, NZ	2002, spring
Associate Professor, Tufts University, Medford, MA	1996-2001
Visiting Scientist, Harvard University, Cambridge, MA	1996-1997
Assistant Professor, Tufts University, Medford, MA	1989-1996
Visiting Scientist, McDonnell Douglas Co., St. Louis, MO	1990, summer

Professional Society Memberships, Honors, and Awards:

Bernstein Faculty Mentor, Tufts University, 2004
Best Section Paper, International Conference on Computing (CCCT), 2004
Overseer, Museum of Science, Boston, MA, 2004-6
National Science Foundation Director's Distinguished Teaching Scholar Award, 2003
Kenan Professorship of Distinguished Teaching, Princeton, 2002-2003
LabVIEW Programming Prize, NIWeek, 2002
Fullbright Senior Scholar, New Zealand, 2002
Best Paper in Computers in Education, ASEE Conference, 2000
Robert Knapp Award for Best Paper, ASME Conference, 2000
Prizes for ROBOLAB: BETT Best Software Prize (Britain), World Didact Gold Medal (Switzerland), MacWorld (USA) and DIGITA (Germany) prizes, 2000 - 2002
Carnegie Foundation Professor of the Year for Massachusetts, 1998
Outstanding Educational Software Prize, National Instruments, 1998
Teetor Award for Excellence in Education, 1994
Best Section Paper Award, ASEE Conference, 1998
Section Outstanding Teaching Award, ASEE New England Section, 1996
AIAA New England Council Achievement Award (2 years)
Member of Phi Beta Kappa and Tau Beta Pi honor societies

Current Support:

Grants fall into four areas:

- CMP slurry flow (Intel and Cabot),
- manufacture of musical instruments (Steinway and Sons and Selmer),
- robotics and genetics (NIH and NSF)
- and engineering education (LEGO, NI, Raytheon, LLL Foundation, and NSF).

The first is mainly aimed at understanding fundamental physics, the third is in bio-robotics and optimizing an existing manufacturing processes, and the last is teaching engineering to elementary school students as a way of improving science education. Total support averages \$1,000,000 a year.

Sample of Recent Publications:

- Cejka, E., Rogers, C., & Portsmouth, M. (2006). Kindergarten Robotics: Using Robotics to Motivate Math, Science and Engineering Literacy in Elementary School International Journal of Engineering Education, 22(4), 711-722.
- C. Gray, D. Apone, C. Rogers, V. P. Manno, C. Barns, S. Anjur, M. Moinpour. Viewing Asperity Behavior Under the Wafer During Chemical Mechanical Polishing. Electrochemical and Solid-State Letters, Vol. 8, #5, 109-111, 2005.
- Scarfo, A.M., C. Rogers, V. P. Manno, J. Cornely, S. Anjur, M. Moinpour. "In-Situ Measurement of Pressure and Friction During CMP of Contoured Wafers", J. Electrochem. Soc. 152, G477, 2005.
- Groszmann, D. E. and C.B. Rogers, "Turbulent Scales of Dilute Particle-Laden Flows in Microgravity", Phys. Fluids, Vol 16, No. 12, 2004. pp. 4671-4684
- J. Lu, C.B. Rogers, V.P. Manno, A. Philipossian, S. Anjur, M. Moinpour, "Measurements of Slurry Film Thickness and Wafer Drag During CMP," J. Electrochem. Soc., 151 (4), 2004.
- Jones, J. and C.B. Rogers, *The Acoustic Effect of Cryogenically Treating Trumpets*, Acoustical Society of America National Conference, Austin TX, November, 2003.
- Merredith Portsmouth, Chris Rogers, Philip Lau, Ethan Danahy. "Remote Sensing and Tele-robotics for Elementary and Middle School Via The Internet." Computers in Education Journal. Vol XIV No 2 April - June 2004. pgs 72 – 75
- ROBO LAB software - versions 1 thru 2.9 in 1999, 2000, 2001, 2002, 2004, 2005, 2006.

Courses Taught past 6 years:

ES 8: Introductory Fluid Mechanics
ES 73: Musical Instrument Manufacturing
EN 10: Prototyping home robots
EN 26: Design and performance of musical instruments
ACL 07: Windows in Research
FRS137: LEGO Engineering

ME 65: Advanced fluid mechanics
ME 165: Graduate fluid mechanics
ME 118: Advanced experimentation methods
ME 149: Introduction to turbulence
ME 180: Advanced Controls
ME 184: Robotics
ME 166: Compressible flow
ME 265: Turbulence modeling
Comp609: Image Processing

Service

In the research arena, I am an editor of eFluids.com, helped organize and run numerous conferences on engineering education, particle-laden turbulence, and CMP. I have reviewed for NSF, most of the fluids engineering journals, and for promotion cases. In the university arena, I am part of a committee dedicated to improving teaching on campus, co-founder and director of the Center for Engineering Education Outreach, founder and director of the Tufts University Fluid Turbulence Laboratory, and have helped initiate a complete reform of the undergraduate mechanical engineering program. Finally, in the outreach arena, I work with elementary classrooms (teachers and kids) every week and have worked with over 100 elementary schools around the world, ranging from giving talks and workshops to having classrooms share results and information.

Hobbies and Accomplishments

My hobbies include playing with my kids, hiking, skiing (all types), canoeing, ultimate Frisbee, and woodworking. My best accomplishments to date are: (1) allowing my children to help dictate my research agenda and involving them in it and (2) flying weightless in the NASA KC-135 for almost 1000 parabolas without getting sick.