CHRIS ROGERS

Center for Engineering Education and Outreach
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(A) PROFESSIONAL PREPARATION

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

(B) ACADEMIC / PROFESSIONAL APPOINTMENTS

Board of Directors - Concord Consortium	2010 - present
Visiting Professor, ETH, Zürich, Switzerland	2006-2007
Overseer, Boston Museum of Science	2004 - present
Director, Center for Engineering Education Outreach	2003 - present
Editor, eFluids.com	2003 - present
Professor, Tufts University, Medford, MA	2001 - present
Kenan Professor of Distinguished Teaching, Princeton, NJ	2002-2003
Fulbright Senior Scholar, Lincoln University, ChCh, 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

(C) SELECTED PUBLICATIONS

- Chris B. Rogers, Jacob Foster, Kristen Wendell, (2010) A Review of the NAE Report, Engineering in K-12 Education, Journal of Engineering Education.
- Brophy, S., S. Klein, M. Portsmore, C.B. Rogers (2009), Advancing Engineering Education in P-12 Classrooms, Journal of Engineering Education, Vol. 97, no 2, 1-19.
- Church, W., Gravel, B.E., Rogers, C. (2007). Teaching Parabolic Motion with Stop Action Movies. International Journal of Engineering Education Special Issue, Vol 23., (5), 861-867.
- Vlahakis, J., Manno, V. P., Rogers, C. B., and White, R. "Stick-Slip Transitions in Chemical Mechanical Planarization" J. Electrochem. Soc., Volume 156, Issue 10, pp. H794-H802 (2009)
- Cejka, E., Rogers, C., & Portsmore, 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.
- Jones, J. and C.B. Rogers (2003), The Acoustic Effect of Cryogenically Treating Trumpets, Acoustical Society of America National Conference, Austin TX.

- ROBOLAB software - versions 1 thru 2.9.4 in 99, 00, 01, 02, 04, 05, 06, 07, 08, 09.
- LabVIEW Education Edition - 2009, LabVIEW for LEGO Mindstorms 2010

(D) SYNERGISTIC ACTIVITIES

My research work falls into four areas: (1) CMP slurry flow (Intel and Cabot), (2) manufacture of musical instruments (Steinway and Sons and Selmer), (3) robotics and genetics (NIH and NSF) and (4) engineering education (LEGO, NI, Raytheon, LLL Foundation, Symantec, Foster-Miller, Kodosky Foundation, and NSF). The first is mainly aimed at understanding fundamental physics, the second and third are optimizing existing manufacturing processes, and the last is teaching engineering to K-12 students as a way of improving science education.

The last endeavor takes the bulk of my time, as director of the Tufts Center for Engineering Education and Outreach. The work falls into 4 parts: (1) education research, (2) tool development, (3) outreach, and (4) teacher professional development. Through the Center, we work with thousands of teachers every year as part of our LEGO engineering conference circuit and our LEGOEngineering.com website. We collaborate with a dozen universities and industries in developing volunteer programs to assist teachers in bringing engineering into the classroom. We also develop tools (LEGO-based and around movie making) to increase opportunities for kids. Finally, we combine this work with education research to inform development and outreach strategies.

(e) Collaborators & Other Affiliations

(i) Collaborators

Tufts University: Hee-Sun Lee, Marina Bers, Barbara Brizuela, Ana Schliemann, David Hammer, Chris Swan, Robert White, Robert Jacobs, Merredith Portsmore, Ethan Danahy, Morgan Hynes, David Kaplan, Vincent Manno, Linda Jarvin, Barry Trimmer
MIT: Michel Resnick, Duane Bonning, Gareth McKinley
Univ of Arizona: Eniko Enikov, Ara Philipossian
Princeton University: Mike Littman, Clancy Rowley, Szymon Rusinkiewicz, Adam Finkelstein
Purdue University: William Oakes, Matt Ohland
Boston College: Mike Barnett
University of San Diego: Mike Cole
University of Colorado, Boulder: Noah Finkelstein
Northeastern Univ.: Joe Ayers

LEGO Corp, National Instruments, Intel Corp, Cabot Corp, Symmantec, Klutz Books, iRobot, Google, LLL Foundation, Kodosky Foundation, Concord Consortium

(ii) Graduate Advisors and Postdoctoral Sponsors

Graduate Advisors: John Eaton, Bill Reynolds, William Kayes, Peter Bradshaw

(iii) Thesis Advisor and Postgraduate Scholar Sponsor

Thesis Advisor: John Eaton

(f) Other Accomplishments

I have received a few awards: Harry C. Bigglestone award, 2010, Tufts ASME Student Chapter "Best Professor Award", 2008, Best Section Paper, International Conference on Computing (CCCT), 2004, 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), and am a member of Phi Beta Kappa and Tau Beta Pi honor societies.

More importantly, I have flown flying in the NASA KC-135 for almost 1000 parabolas without getting sick.