

THOMAS J. WEBSTER

Office

Division of Engineering
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Home

7 Terrace Drive
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EDUCATION

Doctor of Philosophy in Biomedical Engineering

Rensselaer Polytechnic Institute, Troy, NY, 1995 to 2000.

Dissertation: "Design, synthesis, and evaluation of nanophase ceramics for orthopaedic/dental applications."

Completed: May 2000.

Advisor: Dr. Rena Bizios, Department of Biomedical Engineering.

Co-Advisor: Dr. Richard W. Siegel, Department of Materials Science and Engineering.

Master of Science in Biomedical Engineering

Rensselaer Polytechnic Institute, Troy, NY, 1997.

Bachelor of Science in Chemical Engineering

University of Pittsburgh, Pittsburgh, PA, 1995.

RESEARCH AND TEACHING EXPERIENCE

Associate Professor

2006-present *Division of Engineering, Brown University
Providence, RI*

2006-present *Division of Orthopaedics, Brown University
Providence, RI (by courtesy)*

Associate Professor

2005-2006 *Weldon School of Biomedical Engineering, Purdue University
West Lafayette, IN*

2005-2006 *School of Materials Engineering, Purdue University
West Lafayette, IN (by courtesy)*

Assistant Professor

2000-2005 *Weldon School of Biomedical Engineering, Purdue University
West Lafayette, IN*

2004-2005 *School of Materials Engineering, Purdue University
West Lafayette, IN (by courtesy)*

TRANSLATIONAL RESEARCH

NanoVis Company formed based in part on technology developed at Brown (2006)

AWARDS AND HONORS

Awards from Societies/Organizations

Paper entitled “Supplemental Instruction benefits students in an introductory engineering course” was selected as one of 13 papers out of over 400 submitted to be published in *Journal of Engineering Education* summarizing ASEE Frontiers in Engineering Education Conference, Pittsburgh, PA (1997)

Biomedical Engineering Society Student Travel Award (1998, 1999)

Honorable Mention for the Student Travel and Professional Development Award for the Society of Biomaterials (1999)

Rita Schaffer Biomedical Engineering Society Young Investigator Award (2002)

Certificate of Recognition for IPSE (Indiana Partnership for Statewide Education) Leadership and Innovation in “Teaching with Technology in a Distance Education Program” (2004)

Certificate of Appreciation for giving an invited tutorial at the John F. Johnston Society for the Advancement of Prosthodontics (2004)

Special contribution to the Materials Research Society meeting monetary award (2004)

Finalist for Outstanding Young Investigator for the American Association of Nanomedicine (2005)

Coulter Foundation Early Career Award (2005)

Fellow, American Association of Nanomedicine (2006)

Awards from Universities

Highlighted as Outstanding Alumni in *University of Pittsburgh School of Engineering Alumni Newsletter* (1997)

Rensselaer Founders Award for Excellence (awarded to less than 1% of graduate student body) (1997)

Department of Biomedical Engineering Paul B. Daischt Award (1997-2000)

Karen and Lester Gerhardt Graduate Student Award in recognition of outstanding academic achievement and promise for a successful career (2000)

Young Researcher Award for Purdue University Schools of Engineering (award given annually to one faculty member under 35 years of age) (2004)

Selected Research Recognition in National Magazines

<i>Chemical and Engineering News</i> , Feb. 28, pp. 39-42	(2000)
<i>Advances in Nanomaterial Research</i> , April, pp. 3	(2001)
<i>Nanoparticle News</i> magazine, April, pp. 5-6	(2001)
<i>High Tech Ceramics News</i> , vol. 14, no. 1, May, pp. 6-7	(2002)
Cover story of research in <i>American Ceramic Society Bulletin</i> , 82(6): pp. 1 – 8	(2003)
<i>Materials Today</i> , July/August, p.10	(2003)
<i>Materials Research Society Bulletin</i> , May	(2003)
<i>Materials Research Society Bulletin</i> , December	(2003)
<i>Small Times: Big News in Small Tech</i> , November 4	(2003)
<i>Nanotech.org</i> , November 4	(2003)
<i>United Press Release</i> (UPI) “Tiny bumps improve bone implants,” November 10	(2003)
<i>Nanotech.org</i> , November 12	(2003)
<i>Health & Medicine Week</i> , November 24	(2003)
<i>Technology Research News</i>	(2003)
<i>Biotech Week</i> , November 26	(2003)
<i>Medical Devices & Surgical Technology Week</i> , November 30	(2003)
<i>NanoBiotech News</i> , December 3	(2003)
“The Latest Technology Research News” <i>TRNmag.com</i> , December 17	(2003)
<i>Science Base</i> at www. Sciencebase.com	(2004)
<i>NanoBiotech News</i> , January 14	(2004)
<i>Advanced Materials & Processes</i> 162 (1), 19, January	(2004)
<i>Science News</i> , January 24, p. 62	(2004)
<i>Business Information – US</i> , January 28	(2004)
<i>R&D Magazine</i> “Nanobumps Enhance Implants”	(2004)
<i>NanoBiotech News</i> , May 5	(2004)
<i>NanoNews-Now Premium Report #11</i> , May	(2004)
<i>Nanoparticle News</i> , February pg. 4	(2004)
<i>Medical Device Technology Alert</i> , pg. 10-11	(2004)
<i>Economist</i> , June 5	(2004)
<i>The Globe and Mail</i> , Toronto Daily Newspaper, July 27	(2004)
<i>NanoBiotech News</i> , June 16	(2004)
MSNBC News, on-line, “Getting Molecules to do the Work”, April 26	(2004)
<i>Whitaker.org</i> (www.whitaker.org/news/webster.html), December 5	(2004)
<i>Nanotechnology Now</i> , November 23	(2004)
<i>Nanobiotech News</i> , December 22	(2004)
<i>MicronNano: Newsletter of Tools and Products in Micro and Nanotechnology</i>	(2004)
<i>Cleanrooms</i> magazine, January	(2005)
<i>Process Engineering</i> , January, pg. 10	(2005)
<i>Time Magazine</i> (to appear this Winter)	(2006)
<i>Touch Briefings</i> , Nanobiotechnology 2006, June	(2006)
Science Museum London Exhibit, Antenna News Source, July 17	(2006)
http://www.sciencemuseum.org.uk/antenna/implantinfection/	
<i>Biotechniques</i>	(2006)
<i>Technical Insights</i> , Frost and Sullivan, July 19	(2006)

- Materials Research Society Bulletin*, July 27 (2006)
http://www.mrs.org/s_mrs/sec.asp?CID=1920&DID=84063
- Providence Business News*, August 1, 2006 (2006)
- MIT Technology Review*, Friday, Sept. 22 (2006)
- Biomechanics*, to appear (2006)
- Brown University Web Site: “Problem: Implant Infection.
 Solution: Nanotech Surfaces” (2006)
- Brown University Web Site: “Undergraduate Biomedical Engineers Win Awards” (2006)
- Chemical and Engineering News*, “Damage Control: Combination of
 Carbon Nanofibers and Stem Cells Can Regenerate Lost Neurons
 in Rats,” September 18th ,pg. 14. (on line September 16th) (2006)

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science
 American Ceramic Society
 American Institute of Chemical Engineers
 American Society for Engineering Education
 American Society for Nanomedicine
 Biomedical Engineering Society
 International Society for Ceramics in Medicine
 Materials Research Society
 Society for Biomaterials

STUDENTS SUPERVISED

Post-doctoral Students

Past (3):

Jeremiah Ejiiofor (2004), Ganesh Balasundarum (2004-2006), Perla Venu (2005)

Current (2):

Dongwoo Khang, Peishan Liu-Synder

Current Graduate Students

(14) Ph.D.:

Huinan Liu (BME), “Novel Three-dimensional Nanocomposites Printing for Orthopedic Applications”

Chang Yao (BME), “Anodized Nanoporous Metals for Drug Delivery Applications”

Ashwini Ranjan (BME), “Nanostructured Hydrogels for Cardiac Tissue Regeneration”

Batur Ercan (BME), “Carbon Nanotubes Grown from Anodized Ti for Stem Cell Differentiation”

Jing Lu (BME), “Nanopatterns on Ti for Enhancing Vascular Stents”

Sabrina Puckett (BME), “Ti Nanopatterns for Directing Bone Growth”

Chris Wang (Chemistry), “Nanoparticles for Treating Bone Diseases”

Justin Seil (BME), “Novel Nanostructured Piezoelectric Materials for Nerve Guidance Channels”

Yupeng Cheng (Chemistry), “Helical Rosette Nanotubes as Drug Delivering Devices”

Phong Tran (Physics), “Nanostructured Selenium for Treating Bone Cancer”

Sirinrath Sirivisoot (Electrical), “Carbon Nanotube Based Sensors for Detecting New Bone Growth Surrounding Implants”

Lie Yang (Materials), “Nanostructured Diamond for Orthopedic Applications”

Lijie Zhang (BME), “Hydrogels with Helical Rosette Nanotubes for Orthopedics Applications”

Jong Youl Kim (Visiting Graduate Student from Yonsei University), “Macrophage Functions on Aligned Carbon Nanotubes on Polymers”

(2) M.S.:

Douglas Hsu (BME), “Urothelial Cell Interactions with Nanostructured Polymers”

Jarrold Lynn (P.R.I.M.E.), “Carbon Nanotube Based Sensors for Detecting New Bone Growth Surrounding Implants”

(9) Undergraduate Students:

Alyssa Ricker (BME, 2006), “Novel Nanostructured Bone Cement for Orthopedic Applications”

Ariel Cohen (Biology, 2006), “Soft Tissue Formation on Ionic Fusion Nanostructured Coatings”

Alex Reising (Materials Engineering, Purdue; conducted research at Brown, 2006), “Bone Forming Cell Functions on Ionic Fusion Nanostructured Coatings”

George Aniwene (BME, University of Maryland at Baltimore County; conducted research at Brown, 2006), “Drug Elution from Anodized Ti”

Harry Samaroo (BME, 2006-2007), “Nanostructured Nitinol for Vascular Stents”

Aditi Dubey (BME, 2006-2007), “Macrophage Function on Nanostructured Ceramics”

Kevin Burns (Biology, 2006-2007), “Anodized Metals for Cartilage Applications”

Jacequelyn Miller (Chemistry, 2006-2007), “Synthesis of Nano Hydroxyapatite for Orthopedic Applications”

Joe Carpenter (BME, 2007), “Nanostructured Polymers for Vascular Applications”

Students Graduated

(9) Ph.D.:

Rachel Price (2004), “Design, Synthesis, and Evaluation of Nanofibered Materials for Orthopedic Applications” (Research Scientist, Med Institute Cook)

Jennifer McCann (2005), “An Investigation of the Laminar Flow-induced Biomechanical Communication Between Vascular Endothelial and Smooth Muscle Cells” (Ph.D. Student, Purdue University)

Derick Miller (2005), “Design, Synthesis, and Evaluation of Polymeric Biomaterials with Nano-structured Surface Features for Vascular Applications” (Researcher, Atomic Force Microscopy, Inc.)

Grace Park (2005), “Nanostructured Polymers for Cartilage Applications” (Research Scientist, Beckton Dickenson)

Janice McKenzie (2005), “Carbon Nanotubes for Neural Applications” (Research Director, NanoVis, start-up company based on Dr. Webster’s research)
Dongwoo Khang (2005), “Aligned Carbon Nanotubes for Orthopedic Applications” (Post-doc, Brown University)
Ai Lin Chun (2005), “Investigation of Helical Rosette Nanotubes for Orthopedic Applications,” (Associate Editor, Nature Bionanotechnology)
Jie Liu (Chemistry, 2006), “Nanoparticles for Treating Osteoporosis” (Looking for job)
Michiko Sato (MSE, 2006), “A Novel Hydroxyapatite Material and Titanium Coating Method” (Researcher, Tokyo Institute of Technology)

(1) M.D./Ph.D.:

Nate Pitner (2005), “Understanding Calcium Ion Channels for the Mechanical Properties of Bone” (completing medical school)

(14) M.S. (all thesis completing):

Rachel Danczyk (2002), “Preparation, Characterization, and Functionality of Immunosurfaces for Biosensor Applications” (M.D. Student, Indiana University Medical School)
Daniel Freytes (2002), “Characterization of the Biaxial Mechanical Behavior of Multilaminated Extracellular Matrix Devices and the Immunological Response to SIS in a Mouse Model” (Ph.D. Student, University of Pittsburgh)
Elizabeth Massa (2002), “Hydroxyapatite Doped with Trivalent and Divalent Ions” (Research Scientist, Biomet)
Anil Thapa (2002), “Design, Synthesis, and Evaluation of Polymeric Biomaterials with Nano-structured Surface Features for Bladder Applications” (Junior Grant Writer, Resodyn, Inc.)
Jennifer McCann (2003), “An Investigation of the Laminar Flow-induced Biomechanical Communication Between Vascular Endothelial and Smooth Muscle Cells” (Ph.D. Student, Purdue University)
Derick Miller (2003), “Design, Synthesis, and Evaluation of Polymeric Biomaterials with Nano-structured Surface Features for Vascular Applications” (Ph.D. Student, Purdue University)
Megan Pattison (2003), “Nanostructured Polymer Scaffolds for Bladder Applications” (Sales Associate, Med Institute Cook)
Michiko Sato (MSE, 2003), “A Novel Hydroxyapatite Material and Coating Method” (Ph.D. Student, Purdue University)
Paul Tuttle (2004), “Design of Novel Biosensor Membranes” (Medical Student)
Michelle Park (CE, 2005), “Nanophase Alumina for Bacteria Filtration Devices” (Unknown)
Saba Choudhary (2006), “Use of Nanometals for Vascular Stents” (Researcher, NIH)
Huinan Liu (MSE, 2006), “Nanocomposites for Orthopedic Applications” (Ph.D. Student, Brown University)
Chang Yao (MSE, 2006), “Anodized Titanium for Orthopedic Implants” (Ph.D. Student, Brown University)
Kayla Calvert (MSE, 2006), “Bone Analogs for Mechanical Testing” (Ph.D. Student, Purdue University)

AWARDS AND HONORS of students in lab

- Elizabeth Massa (M.S., 2002): 1st Place Orthopedic Sub-division of Society for Biomaterials Graduate Student Award, 2002.
- Anil Thapa (M.S., 2002): 5th Place Tissue Engineering Sub-division of Society for Biomaterials Graduate Student Award, 2002.
- Sarina Kay (undergraduate during summer of 2001): 1st Place Orthopedics Sub-division of Society for Biomaterials Undergraduate Student Award, 2002.
- Luke Gutwein (undergraduate, 2003): Biomedical Engineering Society Outstanding Undergraduate Student Award, 2002.
- Janice McKenzie (Ph.D., expected 2005): 2nd Place Proteins and Cells at Interfaces Sub-division of Society for Biomaterials Graduate Student Award, 2002.
- Janice McKenzie (Ph.D., expected 2005): Honorable Mention for Sigma Xi Graduate Student Research Competition, 2002.
- Derick Miller (M.S., 2003; Ph.D., expected 2005): 5th Place Proteins and Cells at Interfaces Sub-division of Society for Biomaterials Graduate Student Award, 2002.
- Jennifer McCann, (M.S., 2003; Ph.D., expected 2005): Department of Biomedical Engineering at Purdue Geddes-Laufman-Greatbatch Award, 2002.
- Jennifer McCann (M.S., 2003; Ph.D., expected 2005): 1st place for Sigma Xi Graduate Student Research Competition, 2003.
- Rachel Price (Ph.D., 2004): 1st Place, Proteins and Cells at Interfaces Sub-division of Society for Biomaterials Graduate Student Award, 2003.
- Rachel Price (Ph.D., 2004): Chorafas Prize Finalist, Purdue, 2003.
- Grace Park (Ph.D., expected 2005): 3rd Place, Proteins and Cells at Interfaces Sub-division of Society for Biomaterials Graduate Student Award, 2003.
- Grace Park (Ph.D., expected 2004): Honorable Mention Student Travel and Professional Development Award for the Society for Biomaterials Graduate Student Award, 2003.
- Michiko Sato (M.S., 2003; Ph.D., expected 2005): Special Contribution Award to MRS Spring Meeting, 2003.
- Karen Ellison (undergraduate during summer of 2002): 2nd Place Tissue Engineering Sub-division of Society for Biomaterials Undergraduate Student Award, 2003.
- Rachel Price (Ph.D., 2004): Outstanding Graduate Student Award, Biomedical Engineering Society, 2003.
- Ai Lin Chun (Ph.D., expected 2005): Best Poster Award, Trends in Nanotechnology International Conference (Salamanca, Spain), 2003.
- Rachel Price (Ph.D., 2004): Department of Biomedical Engineering at Purdue Fearnot Award, 2003.
- Megan Pattison (M.S., 2003): Department of Biomedical Engineering at Purdue Outstanding Thesis Award, 2003.
- Rachel Price (Ph.D., 2004): 3rd Place Outstanding Graduate Student Award, Society for Biomaterials, 2004.
- Ai Lin Chun (Ph.D., expected 2005): 1st Place for Sigma Xi Graduate Student Research Competition, 2004.

Huinan Liu (Ph.D., expected 2006): Honorable Mention for Sigma Xi Graduate Student Research Competition, 2004.

Megan Pattison (M.S., 2003): Materials Research Society Graduate Student Silver Award, 2004.

Rachel Price (Ph.D., 2004): Department of Biomedical Engineering at Purdue Geddes-Laufman-Greatbatch Award, 2004.

Rachel Price (Ph.D., 2004): Outstanding Graduate Student, Purdue University, 2004.

Rachel Price (Ph.D., 2004): Council of Graduate Schools/University Microfilms International Distinguished Dissertation Award, 2004.

Derick Miller (M.S., 2003; Ph.D., expected 2005): Outstanding Graduate Student Presentation, Northeast Bioengineering Conference, Springfield, MA, 2004.

Brian Ward (M.D./Ph.D., expected 2009): Biomedical Engineering Society Outstanding Undergraduate Student Award, 2004.

Janice McKenzie (Ph.D., expected 2005): Outstanding Graduate Student Award, Biomedical Engineering Society, 2004.

Zach Schwab (undergraduate, 2004): Honorable Mention SURF Poster Competition, Purdue, 2004.

Elizabeth Nichols (undergraduate, 2004): Honorable Mention SURF Poster Competition, Purdue, 2004.

Janice McKenzie (Ph.D., expected 2005): Chorafas Prize Finalist, Purdue, 2004.

Janice McKenzie (Ph.D., expected 2005): Department of Biomedical Engineering at Purdue Geddes-Laufman-Greatbatch Award, 2004.

Janice McKenzie (Ph.D., expected 2005): Professional Development Award, Society for Biomaterials, 2005.

Grace Park (Ph.D., expected 2005) Professional Development Award, Society for Biomaterials Honorable mention, 2005.

Brian Ward (Ph.D., expected 2005): Outstanding Graduate Student Award Finalist, Summer Bioengineering Conference, 2005.

Huinan Liu (Ph.D., expected 2006): First Place for Materials Engineering Graduate Student Association Competition, Purdue University, 2005.

Michiko Sato (Ph.D., 2006): Paper (Increased osteoblast functions on undoped and yttrium-doped nanocrystalline hydroxyapatite coatings on titanium”, *Biomaterials* 27:2358-2369 (2006)) in top 25 of papers downloaded in Biomaterials for 2006.

Ganesan Balasundaram (post-doctoral researcher, 2004-2006): Paper (“Using hydroxyapatite nanoparticles and decreased crystallinity to promote osteoblast adhesion similar to functionalizing with RGD ,” *Biomaterials* 27 (14): 2798-2805 (2006)) in top 25 of papers downloaded in Biomaterials for 2006.

George Aninwene (undergraduate researcher Leadership Alliance summer 2006): 1st place research presentation at the Annual Biomedical Research Conference for Minority Students (ABRCMS), Anaheim, CA, 2006.

Ganesan Balasundaram (post-doctoral researcher, 2004-2006): Research image highlighted on cover of *Journal of Materials Chemistry*, 16(38), 2006.

COURSES TAUGHT/DEVELOPED

Graduate

Biomaterials (EN149)

Fall 2006; Division of Engineering Course Evaluation: Quality of Lecture: 4.2/5.0; Availability and Helpfulness of Instructor: 4.1/5.0; Value of Homework 3.9/5.0; Plan of Course: 2.8/5.0.

Biological Impacts of Nanomaterials (EN292)

Spring 2007; 13 students

Undergraduate

Independent Studies in Engineering (EN196)

Fall 2006; 3 students
Spring 2007; 2 students

Physical Chemistry of Materials (EN141)

Fall 2006; 8 students; evaluation not currently available.

BROWN COMMITTEE ACTIVITIES

Division of Engineering Representative, Undergraduate Science Education Committee, 2006 to present.

Director, Biomedical Engineering Seminar Series, 2006 to present (approximately 1 speaker per month).

Biomedical Engineering Representative, Division of Engineering Graduate Studies Committee, 2006 to present.

Member, Hazelton Professorship New Faculty Hire Committee, 2006 to present.

Member, Emerging Technologies CTSA (Clinical and Translational Science), 2006 to present.

OTHER BROWN ACTIVITIES

Advisor/Aid to Student Groups

Advisor, Biomedical Engineering Society Club, 2006 to present.

Freshman Student Advisor, Division of Engineering, 8 students, 2006 to present.

Presenter, Study Skills Presentation to Perspective Students, Empowering Your Future Day, Brown University, 2006.

Presenter/Contributor for Large Proposals/Events

Organizer, Showcase of Nanomedicine Research at Brown University, which assembled program directors from NIH to hear Brown researchers discuss nanomedicine research, May, 2006.

CONFERENCES ORGANIZED

1. 30th Annual Northeast Bioengineering Conference, Springfield, MA, 2004 (assisted in selecting symposia for technical program).
2. Co-organizer (with Prof. Blazewicz from the AGH University of Science and Technology, Cracow, Poland), CARBON 2005, Seoul, South Korea.
3. 31st Annual Northeast Bioengineering Conference, Hoboken, NJ, 2005. (assisted in selecting symposia for technical program).
4. Co-organized (with Profs. Reinhoudt (Netherlands) and Okano (Japan)), Biomedical Application on Nano Technologies, International Conferences Materials and Technologies, Sicily, Italy, 2006.
5. 33rd Annual Northeast Bioengineering Conference, Brown University, Providence, RI, 2008.
6. Biomedical Engineering Society Annual Conference, Providence, RI, 2011.

CONFERENCE SYMPOSIUM MODERATED/CHAired/ORGANIZED

Moderated/Reviewed Abstracts

1. Reviewer, 4th International Conference on Nanostructured Materials, *Nanostructured Materials* 12, Stockholm, Sweden, 1998.
2. Reviewer, Orthopedic Applications of Cell Interactive Biomaterials, Annual Spring Materials Research Society Meeting, San Francisco, CA, 1998.
3. Reviewer, New Microscopic Methods for Assessing Cell and Protein Interactions with Biomaterial Surfaces, Society for Biomaterials, Tampa, FL, 2002.
4. Moderator, Spine Orthopedics, Society for Biomaterials, Tampa, FL, 2002.
5. Moderator, Proteins and Cells at Interfaces II, Sixth World Biomaterials Congress in Kamuela, Hawaii, 2000.
6. Moderator, Advanced Biomaterials, Biomedical Engineering Society, Seattle, WA, 2000.
7. Moderator, Orthopedic Biomaterials, Biomedical Engineering Society, Durham, NC, 2001.
8. Moderator, Biological and Bio-inspired Materials and Devices, Annual Spring Materials Research Society Meeting, San Francisco, CA, 2004.
9. Moderator, Medical Applications: Nanosystems and Nanotechnology, 30th Annual Northeast Bioengineering Conference, Springfield, MA, 2004.

10. Moderator, Biologically-inspired Materials, Materials Research Society Annual Spring Meeting, 2004.
11. Moderator, Biomaterials and Nanotechnology V, Society for Biomaterials, Nashville, TN, 2005.
12. Moderator, Tissue Engineering and Biomaterials, Biomedical Engineering Society, Baltimore, MD, 2005.
13. Moderator, Research Experiences for Undergraduates Special Session, Biomedical Engineering Society, Baltimore, MD, 2005.
14. Moderator, Cell Attachment, e-MRS, Warsaw, Poland, 2006.

Chair and Organized

1. Co-chair and organizer, Biomaterials Education, Society for Biomaterials, St. Paul, MN, 2001.
2. Co-chair and organizer, Receptor-mediated Phenomena, American Institute of Chemical Engineers Annual Conference, Reno, NV, 2001.
3. Co-chair and organizer, Biomaterials II, Materials Science and Engineering Division, American Institute of Chemical Engineers Annual Conference, Reno, NV, 2001.
4. Co-chair, Food, Pharmaceutical, Bioengineering & Fundamentals in Life Science Poster Session, Food, Pharmaceutical, Bioengineering & Fundamentals in Life Science Division, American Institute of Chemical Engineers Annual Conference, Reno, NV, 2001.
5. Chair and organizer, Protein and Cell Interactions with Nanostructured Biomaterials, Society for Biomaterials, Tampa, FL, 2002.
6. Chair and organizer, Innovative Teaching in Biomaterials Courses, Society for Biomaterials, Tampa, FL, 2002.
7. Chair and organizer, Biological Interactions with Nanostructured Materials, American Institute of Chemical Engineers, Indianapolis, IN, 2002.
8. Chair and organizer, Bio-Dental Composites, Ninth International Conference on Composites in Engineering, San Diego, 2002.
9. Chair and organizer, Nanostructured Biomaterials, American Institute of Chemical Engineers, San Francisco, CA, 2003.
10. Chair and organizer, Nano-structured Biomaterials Session, Society for Biomaterials, Reno, NV, 2003.
11. Chair and organizer, Protein and Cell Interactions with Nano-structured Biomaterials Session, Society for Biomaterials, Reno, NV, 2003.
12. Chair and organizer, Bio-nanostructured Materials, Tenth International Conference on Composites in Engineering, New Orleans, 2003.
13. Co-Chair and organizer, Advances in Biomaterials, Bionanotechnology, Biomimetic Systems and Tissue Engineering: Tutorial Session II, Topical Conference AIChE, Austin TX, 2004.
14. Co-Chair and organizer, Mico/Nano Patterned Biomaterials for Tissue Engineering Applications, 7th World Biomaterials Congress, Sydney, Australia, 2004.

15. Chair and organizer, Nanotechnology for the Development of Biomaterials, SAMs, Wires and Nanotubes, Topical Conference AIChE, Austin TX, 2004.
16. Expert panel member, "Nanostructured materials and nanotechnology – past, current, and future," 106th Annual American Ceramic Society Meeting, Indianapolis, IN, 2004.
17. Chair and organizer, Novel Techniques for Biomaterials Instruction, Society for Biomaterials, Memphis, TN, 2005.
18. Chair and organizer, Nanotechnology for the Development of Better Orthopedic Implant Materials, Society for Biomaterials, Memphis, TN, 2005.
19. Chair and organizer, Nanostructured Biomaterials, Next Generation Biomaterials Symposium at Materials Science and Technology 2005, Pittsburgh, PA, 2005.
20. Chair, Cell Adhesion, Society for Biomaterials, Memphis, TN, 2005.
21. Chair, Bio Nano Materials & Tissues, NSTI, Boston, MA, 2005.
22. Chair and organizer, Biomedical Applications of Nano Technologies, CIMTEC, Sicily, Italy, 2006.
23. Chair and organizer, Nanotechnology for Tissue Engineering, Society for Biomaterials, Pittsburgh, PA, 2006.
24. Chair and organizer, Undergraduate Research Symposium, Biomedical Engineering Society, Chicago, IL, 2006.
25. Chair and organizer, Nanotechnologies: From Basics to Applications, Biomedical Engineering Society, Chicago, IL, 2006.
26. Chair, Advanced Processing of Biomaterials: Ceramic Biomaterials, MS&T 2006, Cincinnati, OH, 2006.
27. Chair and organizer, Nanostructured Scaffolds for Tissue Engineering, American Institute of Chemical Engineers, San Francisco, CA, 2006.
28. Chair and organizer, Nanostructured Scaffolds for Tissue Engineering, American Institute of Chemical Engineers, Salt Lake City, UT, 2007.
29. Chair and organizer, Translational Research in Nanomedicine: It Is Happening Now, Society for Biomaterials, Chicago, IL, 2007.

PROFESSIONAL ACTIVITIES/SERVICE

Professional Societies

1. Member, Education and Professional Development for Student Education and Program Task Force, Society for Biomaterials, 1999 to 2001.
2. Member, Proteins and Cells at Interfaces, special interest group of the Society for Biomaterials, 1999 to present.
3. Member, Materials Science and Engineering Division, American Institute of Chemical Engineers, 1999 to present.
4. Member, Food, Pharmaceutical, and Bioengineering, American Institute of Chemical Engineers, 2000 to present.
5. Member, Student Travel Award, Proteins and Cells at Interfaces, Society for Biomaterials, 2000 to 2003.

6. Member, Nanoscale Science and Engineering, American Institute of Chemical Engineers, 2001 to present.
7. Secretary/Treasurer, Proteins and Cells at Interfaces, Society for Biomaterials, 2001 to 2002.
8. Vice-chair, Proteins and Cells at Interfaces, Society for Biomaterials, 2002 to 2005.
9. Vice-chair, Biomaterials Education, Society for Biomaterials, 2003 to 2005.
10. Chair, Proteins and Cells at Interfaces, Society for Biomaterials, 2005 to 2006.
11. Member, BMES Affiliations Committee, 2006, to present.
12. Member, Society for Biomaterials Council, 2006 to present.

Editor Positions

1. Editor-in-Chief, *International Journal of Nanomedicine*, 2005 to present.
2. Editor, *Society for Biomaterials* Web Site, 2006 to present (elected position).
3. Editorial Board, *Recent Patents on Engineering*, 2006 to present.
4. Editorial Board, *Recent Patents in Nanotechnology*, 2006 to present.
5. Associate Editor, *Journal of Biomedical Nanotechnology*, 2004 to 2005.
6. International Editorial Board, *Biomaterials*, 2004 to present.
7. Editorial Board, *Journal of Biomedical Nanotechnology*, 2004 to present.
8. Editorial Advisory Panel, *Expert Review of Medical Devices*, 2004 to present.
9. Editorial Board, *International Journal of Nanomanufacturing*, 2005 to present.
10. Editorial Board, *American Society for Artificial Internal Organs*, 2005 to present.
11. Scientific Advisor Board, Nanopolis, 2005 to present.
12. Editor of *Proteins and Cells at Interfaces Newsletter*, special interest group of the Society for Biomaterials, 2000 to 2003.
13. Reviewed book chapters for *Scaffolding in Tissue Engineering* (edited by Peter Ma and Jennifer Elisseeff), Marcel Dekker, Inc.

Journal Reviewer

1. Review manuscripts for *Tissue Engineering* journal, 2000 to present.
2. Review manuscripts for *Applied Biomaterials* journal, 2000 to present.
3. Review manuscripts for *Biomaterials* journal, 2000 to present.
4. Review manuscripts for *Colloids and Surfaces* journal, 2000 to 2001.
5. Review manuscripts for *Scripta Materialia* journal, 2000 to 2001.
6. Review manuscripts for *Journal of Engineering Education*, 2002 to present.
7. Review manuscripts for *Journal of Biomedical Materials Research Polymer Edition*, 2002 to present.
8. Review manuscripts for *Annals of Biomedical Engineering*, 2003 to present.
9. Review manuscripts for *Journal of Biomedical Materials Research*, 2003 to present.
10. Review manuscripts for *Journal of Nanoscience and Nanotechnology*, 2004 to present.
11. Review manuscript for *Langmuir*, 2004 to present.

12. Review manuscripts for *Expert Opinion on Biological Therapy*, 2004 to present.
13. Review manuscripts for *Cellular and Molecular Life Sciences*, 2004 to present.
14. Review manuscripts for *Biomaterialia*, 2004 to present.

Grant Review Panel

1. Grant reviewer, NIH Nanobiotechnology Initiative, 2004 to present.
2. Grant reviewer, NIH Nanoscience and Nanotechnology in Biology and Medicine, 2004 to present.
3. Grant reviewer, MBRS-SCORE Program, Puerto Rico, 2005.
4. Grant Reviewer, Postgenomic Biomedicine Nanoscience and Nanotechnology, Iceland, 2005.
5. Grant Reviewer, NIH NIDCR, 2005 to present.
6. Grant Reviewer, U.S. State Department, 2004.
7. Grant reviewer, Tulane University Strategic Planning Research Initiatives, 2003.
8. Grant reviewer, Oral Biology in Medicine Study Section, NIH, NICDR, 2001 to 2002.
9. Grant reviewer, Swiss National Science Foundation, Mathematics, Natural and Engineering Science Division, 2001 to 2003.
10. Grant reviewer, North Carolina Biotechnology Center Multi-disciplinary Grant (MRG) Program, 2001 to 2003.
11. Grant reviewer, National Science Foundation, Bioengineering and Environmental Systems, ad-hoc member, 2001 to 2002.
12. Grant Reviewer for BioAbility “Strategic Information for the Life Sciences”, 2004.
13. Grant Reviewer for Technology Foundation STW, Netherlands, 2004.
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Biomaterials: 4.98 (highest in Biomaterials)

Journal of Biomedical Materials Research: 3.95 (second highest in Biomaterials)

Nanotechnology: 3.32

Tissue Engineering: 2.89

Journal of Nanoscience and Nanotechnology: 2.01

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26. R. Danczyk*, A. North, H. HogenEsch, T. J. Webster, and A. Rundell (speaker), “Optimizing the immuno-surface characteristics for biosensors and filters through modeling and experiments: modeling, simulation, and experiments,” presented at the DARPA Kickoff Meeting, Honolulu, HA, 2001.
27. T. J. Webster and K. M. Haberstroh (speaker), “The use of web-based learning in an interactive, video-teleconferenced, graduate level, biomedical engineering course,” presented at the Kappa Delta Pi 43rd Biennial Convocation, Orlando, FL, 2001.
28. R. A. Price*, E. Kennel, and T. J. Webster (speaker), “Design, synthesis, and evaluation of carbon nanofibers that simulate hydroxyapatite crystals in bone,” presented at NASA NanoSpace 2001: Advancing the Human Frontier, Biomimetic and Bioactive/Smart Materials Symposium, Houston, Texas, 2001.
29. T. J. Webster (speaker), R. W. Siegel, and R. Bizios, “In vivo study of nanophase ceramics for bone applications,” presented at NASA NanoSpace 2001: Advancing the Human Frontier, Biomimetic and Bioactive/Smart Materials Symposium, Houston, Texas, 2001.
30. R. L. Price*, K. E. Elias*, E. B. Kennel, K. M. Haberstroh, T. J. Webster (speaker), “Carbon nanofibers as osteoblast-specific implant materials,” presented at the Biomedical Engineering Society Annual Conference, Durham, NC, 2001.
31. L. G. Gutwein* (speaker) and T. J. Webster, “Viability of osteoblasts in the presence of nanophase ceramic particles,” presented at the Biomedical Engineering Society Annual Conference, Durham, NC, 2001.
32. A. Thapa* (speaker), T. J. Webster, K. M. Haberstroh, “Enhanced bladder smooth muscle cell adhesion on nanostructured polymers,” presented at the Biomedical Engineering Society Annual Conference, Durham, NC, 2001.
33. D. C. Miller* (speaker), K. M. Haberstroh, T. J. Webster, “Vascular endothelial cell adhesion on nanostructured polymers,” presented at the Biomedical Engineering Society Annual Conference, Durham, NC, 2001.
34. R. L. Price* (speaker), K. M. Haberstroh, T. J. Webster, “Carbon nanofibers as future biomimetic components of orthopedic/dental implant designs,” presented at the American Institute of Chemical Engineers Annual Conference, Reno, NV, 2001.
35. E. A. Massa* (speaker), E. B. Slamovich, T. J. Webster, “Enhanced cytocompatibility properties of hydroxyapatite doped with trivalent ions,” presented at the Materials Research Society Annual Fall Conference, Boston, MA, 2001.
36. D. C. Miller* (speaker), K. M. Haberstroh, T. J. Webster, “An in vitro study of nano-fiber polymers for guided vascular regeneration,” presented at the Materials Research Society Annual Fall Conference, Boston, MA, 2001.

37. R. L. Price* (speaker), K. M. Haberstroh, T. J. Webster, “Small diameter, high surface energy carbon nanofiber formulations that selectively increase osteoblast adhesion,” presented at the Materials Research Society Annual Fall Conference, Boston, MA, 2001.
38. A. Thapa* (speaker), T. J. Webster, K. M. Haberstroh, “An investigation of nano-structured co-polymers for use as three-dimensional bladder tissue constructs,” presented at the Materials Research Society Annual Fall Conference, Boston, MA, 2001.
39. R. W. Siegel (speaker), A. J. McManus, T. J. Webster, R. H. Doremus, and R. Bizios, “Nanoceramics and nanocomposites in biotechnology,” presented at the 7th International Symposium on Advanced Physical Fields, Tskuba, Japan, 2001.
40. R.L. Price* (speaker), E.B. Kennel, K.M. Haberstroh, and T.J. Webster, “Carbon nanofibers/nanotubes as the next generation of bone prosthetic materials,” presented at the Sigma Xi Poster Competition, Purdue University, IN, 2001
41. L. G. Gutwein* (speaker) and T. J. Webster, “Affects of alumina and titania nanoparticulates on bone cell function,” presented at the 26th International Conference on Advanced Ceramics and Composites, Cocoa Beach, FL, 2002.
42. L. G. Gutwein*, F. Tepper, and T. J. Webster (speaker), “Alumina nanodimensional fibers as the next –generation orthopedic implant materials,” presented at the 26th International Conference on Advanced Ceramics and Composites, Cocoa Beach, FL, 2002.
43. A. Rundell (speaker), T.J. Webster (speaker), H. HogenEsch, “Optimizing the immuno-surface characteristics for biosensors and filters through modeling and experiments,” presented at the Joint DARPA Bioflips Simbiosys PI Meeting, Miami Beach, FL, 2002.
44. K. M. Haberstroh (speaker) and T. J. Webster, “Biomedical engineering research experiences for undergraduates program at Purdue University,” presented at the Annual ASEE meeting, Montreal, 2002.
45. J. Savaiano*, G. June*, S. Kay*, and T. J. Webster (speaker), “Nanocomposites increase functions of chondrocytes,” presented at the Materials Research Society Annual Spring Conference, San Francisco, CA, 2002.
46. A. Thapa*, D. C. Miller*, K. M. Haberstroh, and T. J. Webster (speaker), “Enhanced cellular function on nanostructured polymers,” presented at the Materials Research Society Annual Spring Conference, San Francisco, CA, 2002.
47. S. S. Varghese (speaker), S. H. Frankel, K.M. Haberstroh, M. W. Plesniak, T. J. Webster, S. T. Wereley, and L. X. Xu, “Numerical modeling of pulsatile turbulent flows in stenotic vessels,” presented to the World Congress of Biomechanics, Calgary, Canada, 2002.
48. J. A. McCann* (speaker), T. J. Webster, S. H. Frankel, M.W. Plesniak, L. Xu, S. T. Wereley, and K. M. Haberstroh, “Soluble proteins released by endothelial cells in response to fluid flow affect smooth muscle cells,” presented to the World Congress of Biomechanics, Calgary, Canada, 2002.
49. S.D. Peterson (speaker), M.W. Plesniak, S.T. Wereley, S. H. Frankel, K. M. Haberstroh, T.J. Webster, L.X. Xu, “High resolution micro-particle image velocimetry measurements of flow relevant to stenotic vessels,” presented to the World Congress of Biomechanics, Calgary, Canada, 2002.

50. B. Chen, L.X. Xu (speaker), S.H. Frankel, K.M. Haberstroh, M.W. Plesniak, T.J. Webster, S.T. Werely, “Dynamic calcium response in vascular endothelial cells subjected to various flows,” presented to the World Congress of Biomechanics, Calgary, Canada, 2002.
51. Y. Zheng, A. North, R. Danczyk* (speaker), T.J. Webster, H. HogenEsch, and A. Rundell, “Exploring antigen valency and size effects on capture by immuno-surfaces through analysis and experimentation,” presented at the EMBS Annual Meeting in Madison, WS, 2002.
52. S. Kay* (speaker) and T.J. Webster, “Enhanced osteoblast adhesion on nanostructured polymer/ceramic composites,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
53. J. L. McKenzie* (speaker), B. E. Cardona*, R. Shi, and T.J. Webster, “Astrocyte adhesion and proliferation on carbon nanofibers,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
54. R. L. Price* (speaker), K. M. Haberstroh, and T.J. Webster, “Mechanisms of enhanced osteoblast adhesion on carbon nanofiber substrates,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
55. A. Thapa* (speaker), T.J. Webster, K. M. Haberstroh, “Nano-dimensional polymers enhance adhesion and proliferation of OBSMC,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
56. D.C. Miller* (speaker), A. Thapa*, K. M. Haberstroh, T.J. Webster, “Vascular cell responses to nano-structured polymers,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
57. E. A. Massa* (speaker), E. B. Slamovich, T. J. Webster, “Cytocompatibility properties of hydroxyapatite doped with ions similar in size to calcium,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
58. K. M. Haberstroh (speaker) and T. J. Webster, “Research experiences for undergraduates in biomedical engineering at Purdue University,” presented at the Annual Meeting of the Society for Biomaterials, Tampa, FL, 2002.
59. T. J. Webster (speaker), “A collection of in vitro studies evaluating the efficacy of orthopedic materials that simulate the grain nanometer fiber dimension of bone,” presented at the Sixth International Conference on Nanostructured Materials (NANO2002), Orlando, FL, 2002.
60. G. E. Park* (speaker), J. Savaiano*, S. Kay*, and T. J. Webster, “An *in vitro* study of chondrocyte function on nanostructured polymer/ceramic formulations to improve cartilage repair,” presented at the Sixth International Conference on Nanostructured Materials (NANO2002), Orlando, FL, 2002.
61. R. L. Price* (speaker), L. G. Gutwein*, K. M. Haberstroh, T. J. Webster, “Nanometer carbon and alumina fiber structure enhances osteoblast adhesion,” presented at the American Institute of Chemical Engineers Annual Conference, Indianapolis, IN, 2002.
62. D. M. Miller* (speaker), A. Thapa*, K. M. Haberstroh, T. J. Webster, “Increased vascular cell function on nano-rough poly(lactic-co-glycolic acid) films,” presented at the American Institute of Chemical Engineers Annual Conference, Indianapolis, IN, 2002.

63. L. G. Gutwein* (speaker) and T. J. Webster, “Osteoblast recognition of and response to ceramic nanometer particles,” presented at the American Institute of Chemical Engineers Annual Conference, Indianapolis, IN, 2002.
64. G. E. Park (speaker), K. Park, T. J. Webster, “Nanostructured hyaluronan material for cartilage repair,” presented at the American Institute of Chemical Engineers Annual Conference, Indianapolis, IN, 2002.
65. A. Thapa (speaker)*, K. M. Haberstroh, T. J. Webster, “Chemically unmodified nano-structured polymers enhance bladder smooth muscle cell proliferation,” presented at the American Institute of Chemical Engineers Annual Conference, Indianapolis, IN, 2002.
66. J. McKenzie* (speaker), B. Cardona*, R. Shi, and T.J. Webster, “Functions of astrocytes and neurons on carbon nanofibers,” presented at the American Institute of Chemical Engineers Annual Conference, Indianapolis, IN, 2002.
67. G. E. Jun* (speaker), K. Park, T. J. Webster, “Nanostructured and aligned scaffold material for articular cartilage regeneration,” presented at the Joint Biomedical Engineering Society/EMBS Annual Conference, Houston, TX, 2002.
68. D. C. Miller*, A. Thapa*, K. M. Haberstroh, and T. J. Webster (speaker), “Enhanced functions of cells on polymers with nanostructured surfaces,” presented at the Joint Biomedical Engineering Society/EMBS Annual Conference, Houston, TX, 2002.
69. L. G. Gutwein* and T.J. Webster (speaker), “Osteoblast response to alumina and titania nanometer wear debris,” presented at the Joint Biomedical Engineering Society/EMBS Annual Conference, Houston, TX, 2002.
70. R.L. Price* (speaker), K.M. Haberstroh, and T.J. Webster, “Increased osteoblast adhesion on carbon nanofiber/PLGA composite materials,” presented at the Biomedical Engineering Society Annual Meeting, Houston, TX, 2002.
71. J. McKenzie* (speaker), R. Shi, and T.J. Webster, “Functions of neurons on carbon nanofibers aligned in a composite,” presented at the Joint Biomedical Engineering Society/EMBS Annual Conference, Houston, TX, 2002.
72. J.A. McCann* (speaker), T.J. Webster, and K.M. Haberstroh, “Aortic smooth muscle cells respond to soluble proteins released by aortic endothelial cells after fluid flow exposure,” presented at the Joint Biomedical Engineering Society/EMBS Annual Conference, Houston, TX, 2002.
73. J.A. McCann* (speaker), S.D. Peterson, T.J. Webster, M.W. Plesniak, and K.M. Haberstroh, “Differential gene expression due to inadvertent variations in fluid flow across a parallel plate flow chamber,” presented at the American Institute of Chemical Engineers Fall Meeting, Indianapolis, IN, 2002.
74. J.L. Smith*, E.A. Massa-Schlueter*, T.J. Webster (speaker), “Solubility properties of hydroxyapatite doped with divalent and trivalent ions,” presented at the Material Research Society Fall Meeting, Boston, MA, 2002.
75. R.L. Price* (speaker), E.B. Kennel, and T.J. Webster, “Carbon nanofibers/nanotubes as the next generation of bone prosthetic material,” presented at the Sigma Xi Poster Competition, Purdue University, 2002.
76. D.C. Miller* (speaker), A. Thapa*, K.M. Haberstroh, and T.J. Webster, “An in vitro study of nano-fiber polymers for guided vascular regeneration,” presented at the Sigma Xi Poster Competition, Purdue University, 2002.

77. A. Thapa* (speaker), T.J. Webster, and K.M. Haberstroh, “An investigation of nano-structured co-polymers for use as three-dimensional bladder tissue constructs,” presented at the Sigma Xi Poster Competition, Purdue University, 2002.
78. J. McKenzie* (speaker), B.E. Cardona*, R. Shi, and T.J. Webster, “Enhanced interactions of astrocytes on carbon fibers with conventional dimensions,” presented at the Sigma Xi Poster Competition, Purdue University, 2002.
79. E.A. Mass* (speaker), E.B. Slamovich, and T.J. Webster, “Improved properties of hydroxyapatite for orthopedic applications,” presented at the Sigma Xi Poster Competition, Purdue University, 2002.
80. M. Sato* (speaker), T. J. Webster, and E. B. Slamovich, “Enhanced osteoblast adhesion on a novel hydroxyapatite coating,” presented at the Society for Biomaterials, Reno, NV, 2003.
81. K. M. Haberstroh (speaker) and T.J. Webster, “Asynchronous interactive learning modules in biomedical engineering,” presented at the Society for Biomaterials, Reno, NV, 2003.
82. K. M. Haberstroh (speaker) and T.J. Webster, “Research experiences for undergraduate program in biomedical engineering at Purdue University,” presented at the Society for Biomaterials, Reno, NV, 2003.
83. J. McKenzie* (speaker), M. C. Waid*, R. Shi, and T.J. Webster, “Cytocompatibility of carbon nanofiber/polymer composites,” presented at the Materials Research Society Annual Spring Meeting, San Francisco, CA, 2003.
84. J. McKenzie* (speaker), M. C. Waid*, R. Shi, and T.J. Webster, “Astrocyte adhesion to carbon nanofiber composites,” presented at the Society for Biomaterials, Reno, NV, 2003.
85. G. E. Park* (speaker), B. C. Ward*, K. Park, T. J. Webster, “Enhanced chondrocyte migration on aligned and nanostructured PLGA,” presented at the Society for Biomaterials, Reno, NV, 2003.
86. R.L. Price* (speaker), K. M. Haberstroh, and T.J. Webster, “Osteoblast viability decreases with an increase in carbon nanofiber concentration for toxicity studies,” presented at the Society for Biomaterials, Reno, NV, 2003.
87. M. Sato* (speaker), T. J. Webster, and E. B. Slamovich, “Enhanced osteoblast adhesion on a novel hydroxyapatite coating,” presented at the Materials Research Society Annual Spring Meeting, San Francisco, CA, 2003.
88. J. U. Ejiofor (speaker) and T.J. Webster, “Topography and morphology effects of titanium bone implant on osteoblasts adhesion in vitro,” presented to the International Conference on Powder Metallurgy & Particulate Materials, Las Vegas, NV, 2003.
89. K.M. Haberstroh (speaker), A. Thapa*, D.C. Miller*, T.J. Webster, “Bio-inspired, nano-structured polymers for use in soft tissue replacement applications,” presented at the ASME Summer Bioengineering Meeting, Key Biscayne, FL, 2003.
90. T.J. Webster (speaker), K.M. Haberstroh, and S.R. Dunlop, “Development of asynchronous learning modules in biomedical engineering,” presented at the 2003 IHETS/IPSE All Partners Conference, Ball State University Alumni Center, IN, 2003.

91. M. C. Waid*, J. L. McKenzie* (speaker), R. L. Price*, and T. J. Webster, “Cytocompatibility and material properties of poly-carbonate urethane/carbon nanofiber composites for bone and neural applications,” presented at the Materials Research Society Annual Spring Meeting, San Francisco, CA, 2003.
92. K.S. Ellison*, R. L. Price*, D. C. Miller*, and T. J. Webster (speaker), “Select, enhanced osteoblast adhesion on nanostructured poly-lactic-co-glycolic surfaces,” presented at the Materials Research Society Annual Spring Meeting, San Francisco, CA, 2003.
93. J. A. McCann* (speaker), S. D. Peterson, T. J. Webster, M. W. Plesniak, and K. M. Haberstroh, “Slight geometrical variations across a parallel plate flow chamber yields non-uniform gene expression,” presented at the Sigma Xi Graduate Student Poster Competition, Purdue University, 2003.
94. J. McKenzie* (speaker), R. Shi, and T.J. Webster, “Cytocompatibility of astrocytes on carbon nanofiber materials,” presented at the Sigma Xi poster Competition, Purdue University, 2003.
95. R.L. Price* (speaker), M.C. Waid, K.M. Haberstroh, and T.J. Webster, “Carbon nanofiber/polymer composite materials as bone implants,” presented at the Sigma Xi Poster Competition, Purdue University, 2003.
96. G. E. Park* (speaker), B.C. Ward, K. Park, T. J. Webster, “Biomimetic PLGA surfaces as improved cartilage prostheses,” presented at the Sigma Xi Poster Competition, Purdue University, 2003.
97. R.L. Price* (speaker), K. Ellison, and T.J. Webster, “Increased osteoblast function on carbon nanofibers due to novel nanometer surface roughness,” presented at the Tenth International Conference on Composites Engineering, New Orleans, LA, 2003.
98. D.C. Miller*, A. Thapa*, S. Kay*, K.M. Haberstroh, and T.J. Webster (speaker), “Enhanced cell functions on nanostructured polymers,” presented at the Tenth International Conference on Composites Engineering, New Orleans, LA, 2003.
99. K.S. Ellison* (speaker), R. L. Price*, D. C. Miller*, and T. J. Webster, “Nanometer surface roughness increases select osteoblast adhesion on carbon nanofiber compacts,” presented at the Society for Biomaterials Meeting, Reno, NV, 2003.
100. J.A. McCann* (speaker), S.D. Peterson, T.J. Webster, M.W. Plesniak, and K.M. Haberstroh, “Inadvertent variations in fluid flow across a parallel plate flow chamber results in non-uniform gene expression,” presented at the ASME Summer Bioengineering Meeting, Key Biscayne, FL, 2003.
101. J.A. McCann* (speaker), T.J. Webster, and K.M. Haberstroh, “Vascular endothelial cells release soluble mediators in response to fluid flow that affect smooth muscle cell growth and mRNA expression,” presented at the ASME Summer Bioengineering Meeting, Key Biscayne, FL, 2003.
102. D.C. Miller* (speaker), K.M. Haberstroh, T.J. Webster, “Design, synthesis, and evaluation of polymeric biomaterials with nano-structured surface features for vascular applications,” presented at the Sigma Xi poster Competition, Purdue University, 2003.

103. A. Rundell (speaker), T.J. Webster (speaker), H. HogenEsch, “Optimizing the immuno-surface characteristics for biosensors and filters through modeling and experiments,” presented at the Joint DARPA Bioflips Symbiosys PI Meeting, Santa Barabara, CA, 2003.
104. T.J. Webster (speaker), “Bio-nanotechnology: Implications for Designing More Effective Tissue Engineering Materials,” presented at the Gordon Conference on Biomaterials: Biocompatibility/Tissue Engineering, NH, 2003.
105. J.L. McKenzie* (speaker), R.L., Price*, T.J. Webster, “Bone and neural cell interactions with carbon nanofibers/nanotubes: Implications for better implant designs,” presented at the American Society for Microbiology, New York, NY, 2003.
106. A. L. Chun* (speaker), H. Fenniri, and T.J. Webster, “Increased osteoblast adhesion on titanium coated with helical rosette nanotubes,” presented at the Annual AIChE Conference, San Francisco, CA, 2003.
107. A. L. Chun* (speaker), H. Fenniri, and T.J. Webster, “Helical rosette nanotubes as more effective orthopedic implants,” presented at the Trends in Nanotechnology Conference, Salamanca, Spain, 2003.
108. J. A. McCann* (speaker), T.J. Webster, and K.M. Haberstroh, “Vascular endothelial and smooth muscle cell interactions affect vessel homeostasis,” presented at the BMES conference, Nashville, TN, 2003.
109. J. U. Ejiofor* and T. J. Webster (speaker), “Nano powder metallurgy titanium enhances bone cell functions” presented at the Nano and Powder Metallurgy Conference, Las Vegas, NV, 2003.
110. J. L. Smith* (speaker) and T. J. Webster, “Influence of Ph on hydroxyapatite solubility and bone cell adhesion,” presented at the BMES conference, Nashville, TN, 2003.
111. P. V. Tuttle IV* (speaker), R.C. Danczyk*, T. J. Webster, A. E. Rundell, “Development of ceramic nano-structured surface roughness for antibody-based biosensors,” presented at the BMES conference, Nashville, TN, 2003.
112. Y. Zheng, P. V. Tuttle IV*, R. C. Danczyk*, H. HogenEsch, T. J. Webster, A. E. Rundell (speaker), “A kinetic analysis of the non-specific interactions at biosensor immuno-surfaces,” presented at the BMES conference, Nashville, TN, 2003.
113. G. E. Park* (speaker), M. A. Pattison*, K. Park, and T. J. Webster, “Enhanced articular chondrocyte numbers on NaOH-treated PLGA,” presented at the BMES conference, Nashville, TN, 2003.
114. J. U. Ejiofor*, C. Corylene, and T. J. Webster (speaker), “Fine-particle titanium compacts enhance osteoblast and fibroblast cell functions,” presented at the BMES conference, Nashville, TN, 2003.
115. R.L. Price* (speaker), K.M. Haberstroh, and T.J. Webster, “The effects of nanometer fiber dimensions on osteoblast and fibroblast adhesion and viability,” presented at the BMES conference, Nashville, TN, 2003.
116. J.L. McKenzie* (speaker), M. Sambito, N. Kalkorhan, and T.J. Webster, “Select increased neuronal cell function on nanoporous silicon,” presented at the Materials Research Society Fall Meeting, Boston, MA 2003.

117. J.L. McKenzie* (speaker), M. Sambito, N. Kalkorhan, and T.J. Webster, “Aligned axonal outgrowth for neurons cultured on nanophase carbon deposited on porous silicon templates,” presented at the Materials Research Society Fall Meeting, Boston, MA, 2003.
118. T.J. Webster (speaker) and J. U. Ejiofor*, “Nanostructured titanium and Ti6Al4V surfaces increase bone cell functions,” presented at the Materials Research Society Fall Meeting, Boston, MA, 2003.
119. A. Rundell (speaker), T.J. Webster (speaker), H. HogenEsch, “Optimizing the immuno-surface characteristics for biosensors and filters through modeling and experiments,” presented at the Joint DARPA Bioflips Symbiosys PI Meeting, Monterey, CA, 2003.
120. T.A. Smith* (speaker) and T. J. Webster, “Increased osteoblast functions on three-dimensional PLGA scaffolds containing nanophase titania,” presented at the BMES conference, Nashville, TN, 2003.
121. E. Hillenmeyer* (speaker), R.L. Price*, and T. J. Webster, “Osteoblast function depends on nanofiber alumina grain size,” presented at the BMES conference, Nashville, TN, 2003.
122. S. Wurster* (speaker), M. Pattison*, K.M. Haberstroh, and T. J. Webster, “Nano-structured three-dimensional PLGA increases bladder smooth muscle function,” presented at the BMES conference, Nashville, TN, 2003.
123. M. Pattison*(speaker), K. M. Haberstroh, and T.J. Webster, “An investigation of 3D, nano-structured polymers as bladder tissue constructs,” presented at the BMES conference, Nashville, TN, 2003.
124. D.C. Miller* (speaker), K.M. Haberstroh, T.J. Webster, “Mechanism of enhanced vascular cell function on nano-structured poly(lactic-co-glycolic acid),” presented at the BMES conference, Nashville, TN, 2003.
125. D.C. Miller* (speaker), K.M. Haberstroh, and T.J. Webster, “Design of polymeric vascular biomaterials with nano-structured surface features,” presented at the Gill Heart Research Day, Lexington, KY, 2003.
126. J.A. McCann* (speaker), T.J. Webster, and K.M. Haberstroh, “Coordinated vascular endothelial and smooth muscle cell interactions in response to fluid shear stress affect vessel homeostasis,” presented at the Gill Heart Research Day, Lexington, KY, 2003.
127. K.M. Haberstroh (speaker), T.J. Webster (speaker), and C. Scharff, “Involving females in the exciting and growing field of science,” presented at the Kappa Delta Pi 44th Biennial Convocation, St. Louis, MO, 2003.
128. R.L. Price* (speaker), K.M. Haberstroh, and T.J. Webster, “Mechanisms of enhanced osteoblast adhesion on nanofiber materials,” presented at the Society for Biomaterials World Congress, Sydney, Australia, 2004.
129. A. L. Chun* (speaker), H. Fenniri, and T.J. Webster, “Helical rosette nanotubes as orthopedic tissue engineering devices,” presented at the Society for Biomaterials World Congress, Sydney, Australia, 2004.
130. J.L. McKenzie* (speaker), R. Shi, and T.J. Webster, “Increased neurite extension for neurons cultured on carbon nanofiber compacts,” presented at the Society for Biomaterials World Congress, Sydney, Australia, 2004.

131. T.A. Smith* and T.J. Webster (speaker), “Bio-nanotechnology: Increased functions of osteoblasts on polymer composites containing nanophase ceramics,” presented at the Society for Biomaterials World Congress, Sydney, Australia, 2004.
132. D.C. Miller* (speaker), K.M. Haberstroh, and T.J. Webster, “Mechanisms controlling increased vascular cell adhesion to nano-structured polymer films,” presented at the Society for Biomaterials World Congress, Sydney, Australia, 2004.
133. G.E. Park* (speaker), M.A. Pattison*, K. Park, and T.J. Webster, “Enhance articular chondrocyte function on NaOH-treated PLGA,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
134. J.A. McCann* (speaker), T.J. Webster, and K.M. Haberstroh, “Vessel homeostasis is controlled by coordinated vascular endothelial and smooth muscle cell interactions in response to fluid shear stress,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
135. A.L. Chun* (speaker), H Fenniri, and T.J. Webster, “Helical rosette nanotubes: A potentially more effective orthopedic tissue engineering material,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
136. M. Sato* (speaker), E.B. Slamovich, and T.J. Webster, “Preparation and characterization of hydroxyapatite/titania composite coatings in poly(lactide-co-glycolide) for orthopedic applications,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
137. C. Yao* (speaker), E.B. Slamovich, and T.J. Webster, “Improved cell adhesion on nanophase titanium and Ti6Al4V,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
138. H. Liu* (speaker), E.B. Slamovich, and T.J. Webster, “Improved dispersion of nanophase titani in polymer composites enhance osteoblast adhesion,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
139. Z. Zhong*, M. K. Banks, and T.J. Webster (speaker), “Increased bacteria attachment on nanophase materials,” presented at the American Chemical Society, Philadelphia, PA, 2004.
140. P. V. Tuttle IV* (speaker), R.C. Danczyk, H. HogenEsch, T.J. Webster, and A.E. Rundell, “Development of control nano-structured surface roughness for antibody-based biosensors,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
141. D.C. Miller* (speaker), K.M. Haberstroh, and T.J. Webster, “Fibronectin and vitronectin are critical for vascular cell recognition of nano-structured poly(lactic-co-glycolic acid) films,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
142. D. Khang* (speaker), J. L. McKenzie*, T. J. Webster, “Electrical alignment of carbon nanofibers in a polymer matrix for neural biomaterial applications,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
143. R. Y. Park* (speaker), Z. Tong* (speaker), M. K. Banks, and T. J. Webster, “Bacterial adhesion on nanophase materials,” presented at the Sigma Xi Research Conference, Purdue University, 2004.

144. R.A. Price* (speaker), K.M. Haberstroh, and T.J. Webster, “The effects of nanometer fiber dimensions on cell adhesion and viability,” presented at the Sigma Xi Research Conference, Purdue University, 2004.
145. P. Venu* (speaker), J.L. McKenzie*, and T.J. Webster, “Effect of coating techniques on the creation of calcified zone of implant-tendon entheses,” presented at the 30th Annual Northeastern Bioengineering Conference, Springfield, MA, 2004.
146. J.L. McKenzie (speaker)*, R. Shi, and T.J. Webster, “Analysis of carbon nanofibers and porous silicon for neural applications,” presented at the International Conference on Biomedical Engineering (BioMED 2004), Austria, 2004.
147. G. Park (speaker)*, K. Park*, and T.J. Webster, “Increased articular chondrocyte functions on NaOH-treated PLGA,” presented at the 30th Annual Northeastern Bioengineering Conference, Springfield, MA, 2004.
148. D. C. Miller (speaker) *, K.M. Haberstroh, and T.J. Webster, “Increased proteins interactions with nano-structured PLGA increases vascular cell function,” presented at the 30th Annual Northeastern Bioengineering Conference, Springfield, MA, 2004.
149. J.A. McCann (speaker)*, T.J. Webster, and K.M. Haberstroh, “Vascular cell responses to physiologically-relevant mechanical and biochemical stimuli,” presented at the 5th Annual Conference on Arteriosclerosis, Thrombosis, and Vascular Biology, San Francisco, CA, 2004.
150. K.M. Haberstroh (speaker) and T.J. Webster, “A cumulative report on the biomedical engineering research experiences for undergraduates program at Purdue University,” presented at the 30th Annual Northeastern Bioengineering Conference, Springfield, MA, 2004.
151. D. Khang* (speaker), J. L. McKenzie*, T. J. Webster, “Carbon nanofiber: polycarbonate urethane composites as a neural biomaterial,” presented at the 30th Annual Northeastern Bioengineering Conference, Springfield, MA, 2004.
152. J.A. McCann* (speaker), T.J. Webster, K.M. Haberstroh, “Soluble mediators released by flow- and pressure-exposed vascular endothelial cells induce functional changes in endothelial and smooth muscle cells,” presented at the Annual AIChE meeting, Austin, TX, 2004.
153. D. Khang* (speaker) and T.J. Webster, “Aligned carbon nanotube-polymer composites for orthopedic implants,” presented at the Annual AIChE meeting, Austin, TX, 2004.
154. A.L. Chun* (speaker), H. Fenniri, T.J. Webster, “Helical rosette nanotubes: applications in orthopedics,” presented at the Indiana Health Industry Forum, Indianapolis, IN, 2004.
155. A. L. Chun* (speaker), H. Fenniri, T.J. Webster, “Helical rosette nanotubes: a protein-like coating material for orthopedics,” presented at the Society for Biomaterials, Biomaterials in Regenerative Medicine: The Advent of Combination Products, Philadelphia, PA, 2004.

156. D. Khang* (speaker) and T.J. Webster, “Electrical interaction of osteoblasts with aligned carbon nanotubes/nanofibers in polymer composites,” presented at the Society for Biomaterials, Biomaterials in Regenerative Medicine: The Advent of Combination Products, Philadelphia, PA, 2004.
157. A. L. Chun* (speaker), H. Fenniri, T.J. Webster, “Self-assembled nanostructures for orthopedic application: helical rosette nanotubes,” presented at the Annual AIChE meeting, Austin, TX, 2004.
158. H. Liu* (speaker), E. B. Slamovich, T.J. Webster, “Increased osteoblast adhesion on polymers with improved dispersion of nanophase titania,” presented at the Annual AIChE meeting, Austin, TX, 2004.
159. M. Park* (speaker), Z. Zong*, M.K. Banks, T.J. Webster, “More efficient capture of bacteria on nanophase materials,” presented at the Annual AIChE meeting, Austin, TX, 2004.
160. B.C. Ward* (speaker) and T.J. Webster, “Enhanced mineral deposition by osteoblasts cultured on nanophase metals,” presented at the Annual Fall MRS meeting, Boston, MA, 2004.
161. M. Sato* (speaker), M. Sambito, E. Slamovich, N. Kalkhoran, T.J. Webster, “Novel nanophase hydroxyapatite coatings for orthopedic applications,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
162. J. A. McCann* (speaker), T.J. Webster, and K. Haberstroh, “Functional changes in vascular cells induced by biochemical and hemodynamic factors,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
163. T.J. Webster (speaker) and K. M. Haberstroh, “Increasing interest in BME through a research experiences for undergraduates program,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
164. J. McKenzie* (speaker), G. Graber, D. Khang*, R. Shi, and T.J. Webster, “Aligned carbon nanofibers in polymer matrices for neural applications,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
165. V. Perla* (speaker) and T.J. Webster, “Enhanced osteoblast adhesion on nanophase selenium,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
166. H. Liu* (speaker), E. B. Slamovich, T.J. Webster, “Improved osteoblast function on nanophase titania in PLGA composites,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
167. C. Yao* (speaker), E.B. Slamovich, T.J. Webster, “Improved osteoblast adhesion on anodized nanostructured titanium,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
168. P. Tuttle* (speaker), H. HogenEsch, A. E. Rundell, T.J. Webster, “Cell mimicked nano-structured surface roughness membranes for antibody-based biosensors,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
169. V. Perla (speaker), M. Sato*, J.L. McKenzie*, and T.J. Webster, “Nano-hydroxyapatite dispersions for entheses applications,” presented at the Society for Biomaterials, Biomaterials in Regenerative Medicine: The Advent of Combination Products, Philadelphia, PA, 2004.

170. B.C. Ward * (speaker) and T.J. Webster, “Enhanced osteoblast metabolic activities on nanometals,” presented at the Society for Biomaterials, Biomaterials in Regenerative Medicine: The Advent of Combination Products, Philadelphia, PA, 2004.
171. M. Sato* (speaker), E.B. Slamovich, and T.J. Webster, “Preparation and characterization of hydroxyapatite/titania composite coatings in poly(lactide-co-glycolide) for orthopedic applications,” presented at the American Ceramic Society, Indianapolis, IN, 2004.
172. C. Yao* (speaker), E.B. Slamovich, and T.J. Webster, “Improved cell adhesion on nanophase titanium and Ti6Al4V,” presented at the American Ceramic Society, Indianapolis, IN, 2004.
173. H. Liu* (speaker), E.B. Slamovich, and T.J. Webster, “Improved dispersion of nanophase titania in polymer composites enhance osteoblast adhesion,” presented at the American Ceramic Society, Indianapolis, IN, 2004.
174. E. Pail* (speaker), D.C. Miller, M. Sato, and T.J. Webster, “Properties that mediate osteoblast adhesion on nanophase titania,” presented at the Annual BMES 2004 Meeting, Philadelphia, PA, 2004.
175. M. Park* (speaker), Z. Zong*, M.K. Banks, T.J. Webster, “More efficient capture of bacteria on nanophase titania,” presented at the Annual MRS Fall meeting, Boston, MA 2004.
176. C. Ghattas, J. Liu* (speaker), M. K. Banks, and T.J. Webster, “The effect of nanophase materials on bacterial adhesion,” presented at the Marc Aim Poster Session, Purdue University, 2004.
177. J. Liu* (speaker), M. K. Banks, and T.J. Webster, “Bacterial adhesion on nanophase surfaces,” presented at the NASA NSCORT Annual Poster Session, Purdue University, 2004.
178. B.C. Ward* (speaker) and T.J. Webster, “Using metal nano topography to enhance calcium and phosphorus deposition on orthopedic implants,” presented at the 2005 Summer Bioengineering Conference, Vail, Colorado, 2005.
179. S. Choundary* (speaker), K. Haberstroh, T.J. Webster, “Nanometals for use as vascular stents,” presented at the 2005 Summer Bioengineering Conference, Vail, Colorado, 2005.
180. H. Liu* (speaker), E. B. Slamovich, T. J. Webster, “Well dispersed nanophase titania in poly-lactic-co-glycolic acid (PGA) scaffolds for bone tissue engineering applications,” presented at the MRS Spring Meeting, San Francisco, CA 2005.
181. P. Lee, D. Khang* (speaker), T.J. Webster, “Cytocompatibility of primary neurons on aligned carbon nanofiber/nanotube patterns,” presented at Carbon 2005, Gyeongju, Korea, 2005.
182. C. Yao (speaker) *, E.B. Slamovich, T.J. Webster, “Anodized Ti for orthopedic applications,” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.
183. H. Liu (speaker) *, E.B. Slamovich, T.J. Webster, “Nano ceramics/polymer bone tissue engineering scaffolds” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.

184. C. Yao (speaker)*, E.B. Slamovich, T.J. Webster, “Anodized Ti for orthopedic applications,” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.
185. D.C. Miller (speaker) *, K.M. Haberstroh, T.J. Webster, “Optimizing interactions of fibronectin on nano-structured polymers films for vascular applications,” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.
185. M. Park (speaker) *, B. Applegate, K. M. Banks, T. J. Webster, “Nanostructured ceramics for microbial applications,” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.
186. D. Khang (speaker), M. Lee, S. Namkung, S. Hong, T. J. Webster, “Aligned carbon nanofiber/nanotube patterns for orthopaedic applications,” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.
187. L. Smith (speaker)*, K. M. Haberstroh, and T. J. Webster, “Fabrication of porous nanoscale polymeric scaffolds for entheses tissue engineering,” presented at the Sigma Xi Research Conference, Purdue University, West Lafayette, IN, 2005.
188. K. M. Haberstroh and T. J. Webster (speaker), “A research experience for undergraduates in Biomedical Engineering at Purdue University,” presented at the Northeastern Bioengineering Conference, Stevens Institute of Technology, Hoboken, NJ, 2005.
189. T.J. Webster, “Nanotechnology for the creation of better tissue engineering materials,” presented at the MTEC 2005, Cleveland, OH, 2005.
190. A.L. Chun (speaker)*, T.J. Webster, J. Haber, H. Fenniri, “Nanostructured biomaterials in orthopaedic tissue engineering: An *in vitro* selection of materials & basic mechanistic studies,” presented at the 88th Canadian Chemistry Conference & Exhibition, Alberta, Canada, 2005.
191. V. Perla (speaker) * and T.J. Webster, “Growth potential of human mesenchymal stem cells and their differentiated cell lineages on engineered porcine small intestine sub-mucosa with nano-hydroxyapatite dispersion for entheses regeneration,” presented at the International Society for Stem cell Research 3rd Annual Meeting, San Francisco, CA, 2005.
192. D. Khang* and T.J. Webster (speaker), “Directed osteoblast adhesion along carbon nanotube.nanofiber patterns in polymers,” presented at Carbon 2005, Gyeongju, Korea, 2005.
193. G. E. Park (speaker)*, T.J. Webster, “Nanometer surface roughness enhances chondrocyte functions,” presented at Carbon 2005, Gyeongju, Korea, 2005.
194. G. Balasundrum (speaker)* and T.J. Webster, “Nanoparticles for the treatment of osteoporosis,” presented at the MTEC 2005, Cleveland, OH, 2005.
195. G.E. Park (speaker)* and T.J. Webster, “NaOH treated PLGA for cartilage tissue engineering,” presented at the MTEC 2005, Cleveland, OH, 2005.
196. T.J. Webster, “Nanotechnology for the creation of better tissue engineering materials,” presented at the 1st Annual Society for Nanomedicine Meeting, Baltimore, MD, 2005.
197. G. Balasundrum (speaker)* and T. J. Webster, “Increased bone growth on calcium-phosphate based nanoparticles,” presented at the Northeastern Bioengineering Conference, Stevens Institute of Technology, Hoboken, NJ, 2005.

198. J. McCann (speaker) *, T. J. Webster, and K.M. Haberstroh, "Altered endothelial cell response to fluid flow," presented at the Northeastern Bioengineering Conference, Stevens Institute of Technology, Hoboken, NJ, 2005.
199. D. Khang (speaker) * and T.J. Webster, "Aligned osteoblasts with carbon nanofibers in a polymer matrix," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
200. G. Balasundrum (speaker)* and T. J. Webster, "Osteoblast response to ceramic nanoparticles," presented at the MRS Spring Meeting, San Francisco, CA, 2005.
201. J. McKenzie(speaker)* and T. J. Webster, "Increased neural cell response on aligned carbon nanofibers," presented at the MRS Spring Meeting, San Francisco, CA, 2005.
202. J. McKenzie(speaker)*, R. Shi, and T.J. Webster, "Aligned carbon nanofiber materials direct orientation of neurites from neurons," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
203. K.M. Haberstroh (speaker), M. Pattison*, and T.J. Webster, "In vitro and in vivo efficacy of nano-dimensional bladder tissue replacement constructs," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
204. L. Smith (speaker)*, K.M. Haberstroh, and T.J. Webster, "Select increased osteoblast functions on NaOH-treated PLGA," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
205. C. Yao (speaker)*, E.B. Slamovich, and T.J. Webster, "Titanium nanosurface modification by anodization for orthopedic applications," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
206. G. Balasundrum (speaker)*, M. Sato, A.M. Friedman, R.V. Weatherman, and T.J. Webster, "Chemically functionalized nanoparticles for the treatment of osteoporosis," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
207. V. Perla (speaker)*, M. Sato, and T.J. Webster, "Creation of a calcified zone of implant-tendon entheses by novel nano-hydroxyapatite dispersions in porcine small intestine sub-mucosa," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
208. S. Choudhary (speaker)*, K.M. Haberstroh, and T.J. Webster, "Increased adhesion of vascular endothelial cells to nanophase titanium," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
209. G.E. Park (speaker)*, K. Park, and T.J. Webster, "Fibronectin and vitronectin interactions with NaOH-treated PLGA increases chondrocyte functions," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
210. D.C. Miller (speaker)*, K. Haberstroh, and T.J. Webster, "Optimizing interactions of fibronectin on nano-structured polymer films for vascular applications," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
211. V. Perla and T.J. Webster (speaker), "Targeting orthopedic implant associated cancers by novel nano-particulate selenium," presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
212. M. Sato (speaker)*, M.A. Sambito, A. Aslani, N.M. Kalkhoran, E.B. Slamovich, and T.J. Webster, "Tontite nanophase hydroxyapatite coatings for orthopedic

- applications,” presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
213. H. Liu (speaker)*, E.B. Slamovich, and T.J. Webster, “Nanophase titania/PLGA scaffolds for bone tissue engineering applications: titania dispersion and osteoblast response,” presented at the Society for Biomaterials Annual Meeting, Memphis, TN, 2005.
 214. G. Balasundrum (speaker)*, J. Fleet, C. Weaver, A. Friedman, R. Weatherman, and T.J. Webster, “Nanoparticles for the treatment of osteoporosis,” presented at the AIChE Annual Meeting, Cincinnati, OH, 2005.
 215. D. Khang (speaker)*, M. Sato*, and T.J. Webster, “Directed calcium deposition by osteoblast along carbon nanofiber patterns in polymers,” presented at the AIChE Annual Meeting, Cincinnati, OH, 2005.
 216. G. Balasundrum (speaker)*, J. Fleet, C. Weaver, A. Friedman, R. Weatherman, and T.J. Webster, “Nanoparticles for the treatment of osteoporosis,” presented at the AIChE Annual Meeting, Cincinnati, OH, 2005.
 217. L. Smith (speaker)*, K.M. Haberstroh, and T.J. Webster, “Hydroxyapatite embedded nano-structured PLGA for tissue engineering applications,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 218. D.C. Miller (speaker)*, K.M. Haberstroh, and T.J. Webster, “Optimization of fibronectin adsorption to nano-structured polymer films for vascular applications,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 219. J. McCann (speaker)*, T. J. Webster, and K.M. Haberstroh, “The influence of physiological and pathological mechanical forces on vascular cells,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 220. M. Pattison (speaker)*, A. Thapa*, T. J. Webster, and K.M. Haberstroh, “The use of nano-dimensional PLGA and PU scaffolds in bladder tissue replacement applications,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 221. S. Choudhary (speaker)*, K. M. Haberstroh, and T. J. Webster, “Increased adhesion of vascular cells to nanophase titanium for stent applications,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 222. D. Khang (speaker)* and T. J. Webster, “The role of fibronectin in enhancing osteoblast function on aligned carbon nanofibers,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 223. C. Yao (speaker)*, E.B. Slamovich, and T. J. Webster, “Nanostructured anodized titanium increases osteoblast functions,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 224. G. Balasundrum (speaker)* and T. J. Webster, “Chemical and magnetic delivery of calcium phosphate nanoparticles for treating osteoporosis,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 225. G. Balasundrum (speaker)*, L. Block, H. Daniels, and T. J. Webster, “Titanium and Ti6Al4V modified with silica nanowires for improved orthopedic implant applications,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
 226. J. McKenzie (speaker)* and T.J. Webster, “Carbon nanofiber materials direct protein adsorption, conformation, and resulting neuron interactions,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.

227. G. Colon*, B.C. Ward*, and T.J. Webster (speaker), “Increased osteoblast and decreased bacteria growth on nanophase ZnO,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
228. J. Swain (speaker)* and T.J. Webster, “Nanostructured materials for entheses applications,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
229. M. Nelson (speaker)*, G. Balasundrum*, and T.J. Webster, “Nanoparticles for treating osteoporosis,” presented at the BMES Annual Meeting, Baltimore, MD, 2005.
230. T.J. Renk (speaker), P.P. Provencio, S.V. Prasad, T.E. Buchheit, T. J. Webster, T. Petersen, D.W. Petersen, “Investigation of mechanical properties of surfaces and coatings treated by intense ion beams for in-body applications,” presented at the ICMCTF, San Diego, 2006.
231. H. Liu (speaker)*, E.B. Slamovich, and T.J. Webster, “Titania nanoparticle/poly-lactic-co-glycolic acid (PLGA) composites for bone tissue engineering”, presented at the Materials Engineering Graduate Student Association, Purdue University, West Lafayette, 2005.
232. M. Sato (speaker)*, E.B. Slamovich, and T.J. Webster, “Improved osteoblast function on IonTite™ nano-hydroxyapatite coatings,” presented at the Materials Engineering Graduate Student Association, Purdue University, West Lafayette, 2005.
233. G. Balasundrum (speaker)*, M. Sato*, and T.J. Webster, “Nano-structured biodegradable ceramics for the treatment of osteoporosis,” presented at the NSTI Nanotech 2006, Boston, MA, 2006.
234. H. Liu (speaker)*, E. B. Slamovich, and T.J. Webster, “Less harmful acidic degradation products for PLGA with nanoparticle titania addition,” presented at the NSTI Nanotech 2006, Boston, MA, 2006.
235. C. Yao (speaker)*, E.B. Slamovich, and T.J. Webster, “Increased osteoblast adhesion on nano-rough anodized titanium and CoCrMo,” presented at the NSTI Nanotech 2006, Boston, MA, 2006.
236. T. Renk, M. Sato (speaker)*, and T.J. Webster, “Materials Processing of surfaces and coatings by intense ion beams for in-body applications,” presented at the MRS Annual Meeting, Boston, MA, 2006.
237. G. Balasundrum (speaker)* and T.J. Webster, “Increased osteoblast functions on Ti nanopatterned with peptides,” presented at Nanoparticles 2006, Orlando, FL, 2006.
238. G. Balasundaram (speaker)* and T.J. Webster, “Biodegradable nano ceramics functionalized with peptides for the treatment of osteoporosis,” presented at the ICCE Conference, Boulder, CO, 2006.
239. H. Liu (speaker)* and T.J. Webster, “Nanophase titania/poly(lactic-co-glycolic acid) composites for drug delivery applications,” presented at the AAPS 2006 Meeting, Boston, MA, 2006.
240. J. Lu (speaker)* and T.J. Webster, “Highly controlled versus random nanometer roughness on titanium for vascular stent applications,” presented at the AAPS 2006 Meeting, Boston, MA, 2006.

241. C. Yao (speaker)* and T.J. Webster, “Titania nano-tubular nanostructures as novel drug delivery devices for orthopedic applications,” presented at the AAPS 2006 Meeting, Boston, MA, 2006.
242. G. Balasundaram (speaker)* and T.J. Webster, “Nanoceramic based drug delivery system for treating osteoporosis,” presented at the AAPS 2006 Meeting, Boston, MA, 2006.
243. B. Ercan (speaker)* and T.J. Webster, “Stem cell differentiation on nanostructured carbon surfaces,” presented at the AAPS 2006 Meeting, Boston, MA, 2006.
244. C. Yao (speaker)*, T.J. Webster, H. Rack, “Cell formation enhancement on T-based orthopedic implant based materials,” presented at the annual TMS meeting, San Antonio, TX, 2006.
245. D. Khang (speaker)* and T. J. Webster, “Why are bone cell functions enhanced on carbon nanotubes ?,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
246. M. Sato (speaker)* and T. J. Webster, “Increased in vivo bone growth on nanophase ceramic coated metal implants”, presented at the BMES Meeting 2006, Chicago, IL, 2006.
247. D. Khang (speaker)*, J. Y. Kim*, J. E. Kim, and T. J. Webster, “Carbon nanotube delivery of stem cells to heal stroke damage,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
248. G. Balasundaram (speaker)* and T.J. Webster, “Hydroxyapatite coated magnetic nanoparticles for the treatment of osteoporosis,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
249. T. J. Webster, K. M. Haberstroh (speaker), “Biocompatibility of nano-structured PLGA/PU scaffolds for bladder tissue engineering applications,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
250. L. Zhang (speaker)*, A. L. Chun*, H. Fenniri, T. J. Webster, “Helical rosette nanotubes for orthopaedic applications,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
251. H. Liu (speaker)* and T. J. Webster, “PLGA/titania nanoparticle composites for more effective orthopedic applications,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
252. K. M. Haberstroh (speaker) and T. J. Webster, “Undergraduate translational research in engineering at Brown University,” presented at the BMES Meeting 2006, Chicago, IL, 2006.
253. S. Sirivisoot (speaker)* and T.J. Webster, “Developing biosensors for monitoring orthopedic tissue growth,” presented at the First Annual Methods in Bioengineering Conference, Cambridge, MA, 2006.
254. S. Sirivisoot (speaker)*, C. Yao, X. Xiao, B. Sheldon and T. J. Webster, “Developing biosensors for monitoring orthopedic tissue growth,” presented at the American Institute of Chemical Engineering, San Francisco, CA, 2006.
255. S. Sirivisoot (speaker)*, C. Yao, X. Xiao, B. Sheldon and T. J. Webster, “Developing biosensors for monitoring orthopedic tissue growth,” presented at the Biomedical Engineering Society, Chicago, IL, 2006.

256. G. Balasundaram (speaker)* and T.J. Webster, “Increased osteoblast functions on Ti nanopatterned with peptides,” presented at Particles 2006: Medical/Biochemical Diagnostic, Pharmaceutical, and Drug Delivery Applications of Particle Technology, Orlando, FL, 2006.
257. P. Bajaj (speaker)*, D. Khang*, T.J. Webster, “Controlled fibroblast, smooth muscle cell, and endothelial cell adhesion on carbon nanofibers aligned on polymers,” presented at the Summer Bioengineering Conference, Vail, CO, 2006.
258. X. Xiao (speaker), B. W. Sheldon, J. Rankin, A. Yan, R. Hurt, S. Sirivisoot*, T. J. Webster, E. Konca, Y. T. Cheng, O. Auciello, J.A. Carlisle, “Surface wettability of nanostructured carbon materials-from superhydrophobicity to superhydrophilicity,” presented at the Materials Research Society Fall Meeting, Boston, MA, 2006.
259. B. Ercan (speaker)*, T.J. Webster, “Enhanced stem cell adhesion and spreading on carbon nanotubes grown on anodized titanium,” presented at the Materials Research Society Fall Meeting, Boston, MA, 2006.
260. M. Sato (speaker)* and T. J. Webster, “Increased in vivo bone growth on nanophase ceramic coated metal implants” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
261. H. Liu (speaker)* and T.J. Webster, “Nanophase titania/PLGA (poly-lactic-co-glycolide) composites for bone tissue engineering applications,” presented at the Methods in Bioengineering, MIT, Boston, MA, 2006.
262. S. Sirivisoot (speaker)*, C. Yao, X. Cheng, B. Sheldon, T.J. Webster, “Developing biosensors for monitoring orthopedic tissue growth,” presented at the Materials Research Society Annual Fall Meeting, Boston, MA, 2006.
263. B. Ercan (speaker)* and T. J. Webster, “Carbon nanotubes as a potential scaffold material for stem cell differentiation in vitro,” presented at the First Annual Methods in Bioengineering Conference, Cambridge, MA, 2006.
264. G. Balasundaram (speaker)* and T. J. Webster, “Magnetic nanoparticles for the treatment of osteoporosis,” presented at the First Annual Methods in Bioengineering Conference, Cambridge, MA, 2006.
265. J. Lu (speaker)* and T. J. Webster, “Endothelial cell adhesion on highly controllable nanostructured titanium surface features for improved vascular stent applications,” presented at the First Annual Methods in Bioengineering Conference, Cambridge, MA, 2006.
266. C. Yao (speaker)* and T. J. Webster, “Increased osteoblast adhesion on nano-rough anodized titanium and CoCrMo,” presented at the First Annual Methods in Bioengineering Conference, Cambridge, MA, 2006.
267. L. Zhang (speaker)*, H. Fenirri, and T. J. Webster, “Helical rosette nanotubes for orthopedic applications,” presented at the First Annual Methods in Bioengineering Conference, Cambridge, MA, 2006.
268. M. Rao (speaker) and T. J. Webster, “Aligned nanofeatures for orthopaedic applications,” presented at the Indiana Health Science Forum, Indianapolis, IN, 2006.
269. G. Aninwene (speaker)*, C. Yao*, and T. J. Webster, “Drug release from anodized Ti,” presented at the 2006 Annual Biomedical Research Conference for Minority Students (ABRCMS), Anaheim, CA, 2006.

270. H. Liu (speaker)* and T.J. Webster, “Polymer/ceramic nanocomposite tissue engineering scaffolds for more effective orthopedics applications,” presented at the Materials Research Society Fall Meeting, Boston, MA, 2006.
271. H. Liu (speaker)* and T.J. Webster, “From nano to micro: nanostructured titania/PLGA orthopaedics tissue engineering scaffolds assembled by three-dimensional printing,” presented at the American Institute of Chemical Engineering Annual Meeting, San Francisco, CA, 2006.
272. H. Liu (speaker)*, C. Ergun, T.J. Webster, “Increased osteoblast adhesion on nanograined hydroxyapatite/calcium titanate and tricalcium phosphate/calcium titanate composites,” presented at the Materials Research Society Annual Fall Meeting, Boston, MA, 2006.
273. J. Lu (speaker)* and T.J. Webster, “Highly controlled versus random nanometer roughness on titanium for vascular stent applications,” presented at the Materials Research Society Annual Fall Meeting, Boston, MA, 2006.
274. J. Lu (speaker)* and T.J. Webster, “Controlling endothelial cell functions on nanostructured Ti,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
275. H. Liu (speaker)* and T.J. Webster, “Nanoceramics for healing bone,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
276. D. Khang (speaker)* and T.J. Webster, “Enhanced fibronectin adsorption on carbon nanotubes in polycarbonate urethane composites directs osteoblast adhesion,” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
277. J.Y. Kim (speaker)*, D. Khang*, T.J. Webster, “Decreased macrophage density on carbon nanofiber patterns,” presented at the Materials Research Society Annual Fall Meeting, Boston, MA, 2006.
278. L. Zhang (speaker)*, S. Ramsaywack, H. Fenniri, T.J. Webster, “Helical rosette nanotubes as a biomimetic tissue engineering scaffold material,” presented at the American Institute of Chemical Engineers Annual Conferences, San Francisco, CA, 2006.
279. L. Zhang (speaker)*, S. Ramsaywack, H. Fenniri, T.J. Webster, “Development of novel nanostructured tissue engineering scaffold materials through self-assembly for bed-side orthopaedic applications,” presented at the Materials Research Society Annual Fall Meeting, Boston, MA, 2006.
280. C. Yao (speaker)*, G. Balasundaram, T.J. Webster, “Use of anodized titanium in drug delivery applications,” presented at the Materials Research Society Annual Fall Meeting, Boston, MA, 2006.
281. P. Liu-Synder (speaker)* and T.J. Webster, “In vitro evaluation of macrophage activity on nanophase ceramics,” presented at the Annual Materials Research Society Meeting, Boston, MA, 2006.
282. G. Balasundaram (speaker)* and T.J. Webster, “Nanostructured particles for treating bone diseases,” presented at the Annual Materials Research Society Meeting, Boston, MA, 2006.
283. J.A. Leslie, K. Martin, T.J. Webster, K.M. Haberstroh (speaker), “Biocompatibility of nanostructured PLGA/PU scaffolds for bladder tissue

- engineering applications,” presented at the Biomedical Engineering Society Annual Meeting, Chicago, IL, 2006.
284. A. Reising (speaker)*, D. Storey, T.J. Webster, “Increased osteoblast functions on Ionic Fusion nanostructured coatings,” presented at the Biomedical Engineering Society Annual Meeting, Chicago, IL, 2006.
 285. A. Cohen (speaker)*, D. Storey, T.J. Webster, “Decreased fibroblast functions on Ionic Fusion nanostructured coatings,” presented at the Biomedical Engineering Society Annual Meeting, Chicago, IL, 2006.
 286. A. Ricker (speaker)*, P. Liu-Snyder, T.J. Webster, “Nanostructured bone cements for orthopaedic applications,” presented at the Biomedical Engineering Society Annual Meeting, Chicago, IL, 2006.
 287. B. Ercan (speaker)* and T.J. Webster, “Stem cell differentiation on nano-structured carbon surfaces,” presented at the NSTI meeting, Boston, MA, 2006.
 288. G. Balasundrum (speaker)* and T.J. Webster, “Magnetic nanoparticles for treating bone diseases,” presented at the NSTI Nanotech 2006, Boston, MA, 2006.
 289. J. Lee, Y. Kim*, D. Khang*, T.J. Webster (speaker), “Stem cell impregnated carbon nanotubes/nanofibers for treating stroke,” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
 290. J. Lee (speaker), Y. Kim*, D. Khang*, T.J. Webster, “Stem cell impregnated carbon nanotubes/nanofibers for treating stroke,” presented at the American Society for Neurophysiology, New Orleans, LO, 2006.
 291. H. Liu (speaker)* and T.J. Webster, “Degradation kinetics of PLGA mediated by titania nanoparticles,” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
 292. M. Sato (speaker)*, M. Little, N. Kalkhoran, A. Aslani, T.J. Webster, “Mechanisms of increased osteoblast adhesion on nanostructured undoped and Y-doped hydroxyapatite coatings on titanium,” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
 293. K. Calvert (speaker)*, K. Trumble, T.J. Webster, “Bone analog develop for orthopedic device evaluation,” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
 294. K. Haberstroh (speaker) and T.J. Webster, “Nano-dimensional bladder tissue engineering constructs: an in vivo study,” presented at the Society for Biomaterials Annual Meeting, Pittsburgh, PA, 2006.
 295. J. A. Leslie, M. Kaefer, T. J. Webster, and K. M. Haberstroh (speaker), “In vivo biocompatibility properties of nano-structured PLGA and PU scaffolds for bladder tissue engineering applications,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
 296. B. Ercan (speaker)*, C. Yao, X. Xiao, B. W. Sheldon, T. J. Webster, “Enhanced stem cell adhesion on carbon nanotubes grown from anodized titanium,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
 297. G. Balasundaram (speaker)* and T. J. Webster, “Magnetic nanoparticles for the treatment of osteoporosis,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.

298. G. Balasundaram (speaker)* and T. J. Webster, “Nanophase materials for orthopedic implant applications,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
299. S. Sirivisoot (speaker)*, C. Yao*, X. Xiao, B. Sheldon, and T.J. Webster, “Developing biosensors for monitoring orthopedic tissue growth,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
300. J. Lu (speaker)* and T. J. Webster, “Increased endothelial cell adhesion on nanopatterned compared to disordered nano-features on titanium,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
301. C Yao (speaker)*, E. B. Slamovich, and T. J. Webster, “Increased osteoblast adhesion on nano-rough anodized titanium and CoCrMo,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
302. H. Liu (speaker)* and T. J. Webster, “Less harmful acidic degradation of poly-lactic-co-glycolic acid containing nanophase titania,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
303. L. Zhang (speaker)*, A.L. Chun, H. Fenniri and T.J. Webster, “Helical rosette nanotubes for orthopaedic applications,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
304. K. M. Haberstroh (speaker), A. B. Kane, T. J. Webster, and R. H. Hurt, “Educational initiatives related to nanomedicine at Brown University,” presented at the Showcase of Nanomedicine, Brown University, Providence, RI, 2006.
305. H. Liu (speaker)* and T. J. Webster, “Favored cellular interactions with aerosol printed 3D nano-to-macro hierarchical architectures: promise of nanocomposites as next generation orthopedic prostheses,” submitted for presentation at NSTI, Anaheim, CA, 2007.
306. J. Lu (speaker)* and T.J. Webster, “Endothelial cell adhesion on highly controllable compared to random nanostructured Ti surface features,” submitted for presentation at the Society for Biomaterials meeting, Chicago, IL, 2007.

INVITED PRESENTATIONS

Internal

1. T. J. Webster, "Osteoblast adhesion on nanophase alumina," presented in Biomaterials (course BMED4550) Special Seminar at Rensselaer Polytechnic Institute, 1997.
2. T. J. Webster, "Nanophase ceramics and their future in orthopaedic/dental applications," presented in Nanostructured Materials (course MTLE6960) Special Seminar at Rensselaer Polytechnic Institute, 1998 and 1999.
3. T. J. Webster (speaker), "Improved efficacy of orthopaedic/dental implants through the use of nanophase ceramics," presented at the BME Student Seminar Series, IUPUI, Indianapolis, IN, 2000.
4. T. J. Webster, "Enhanced cell interactions on nanostructured surfaces," presented at the IGERT seminar, Purdue University, IN, 2001.
5. T. J. Webster, "Cell attachment on materials with anisotropic polymer and carbon nanofiber alignment," presented at the Purdue University Materials Consortium Workshop, Purdue University, West Lafayette, IN, 2001.
6. T. J. Webster, "Engineering smart nanostructured biomaterials for control of select cell functions," presented at the Purdue University Chemistry Department Materials Consortium Workshop, Purdue University, West Lafayette, IN, 2002.
7. T.J. Webster, "Bio-nanotechnology: Implications for designing more effective tissue engineering materials," presented at the Nanotechnology Seminar Series, Purdue University, 2003.
8. T. J. Webster, "Neural implants composed of carbon nanotubes," presented at the IGERT seminar, Purdue University, IN, 2003.
9. T.J. Webster, "Increased capture of mammalian and bacteria cells," presented at the Food Sciences Industrial Associates Meeting, Purdue University, 2004.
10. T.J. Webster, "Nanotechnology for the creation of better tissue engineering materials," Linking Bio and Nano, Purdue, UIUC, Northwestern University, Purdue University, 2004.
11. T.J. Webster, "Nano-structured wound healing materials," DuPont Research Exploration, Purdue University, 2004.
12. T.J. Webster, "Nanomaterials for tissue engineering," Showcase of Nanomedicine, Brown University, 2006.
13. T.J. Webster, "Nanomedicine for treating organ failure," Small Wonders Course, Brown University, 2006.
14. T.J. Webster, "Nanotechnology: where are we now and where are going," Tissue Engineering Course, Brown University, 2006.
15. T.J. Webster, "Nanomedicine," Nanoparticles Course, Brown University, 2006.
16. T.J. Webster, "Nanotechnology for bone tissue engineering," Division of Orthopaedic Research Seminar Series, Brown Medical School, 2006.
17. T.J. Webster, "Translational research in nanotechnology," Nanotechnology Small Forum, Providence, RI, 2007.
18. T.J. Webster, "Nanomedicine at Brown University," Molecular Medicine, Brown University, 2007.

External

1. T. J. Webster (speaker), R.W. Siegel, and R. Bizios “Design and evaluation of nanophase ceramics for orthopaedic/dental implant applications,” presented at the Engineering Foundation Conference : Nanocomposite Materials: Design and Application, Anchorage, Alaska, 1999.
2. T. J. Webster (speaker), R. W. Siegel, and R. Bizios, “Design, synthesis, and evaluation of nanophase ceramics that simulate the grain size of physiological bone,” presented at NASA NanoSpace 2000: Advancing the Human Frontier, Biomimetic and Bioactive/Smart Materials Symposium, Houston, Texas, 2000.
3. T. J. Webster (speaker), R. W. Siegel, and R. Bizios, “Design and evaluation of nanophase ceramics for orthopaedic/dental implant applications,” presented at the Nanophase Materials Seminar Series, University of Washington, Seattle, WA, 2000.
4. T. J. Webster (speaker), R. W. Siegel, and R. Bizios, “Nanophase ceramics as the future orthopaedic/dental implant material,” presented at the 5th International Conference on Nanostructured Materials, Sendai, Japan, 2000.
5. T. J. Webster (speaker), “Nanophase ceramics as regenerative bone prostheses,” presented at the 20th Annual Meeting of the Society for Physical Regulation in Biology and Medicine, Charleston, SC, 2001.
6. T. J. Webster, R.W. Siegel (speaker), and R. Bizios, “Osteoblast behavior on nanophase ceramics,” presented at the 7th CCT in Faenza, Italy, 2001.
7. T. J. Webster, “Cell responses to nanostructured ceramics and polymers,” presented at the IEEE/EMBS Special Topic Conference on Molecular, Cellular, and Tissue Engineering, Genoa, Italy, 2002.
8. T. J. Webster, “Improved protein and cellular interactions on nanostructured surfaces,” presented at the Nanotech and Biotech Convergence 2002 Conference, Stamford, CT, 2002.
9. T.J. Webster, “Increased efficacy of bone and cartilage prostheses through the use of nanostructured composites,” presented at the Ninth International Conference on Composites Engineering, San Diego, CA, 2002.
10. T.J. Webster, “Cell behaviors on nanostructured surfaces,” presented at Thermec’2003, Madrid, Spain, 2003.
11. T.J. Webster, “How to engineering better orthopedic materials,” presented at Spire Biomedical Inc., Boston, MA, 2002.
12. T.J. Webster, “The importance of nanophase ceramics in bone implants,” presented at Angstrom Medica, Boston, MA, 2002.
13. T.J. Webster, “A collection of *in vitro* studies evaluating the efficacy of orthopedic materials that simulate the grain nanometer fiber dimension of bone,” presented for the Rita Schaffer Young Investigator Award, Biomedical Engineering Society, Houston, TX, 2002.
14. T.J. Webster, “Altered cell behaviors of nanostructured materials,” presented at the McGowan Institute for Regenerative Medicine, University of Pittsburgh, 2003.
15. T.J. Webster, “Bio-nanotechnology: Designing more effective hard tissue engineering materials,” presented at DePuy Orthopedics, Warsaw, IN, 2003.

16. T.J. Webster, “Carbon nanofibers in biological applications,” presented at West Virginia University, Morgantown, WV, 2003.
17. T.J. Webster, “Nanotechnology for more efficient bone biomaterials,” presented at the Program of Comparative Medicine, Spring Retreat, Turkey Run State Park, IN, 2003.
18. T.J. Webster, “Nanoparticulate metals: promising biocompatible materials for orthopedic applications,” presented at the Nanoparticles 2003 Conference, Boston, MA, 2003.
19. T.J. Webster, “Nanotechnology and tissue engineering: Better bone implants ?” presented as a Plenary Talk, 133rd TMS Annual Meeting & Exhibition, Charlotte, North Carolina, 2004.
20. T.J. Webster, “Nanotechnology for Bone and Titanium Integration,” presented as a keynote speaker at the International Association for Dental Research (IADR) conference, Hawaii, 2004.
21. T.J. Webster, “The use of nanotechnology for better tissue engineering materials,” presented at the University of Texas at San Antonio, San Antonio, TX, 2004.
22. T.J. Webster, “Nanobiotechnology: The use of nanophase materials for better bone tissue engineering materials,” presented at the Indiana University School of Dentistry, Indianapolis, IN, 2004.
23. T.J. Webster, “Nanotechnology for the creation of more bone for implant sites,” presented at the Indiana University School of Dentistry John Johnston Conference on Bone Reconstruction, Indianapolis, IN, 2004.
24. T.J. Webster, “Tutorial: Cell and protein interactions with nanophase materials,” presented at the NSTI (Nano Science and Technology Institute), Boston, MA, 2004.
25. V. Perla (speaker) and T.J. Webster, “Nanoparticulate selenium: A new choice biocompatible orthopedic implant material” presented at Particles 2004, Orlando, FL, 2004.
26. T.J. Webster, “Increased bone tissue regeneration on three-dimensional polymer scaffolds containing nanophase ceramics,” presented at the American Chemical Society, Anaheim, CA, 2004.
27. J.L. McKenzie*, R. Shi, T.J. Webster, “Carbon nanofibers as the next generation of neural implant material,” presented at the ASM Biomedical Materials, Minneapolis, MN, 2004.
28. T. J. Webster, “Nanomaterials for more efficient regeneration of tissue,” to be presented at the University of Wisconsin, Madison, WI, 2005.
29. T.J. Webster, “Bio-nanostructured materials,” presented at Drexel University, Philadelphia, PA, 2004.
30. H. Liu*, E.B. Slamovich, T.J. Webster, “Increased new bone synthesis on nanophase ceramic polymer composites,” presented at the ASME International Mechanical Engineering Congress, Anaheim, CA, 2004.
31. T.J. Webster, “How to design more efficient orthopedic implants using nanotechnology,” presented at Stryker Howmedica, Mahwah, NJ, 2004.
32. T.J. Webster, “Nanotechnology for the creation of better tissue engineering materials,” presented at Sofamor Danek Orthopedics, Memphis, TN, 2004.

33. T.J. Webster, “Cell and protein interactions with nanostructured materials,” presented at the University of Alberta, Edmonton, Alberta, CA, 2004.
34. T.J. Webster, “Nano-composites for bone applications,” presented at the Composites at Lake Louise Conference Series, Lake Louise, Alberta, CA, 2005.
35. T.J. Webster, “Nanotechnology for biomedical applications,” presented to the Purdue Alumni Club, St. Joseph, MI, 2005.
36. T.J. Webster, “Understanding cell responses to nanophase materials,” presented to Medtronic, Minneapolis, MN, 2004.
37. T.J. Webster, “Bio-nanotechnology for tissue engineering,” presented at Clemson University, Clemson, SC, 2004.
38. T.J. Webster, “Nanomedicine: Nonclinical and Clinical Implications,” presented as a keynote speaker at the FDA Advancing Public Health Through Innovative Science, Rockville, MD, 2005.
39. T.J. Webster, “Nanoparticle drug carriers,” presented at Eli Lilly, Indianapolis, IN, 2005.
40. T.J. Webster, “Nanophase materials for orthopedics: A tutorial,” presented at the NSTI conference, Davos, Switzerland, 2005.
41. T.J. Webster, “Carbon based nanomaterials for biological applications,” presented as a keynote speaker at the CARBON 2005 conference, Seoul, South Korea, 2005.
42. T.J. Webster, “Nanotechnology to increase tissue regeneration,” presented at Nanosys, Palo Alto, CA, 2005.
43. T.J. Webster, “Nanostructured polymers for tissue regeneration,” presented at the University of Washington Nanotechnology Seminar Series, Seattle, WA, 2005.
44. T.J. Webster, “Tutorial: Bio nano materials”, presented at the NSTI Nanotech 2005, Anaheim, CA, 2005.
45. T.J. Webster, “Nanomaterials and biology,” presented at Drexel University, 2005.
46. T.J. Webster, “Tutorial: The use of nanotechnology in medicine,” presented at the ASME Education Session, Anaheim, CA, 2005.
47. T.J. Webster, “Nanostructured ceramics for bone regeneration,” presented as a keynote speaker at the Annual ACerS Meetings, Baltimore, MD, 2005.
48. T.J. Webster, “Carbon nanotubes in biomedical applications,” presented at the Seoul National University, Seoul, South Korea, 2005.
49. T.J. Webster, “Carbon nanotubes in biomedical applications,” presented at Yonsei University, Seoul, South Korea, 2005.
50. T.J. Webster, “Nanotechnology to benefit tissue engineering,” presented in Bionanotechnology II: Plenary and Tutorial Session of the AIChE Annual Meeting, Cincinnati, OH, 2005.
51. T.J. Webster, “Nanotechnology for the development of functional integration of self-supporting tissues,” DARPA Roundtable on Functional Integration of Self-Supporting Tissues, Arlington, VA, 2005.
52. T.J. Webster, “Nanotechnology for developing better orthopedic implants,” presented at Smith and Nephew, Memphis, TN, 2005.
53. T.J. Webster, “Better bone growth on nanophase materials,” presented at Ethicon (part of Johnson and Johnson), Mahwah, NJ, 2005.

54. T.J. Webster, “Biomaterials and nanotechnology,” Tutorial given at NSTI, Arlington, VA, 2005.
55. T.J. Webster, “Nanotechnology for tissue regeneration,” Tutorial given to International Congress of Nanotechnology, San Francisco, CA, 2005.
56. T.J. Webster, “Better tissue engineering through the use of nanotechnology,” presented as a keynote lecture at the Biomedical Applications of Nano Technologies, CIMTEC, Sicily, Italy, 2006.
57. T.J. Webster, “Bionanotechnology for tissue engineering,” presented at the THERMEC’2006 Conference, Vancouver, Canada, 2006.
58. T.J. Webster, “Tissue engineering,” Discussion Leader presented at the Gordon Conference on Biomineralization,: Group Session Leader, New London, NH, 2006.
59. C. Chang*, T.J. Webster, H. Rack, “Cell formation enhancement on Ti-based orthopedic implant based materials,” presented at the annual TMS meeting, San Antonio, TX, 2006.
60. G. Balasundaram and T. J. Webster, “Biodegradable nano ceramics functionalized with peptides for the treatment of osteoporosis,” presented at ICCE-14, Boulder, CO, 2006.
61. T.J. Webster, “Nanotechnology for treating organ disorders,” presented at MIT, Boston, MA, 2006.
62. T.J. Webster, “Bionanotechnology for improving tissue engineering,” presented at the University of Florida, Gainesville, FL, 2006.
63. T.J. Webster, “Nanomedicine for increasing tissue growth,” presented at the Advances in Biomaterial Processing, MS&T 2006, Cincinnati, OH, 2006.
64. H. Liu* and T.J. Webster, “Ceramic/polymer nanocomposites for orthopedic applications,” ,” presented at the Nanocomposites -Their Science, Technology and Applications, MS&T 2006, Cincinnati, OH, 2006.
65. T.J. Webster, “Nanotechnology for treating damaged organs: A collection of in vivo studies,” presented at the e-MRS, Warsaw, Poland, 2006.
66. T.J. Webster, “Bionanotechnology for tissue regeneration,” Tutorial given to International Congress of Nanotechnology, San Francisco, CA, 2006 (Spring).
67. T.J. Webster, “The role nanotechnology can play in treating organ failure,” presented at the Kodak, Rochester, NY, 2006.
68. T.J. Webster, “Nanotechnology for biomedical applications,” presented at the European Science Foundation Tutorial, Stockholm, Sweden, 2006.
69. T.J. Webster, “Nanotechnology for cardiovascular and neural applications,” presented at the 2nd Annual American Association of Nanomedicine, Washington, D.C., 2006.
70. T.J. Webster, “Nanomedicine for promoting organ replacement,” presented at the American Chemical Society, San Francisco, CA 2006.
71. T.J. Webster, “Nanomedicine for treating failing organs,” presented at the Third Annual Minnesota Biomedical Nanotechnology Workshop, Keynote Talk, University of Minnesota, Minneapolis, MN, 2006.
72. T.J. Webster, “Tutorial: Nanomedicine”, presented at the NSTI Nanotech 2006, Boston, MA, 2006.

73. T.J. Webster, “Bionanotechnology for tissue regeneration,” Tutorial given to International Congress of Nanotechnology, San Francisco, CA, 2006 (Fall).
74. T.J. Webster, “Nanomedicine for organ replacement,” presented at the University of South Florida, Tampa, FL, 2006.
75. T.J. Webster, “Overview: Bio materials and tissues,” presented at the NSTI Nanotech 2006, Boston, MA, 2006.
76. T.J. Webster, “Nanotechnology for repairing tissues,” keynote presentation at International Conference on the Design of Biomaterials, BIND-06, IIT Kanpur, Kanpur, India, 2006.
77. T.J. Webster, “Nanotechnology for healing diseased tissue,” keynote presentation at the Seventh Annual Alberta Biomedical Engineering Conference, Banff, Alberta, Canada, 2006.
78. T.J. Webster, “Tutorial: Nanomedicine, from basics to applications,” Biomedical Engineering Society, Chicago, IL, 2006.
79. T.J. Webster, “Panel discussion: Where have we been and where are we going - Traditional approaches versus Nanotechnologies,” to be presented at the Society for Biomaterials Annual Meeting, Chicago, IL, 2007.
80. T.J. Webster, “Translational research in nanomedicine,” to be presented at the Society for Biomaterials Annual Meeting, Chicago, IL, 2007.
81. T.J. Webster, “Nanotechnology for biomedical applications,” to be presented at the European Science Foundation Tutorial, Davos, Switzerland, 2007.
82. T.J. Webster, “Nanotechnology for treating organ failure,” to be presented at the University of Massachusetts, Dartmouth, MA, 2007.
83. T.J. Webster, “Nanoparticle drug carriers,” to be presented at Eli Lilly, Indianapolis, IN, 2007.
84. T.J. Webster, “The next generation of tissue engineering,” to be presented at SASTRA, Chennai, India, 2007.
85. T.J. Webster, “Tutorial: Nanomedicine”, to be presented at the NSTI Nanotech 2007, Anaheim, CA, 2007.
86. T.J. Webster, “Nanotechnology and fracture repair,” to be presented at the Fracture Repair: Challenges and Opportunities American Academy of Orthopaedic Surgeons Research Symposium, Miami, 2007.
87. T.J. Webster, “Drug delivery from nanomaterials,” to be presented at the Symposium on Drug Delivery, Singapore, 2007.
88. T.J. Webster, “Carbon nanotubes for healing damaged neural tissue,” to be presented at the International Research Symposium, Yonsei University, Seoul, South Korea, 2007.
89. H. Liu* and T.J. Webster, “Nanostructured printed scaffolds for bone tissue engineering,” to be presented at the Bioengineering Conference, University of Massachusetts, Lowell, MA, 2007.
90. T.J. Webster, “Tutorial: Biomaterials and nanotechnology,” Video-teleconferenced course to Islamabad, Pakistan, 2007.
91. T.J. Webster, “Nanotechnology for improving dental implants,” keynote lecture to be presented at the World Dental Congress, Lake Louise, Alberta, Canada, 2008