Karen M. Haberstroh

Professional Preparation:

Brown University	Biomedical Engineering	Sc.B.	1995
Rensselaer Polytechnic Institute	Biomedical Engineering	M.S.	1996
Rensselaer Polytechnic Institute	Biomedical Engineering	Ph.D.	2000

Appointments:

Jan. 2006-Present	Assistant Professor of Engineering (Research), Brown University
2000-Dec 2005	Assistant Professor, Department of Biomedical Engineering, Purdue University
1999-2000	Instructor (*Introduction to Engineering Analysis - Laptop/Studio Format*), Rensselaer Polytechnic Institute

Selected Honors: 1996 and 1998, General Electric (GE) "Faculty for the Future" Graduate Fellowship, Rensselaer Polytechnic Institute; 1997, Founders Award of Excellence, Rensselaer Polytechnic Institute; 1998, Sigma Xi Induction; 1999, GE "Faculty for the Future – Junior Faculty Coupon", Rensselaer Polytechnic Institute; 2000, Karen and Lester Gerhardt Prize in recognition of outstanding academic achievement and promise for a successful career, Rensselaer Polytechnic Institute; 2001, The New Clinical Investigator Award in recognition of an outstanding contribution to the field of biomedical research, The Society for Physical Regulation in Biology and Medicine; 2001, Kappa Delta Pi (The Education Honors Society) Induction; 2001 and 2003, Outstanding Faculty Award, Weldon School of Biomedical Engineering, Purdue University; 2005, Early Career Award in Translational Research, Wallace H. Coulter Foundation.

Professional Society Activities: 1995-Present, BMES Member; 2001-Present, American Society for Engineering Education Member; 2001-Present, Society for Biomaterials Member; 2001-Present, Kappa Delta Pi Member; 2003-Present, AHA and the Council on Arteriosclerosis, Thrombosis and Vascular Biology Member.

Select Peer Reviewed Publications:

1. Haberstroh, K M, Kaefer, M, and Bizios, R, "Inhibition of Pressure Induced Bladder Smooth Muscle Cell Hyperplasia Using CRM197." *Journal of Urology* **164(4)**: 1329-1333, 2000.
2. Haberstroh, K M, Kaefer, M, DePaola, N, Frommer, S A, and Bizios, R, "A Novel *In Vitro* System for the Simultaneous Exposure of Bladder Smooth Muscle Cells to Mechanical Strain and Sustained Hydrostatic Pressure." *Journal of Biomechanical Engineering* **124(2)**: 208-13, 2002.
3. Webster, T J and Haberstroh, K M, "An Interactive, Video-teleconferenced Graduate Course in Biomedical Engineering." *Journal of Engineering Education* **91(2)**: 159-166, 2002.
4. Haberstroh, K M, and Webster, T J, "A Biomedical Engineering Research Experiences for Undergraduates Program at Purdue University." *Proceedings of the 2002 American Society for Engineering Education Annual Conference and Exposition.* Paper #1420, 2002.

5. Haberstroh, K M, Thapa, A, Miller, D C, and Webster, T W, "Polymers with nano-structured surface features for soft tissue replacement applications." Invited for publication in the *Materials Science Forum* **426-432***:* 3115-3120, 2003.
6. Miller, D C, Vance, R, Webster, T J, and Haberstroh, K M, "Technological Advances in Nano-scale Biomaterials: The Future of Synthetic Vascular Graft Design." Invited for Publication in the *Expert Review of Medical Devices* **1(2):** 259-68, 2004.
7. Miller, D C, Thapa, A, Haberstroh, K M, and Webster, T J, "Endothelial and Vascular Smooth Muscle Cell Function on Poly(lactic-co-glycolic acid) with Nano-Structured Surface Features." *Biomaterials* **25(1)**: 53-61, 2004.
8. Pattison, M, Webster, T J, Wurster, S, and Haberstroh, K M, "Three-Dimensional, Nano-Structured PLGA Scaffolds for Bladder Tissue Replacement Applications." *Biomaterials* **26(15):** 2491-500, 2005.
9. McCann, J A, Peterson, S D, Plesniak, M W, Webster, T J, and Haberstroh, K M, "Variations in Flow Characteristics Yield Altered Gene Expression Across a Parallel Plate Flow Chamber." *Annals of Biomedical Engineering* **33(3):** 328-336, 2005.
10. Martin, J S, and Haberstroh, K M, "Microfilaments are Involved in Renal Cell Responses to Sustained Hydrostatic Pressure." *Journal of Urology* **173 (4):** 1410-7, 2005.

Synergistic Activities:

Curriculum Design. Designed a 10-week long *Molecular Biology* laboratory module for grade 7-9 students, Summer Enrichment Program, Office of Minority Student Affairs, Rensselaer Polytechnic Institute, 1998; Involved in the undergraduate curriculum design (in particular, *Biomechanics of Hard and Soft Tissues* and *BME Lab II*), Department of Biomedical Engineering, Purdue University, 2002-Present.

Novel Methods of Engineering Education. Aided in the development and instruction of the pilot studio/laptop program for *Introduction to Engineering Analysis* at Rensselaer Polytechnic Institute, 1996-2000; Participation in the Biomedical Engineering Education Summit sponsored by the Whitaker Foundation, 2000.

Programs for Increasing Interest in Engineering, Particularly for Females and Minorities. Instructed 10-week long courses in *Physics/Technology* and *Molecular Biology* designed to increase K-12 minority interest in science and technology, Summer Enrichment Program, Office of Minority Student Affairs, Rensselaer Polytechnic Institute, 1996-1998; Coordinated Biomedical Engineering outreach events with area elementary schools, Purdue University, 2002-2003; Development of web-based asynchronous learning modules in Biomedical Engineering for area schools and industries, as part of the IPSE Module Grant Development Program, Purdue University, 2002-2004; Participated in K-12 activities including EXITE, LEAP, career day luncheons, Mentor/Mentee dinner, Seminar/Peer Groups, etc through the Women in Engineering Program, Purdue University, 2000-Present; Coordinated an NSF REU site and renewal site geared towards increasing the interest and retention of females and underrepresented minorities in Biomedical Engineering, 2001-2005; Will partner with RET teachers from the PPS system in conjunction with the NSF funded RET supplement program in engineering at Brown, Summer 2006.

Courses Taught:

Biomechanics of Soft and Hard Tissues **(BME 204)**; ***BME Laboratory II*** **(BME 206);** ***Biomechanics*** **(BME 595O);** ***Biomedical Engineering Graduate Seminar*** **(BME 595S);**

***Cellular Biomechanics: Principles of Biomedical Engineering I* (BME 601) Module II.** Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN.
Transforming Society - Technology and Choices for the Future (EN0002). Division of Engineering, Brown University, Providence, RI.

Collaborators (in alphabetical order over the last 48 months): B. Backhaus (Indiana University), J. Blume (Brown University), G. Crawford (Brown University), I. Dell'Antonio (Brown University), S. Frankel (Purdue University), T. Herbert (Brown University), K. Hile (Indiana University), M. Kaefer (Indiana University), K. Meldrum (Indiana University), M. Plesniak (Purdue University), A. Rundell (Purdue University), B. Sheldon (Brown University), D. Targan (Brown University), G. Tucker (Brown University), T. Webster (Brown University), S. Wereley (Purdue University), E. Yerkes (Indiana University).

Purdue M.S. and Ph.D. Thesis Students Currently Being Supervised, Major or Co-major Professor: Alissa Russ (PhD Candidate, Dept. of Biomedical Engineering).

Purdue M.S. and Ph.D. Theses Which Have Been Successfully Completed in the Past Three Years, Major or Co-major Professor: Saba Choudhary (MS, Dept. of Biomedical Engineering), Christy Harm (MS, Dept. of Biomedical Engineering), Julie Martin (MS, Dept. of Biomedical Engineering), Jennifer McCann (MS and PhD, Dept. of Biomedical Engineering), Derick Miller (MS and PhD, Dept. of Biomedical Engineering), Megan Pattison (MS, Dept. of Biomedical Engineering), Rachel Price (PhD, Dept. of Biomedical Engineering).

Supervision of Undergraduate Research Projects: Ricky Brathwaite (University of Maryland, College Park), Lauren Brown (Purdue University), Jennifer E. Davidson (Youngstown State University), Sarah A. Frommer (Rensselaer Polytechnic Institute), Kaitlin Goldstein (Brown University), Bradley Goodrich (Purdue University), Katie Jansen (Saint Louis University), Angela Mariani (Western New England College), Steven Mezsick (Purdue University), Pedro Resto (University of Puerto Rico, Mayaguez), Ivan Samuels (Harvey Mudd College), Cyn Yi Seah (Purdue University), Lester Smith (Louisiana Tech University), Susan Wurster (Oral Roberts University), Rylie Vance (Purdue University).