Kay Furman

kfurman@mit.edu
web.mit.edu/kfurman/www

Current
3 Athens Terrace, # 2
Cambridge, MA 02138
Cell Phone: (352) 398-9318

Permanent
10175 Noddy Tern Road
Brooksville, FL 34613
Home Phone: (352) 596-9503

Education

Harvard University Cambridge, MA
Ph.D. Health Sciences and Technology, Medical Engineering Medical Physics, June 2012. Research focuses on implantable biomaterials with tunable tissue and immune responses. Coursework includes Bioengineering through Harvard School of Engineering and Applied Sciences, Systems Physiology and Medicine classes through Harvard Medical School (HMS), and Biomaterials electives at Harvard, HMS and MIT.

Massachusetts Institute of Technology (MIT) Cambridge, MA
B.S. Materials Science and Engineering, June 2007, 4.8/5.0. Minors in Biomedical Engineering and Psychology.

Awards

National Science Foundation (NSF), Graduate Research Fellowship, Medical Engineering (Summer 2008-Spring 2011)

Department of Materials Science and Engineering Dean's List, Term GPA 5.0 (Fall 2004 and Spring 2005)

Research Experience

Harvard-MIT, Division of Health Sciences and Technology Cambridge, MA
Advisor: Elazer Edelman
Developing polymer-ceramic composites as tunable mechanical system to investigate mechanisms of stent-induced blood vessel injury (Summer 2008-present)

Harvard University, Department of Bioengineering Cambridge, MA
Advisor: Debra Auguste
Designed novel *in vivo* analgesic delivery mechanism for DARPA initiative (Fall 2006)

MIT, Department of Chemical Engineering Cambridge, MA
Advisors: Robert Langer, Debra Auguste
Developed pH-dependent liposome system for targeted delivery of RNAi; authored and edited sections of manuscript (Spring 2006)

MIT, Department of Materials Science & Engineering Cambridge, MA
Advisors: Lorna Gibson, Casey Ott
Contributed to start-up company intellectual property (IP) for artificial bone concept technology (Spring 2005)

University of Florida, U.S. Department of Agriculture Gainesville, FL
Developed novel mosquito repellent awarded International Science Fair Third Place; performed all experimentation (Summer 2002)

Teaching Experience

MIT, Concourse Freshman Learning Program Cambridge, MA
Teaching Assistant, Introductory Chemistry
Instructed 40 students, held biweekly recitation sections, review sessions, graded exams (Fall 2006)

Tutor, Introductory Chemistry
Held weekly tutorial sessions (Fall 2005)

Publications and Presentations

D. Auguste, Furman, K., Wong, A., Fuller, J., Armes, S. P., Deming, T. J., and R. Langer, Triggered release of siRNA from poly(ethylene glycol)-protected, pH-dependent liposomes. *J. Control. Release*, accepted.

You, J., Furman, K., Yu, A., Wilson, M., and D. Auguste. Drug Delivery Initiatives. Poster session of Frontiers of Tissue Engineering Symposium, Harvard University, Nov 3, 2006.

Bernier, U., Furman, K., (2005). Comparison of contact and spatial repellency of Catnip Oil and N,N-diethyl-3-methylbenzamide (Deet) against mosquitoes. *J. Med. Entomol.* 42 (3): 306-311.

Professional Experience

Medtronic, Incorporated Minneapolis, MN
Corporate Science and Technology, Engineering Sciences, Summer Associate
Served as technical consultant for multiple business units and led root cause investigation (Summer 2007)

Neurological Material Quality Assurance, Materials Team, Summer Associate
Spearheaded investigation, authored FDA auditable report, presented to Division Vice President (Summer 2006)

Boston Scientific Corporation Marlborough, MA
Endoscopy R&D Intern
Pioneered first-time development of LabVIEW Program and trained technician for R&D operation (Summer 2005)

Mentoring Experience

Harvard-MIT, BioMATRIX
Attended monthly networking and professional development meetings. Serve as a mentor for undergraduate students and receive mentoring from faculty.

Harvard College, Science Mentors Program
Serve as mentor for several undergraduate female students interested in futures in science and engineering.

MIT, Undergraduate Mentorship Program
Served as upperclassman mentor to freshman student. Participated in monthly program activities and met bi-weekly with mentee.

References

Debra Auguste, Assistant Professor, Bioengineering
Harvard University, School of Engineering and Applied Sciences

29 Oxford St., Pierce 317
Cambridge, MA 02139
(617) 384-7980
auguste@deas.harvard.edu

Robert Rose
Professor Emeritus, Department of Materials Science and Engineering
Director of Concourse Program
MIT
77 Massachusetts Ave., 8-031
Cambridge, MA 02139
(617) 253-3230
rose@mit.edu

Melisssa McGinnis
Quality Engineer, Neuromodulation Quality Assurance
Medtronic, Incorporated
800 53rd Ave. NE
Columbia Heights, MN 55421-1200
(763) 514-7476
melissa.j.mcginnis@medtronic.com