August 2017

WILLIAM MONTGOMERY REICHERT, Ph.D.
Duke University
Department of Biomedical Engineering
Pratt School of Engineering
Duke University
Durham, NC 27708-0281

phone: (919) 660-5151
fax: (919) 684-4488
e-mail: reichert@duke.edu

Birthplace: San Francisco, CA

EDUCATION:

Gustavus Adolphus College, St. Peter, MN B.A. 1975 Biology & Chemistry
University of Michigan, Ann Arbor, MI M.S. 1980 Macromolecular Science & Engineering
University of Michigan, Ann Arbor, MI Ph.D. 1982 Macromolecular Science & Engineering
University of Utah, Salt Lake City, UT, Postdoctoral, 1982-1984, Bioengineering

PROFESSIONAL EXPERIENCE AND APPOINTMENTS (academic appointments in bold):

2017	Professor of Global Health, Duke University
2016	Theo C. Pilkington Professor of Biomedical Engineering, Duke University
2015	Program Chair, International Conference on Self-Healing Materials
2013	Member, Board of Directors, Biomedical Engineering Society
2013	Alan L. Kaganov Professor of Biomedical Engineering and Chemistry
2012	Distinguished Professor of Biomedical Engineering and Chemistry
2012	Chair, Programming Committee, Society for Biomaterials Annual Meeting
2010-2012	Associate Dean, Diversity and Ph.D. Education, Pratt School of Engineering
2009-2011	Inaugural Director, Grand Challenge Scholars Program, Duke University
2009-2014	Assistant Editor, Journal of Biomedical Materials Research
2009	Chair, Gordon Research Conference on Biomaterials & Tissue Engineering
2004-2014	Director, Center for Biomolecular & Tissue Engineering, Duke University
2004-2009	Member, ISD NIH Study Section
2003-2008	Member, Langmuir Editorial Advisory Board
2002-2004	Chair, Executive Committee of the Graduate Faculty, Duke University
2002-2003	Co-Director, Center for Biomolecular & Tissue Engineering, Duke University
2002-2014	Professor, Department of Chemistry, Duke University
2001	Co-chair, Programming Committee, Biomedical Engineering Society Annual Meeting
2000-2003	Director of Graduate Studies, Department of Biomedical Engineering, Duke University
1999-present	Professor, Department of Biomedical Engineering, Duke University
1999-2004	Member, BRT-B NIH Study Section
1995-2014	Member, Journal of Biomedical Materials Research Editorial Board
1992-1999	Associate Professor, Department of Biomedical Engineering, Duke University
1988-1991	Assistant Professor, Department of Biomedical Engineering, Duke University
1984-1988	Research Assistant Professor, Department of Bioengineering, University of Utah
1982-1984	Postdoctoral Fellow, Department of Bioengineering, University of Utah, SLC, UT
1978-1982	Graduate Student, Macromolecular Science & Engineering, University of Michigan
1976-1978	Respiratory Therapy Technician, St. Joseph Mercy Hospital, Ann Arbor, MI

HONORS:

2014-15	Fulbright Scholar
2012	Diversity Award, Biomedical Engineering Society
2011	Fellow, International Union of Societies for Biomaterials Science and Engineering
2010	Clemson Award for Basic Research, Society for Biomaterials
2010	Fellow, Biomedical Engineering Society
2008	Fellow, American Council on Education
2005	Dean's Award for Excellence in Mentoring, Duke University Graduate School
2005	Catalyst for Institutional Change Award, Quality Education for Minorities Network
2004	Pioneer Award, Samuel DuBois Cook Society
2000	Fellow, American Institute for Medical and Biological Engineering
1987-1990	Whitaker Fellow, University of Utah and Duke University

1985-1987	NIH New Investigator Award, University of Utah
1982-1984	NIH National Research Service Award, University of Utah
1980-1981	Uniroyal Predoctoral Fellow in Polymer Science, University of Michigan

PUBLICATIONS:

Citation indices	All	Since 2012
Citations	8867	3520
h-index	50	29
i10-index	118	66

Doctoral Dissertation:

"Poly(organo phosphazines): characterization and hemocompatibility", University of Michigan (1982)

Journal articles on engineering education

Part I. The Emergence of Degree-Granting Biomedical Engineering Programs in Sub-Saharan Africa. Brittany Ploss, William Reichert. Ann. Biomed. Eng. 2017 (on-line prepublication).

Part II: U.S. - Sub-Saharan Africa Educational Partnerships for Medical Device Design. Brittany Ploss, Tania S. Douglas, Matthew Glucksberg, Elsie Effah Kaufmann, Robert A. Malkin, Janet McGrath, Theresa Mkandawire, Maria Oden, Akinniyi Osuntoki, Andrew Rollins, Kathleen Sienko, Robert T. Ssekitoleko, William Reichert Ann. Biomed. Eng. 2017 (on-line prepublication)

Diversity and the Duke BME PhD Program: Then, Now and Moving Forward. Reichert WM. Ann Biomed Eng. 2013 Oct;41(10):2019-26. doi: 10.1007/s10439-013-0835-1. PMID: 23722933

Related citations A success story: recruiting and retaining underrepresented minority doctoral students in biomedical engineering. WM Reichert. Liberal Education 92:52-55 (2006)

Time tested survival skills for a publish or perish environment. WM Reichert, T Daniels-Race, EH Dowell. J Engin Edu 91: 133-137 (2002)

Graduate engineering education of under represented populations. WM Reichert and MA Absher. J Engin Edu, 87::257-267 (1998)

Taking another look at educating African American engineers: the importance of undergraduate retention. WM Reichert and MA Absher. J Engin Edu, 86: 241-253 (1997)

Journal articles listed by Pubmed:

Evaluation of late outgrowth endothelial progenitor cell and umbilical vein endothelial cell responses to thromboresistant collagen-mimetic hydrogels. Munoz-Pinto DJ, Erndt-Marino JD, Becerra-Bayona SM, Guiza-Arguello VR, Samavedi S, Malmut S, Reichert WM, Russell B, Höök M, Hahn MS. J Biomed Mater Res A. 2017 Jun;105(6):1712-1724. doi: 10.1002/jbm.a.36045. Epub 2017 Mar 29. PMID: 28218444

Human Vascular Microphysiological System for in vitro Drug Screening. Fernandez CE, Yen RW, Perez SM, Bedell HW, Povsic TJ, Reichert WM, Truskey GA. Sci Rep. 2016 Feb 18;6:21579. doi: 10.1038/srep21579. PMID: 26888719 Free PMC Article

Porous, Dexamethasone-loaded polyurethane coatings extend performance window of implantable glucose sensors in vivo. Vallejo-Heligon SG, Brown NL, Reichert WM, Klitzman B. Acta Biomater. 2016 Jan 30: 106-115. doi: 10.1016/j.actbio.2015.10.045. PMID: 26537203

Modeling the Physiological Factors Affecting Glucose Sensor Function in Vivo. Novak MT, Reichert WM. J Diabetes Sci Technol. 2015 Jun 30;9(5):993-8. doi: 10.1177/1932296815593094. PMID: 26134832

Bi-ligand surfaces with oriented and patterned protein for real-time tracking of cell migration. Vernekar VN, Wallace CS, Wu M, Chao JT, O'Connor SK, Raleigh A, Liu X, Haugh JM, Reichert WM. Colloids Surf B Biointerfaces. 2014 Nov 1;123:225-35. doi: 10.1016/j.colsurfb.2014.09.020. Epub 2014 Sep 19. PMID: 25262410

Macrophage embedded fibrin gels: an in vitro platform for assessing inflammation effects on implantable glucose sensors. Novak MT, Yuan F, Reichert WM. Biomaterials. 2014 Dec;35(36):9563-72. doi: 10.1016/j.biomaterials.2014.08.002. Epub 2014 Aug 28. PMID: 25175597

Characterization of porous, dexamethasone-releasing polyurethane coatings for glucose sensors. Vallejo-Heligon SG, Klitzman B, Reichert WM. Acta Biomater. 2014 Nov;10(11):4629-38. doi: 10.1016/j.actbio.2014.07.019. Epub 2014 Jul 25. PMID: 25065548

Extended fatigue life of a catalyst free self-healing acrylic bone cement using microencapsulated 2-octyl cyanoacrylate. Brochu AB, Matthys OB, Craig SL, Reichert WM. J Biomed Mater Res B Appl Biomater. 2015 Feb;103(2):305-12. doi: 10.1002/jbm.b.33199. Epub 2014 May 14. PMID: 24825796

Coagulation-induced resistance to fluid flow in small-diameter vascular grafts and graft mimics measured by purging pressure. Nichols MD, Choudhary R, Kodali S, Reichert WM. J Biomed Mater Res B Appl Biomater. 2013 Nov;101(8):1367-76. doi: 10.1002/jbm.b.32954. PMID: 24591220

Design considerations for an integrated microphysiological muscle tissue for drug and tissue toxicity testing. Truskey GA, Achneck HE, Bursac N, Chan H, Cheng CS, Fernandez C, Hong S, Jung Y, Koves T, Kraus WE, Leong K, Madden L, Reichert WM, Zhao X. Stem Cell Res Ther. 2013;4 Suppl 1:S10. doi: 10.1186/scrt371. Epub 2013 Dec 20. Review. PMID: 24565225

Biological and engineering design considerations for vascular tissue engineered blood vessels (TEBVs). Fernandez CE, Achneck HE, Reichert WM, Truskey GA. Curr Opin Chem Eng. 2014 Feb 1;3:83-90. PMID: 24511460 [PubMed]

Predicting glucose sensor behavior in blood using transport modeling: relative impacts of protein biofouling and cellular metabolic effects. Novak MT, Yuan F, Reichert WM. J Diabetes Sci Technol. 2013 Nov 1;7(6):1547-60. PMID: 24351181

Late-outgrowth endothelial progenitors from patients with coronary artery disease: Endothelialization of confluent stromal cell layers. Fernandez CE, Obi-Onuoha IC, Wallace CS, Satterwhite LL, Truskey GA, Reichert WM. Acta Biomater. 2014 Feb;10(2):893-900. doi: 10.1016/j.actbio.2013.10.004. Epub 2013 Oct 16. PMID: 24140604

Mechanical and cytotoxicity testing of acrylic bone cement embedded with microencapsulated 2-octyl cyanoacrylate. Brochu AB, Evans GA, Reichert WM. J Biomed Mater Res B Appl Biomater. 2013 Aug 1. doi: 10.1002/jbm.b.32994. [Epub ahead of print] PMID: 23913367

Coagulation-induced resistance to fluid flow in small-diameter vascular grafts and graft mimics measured by purging pressure. Nichols MD, Choudhary R, Kodali S, Reichert WM. J Biomed Mater Res B Appl Biomater. 2013 May 19. doi: 10.1002/jbmb.32954. [Epub ahead of print]

Silica-dispersed glucose oxidase for glucose sensing: in vitro testing in serum and blood and the effect of condensation pH. Harris JM, Lopez GP, Reichert WM. Sens Actuators B Chem. 2012 Nov;174:373-379. PMID: 23024461

Microencapsulation of 2-octylcyanoacrylate tissue adhesive for self-healing acrylic bone cement. Brochu AB, Chyan WJ, Reichert WM. J Biomed Mater Res B Appl Biomater. 2012 Oct;100B(7):1764-72. doi: 10.1002/jbm.b.32743. Epub 2012 Jul 18. PMID: 22807313

Patient-derived endothelial progenitor cells improve vascular graft patency in a rodent model. Stroncek JD, Ren LC, Klitzman B, Reichert WM. Acta Biomater. January 2012, 8(1): 201-208 PMID: 21945828

In Vitro Functional Testing of Endothelial Progenitor Cells That Overexpress Thrombomodulin. Stroncek JD, Xue Y, Haque N, Lawson JH, Reichert WM. Tissue Engineering Part A. August 2011, 17(15-16): 2091-2100. PMID: 21466416

Bioluminescence imaging of glucose in tissue surrounding polyurethane and glucose sensor implants. Prichard HL, Schroeder T, Reichert WM, Klitzman B. J Diabetes Sci Technol. 2010 Sep 1;4(5):1055-62.PMID: 20920425

Modeling the relative impact of capsular tissue effects on implanted glucose sensor time lag and signal attenuation. Novak MT, Yuan F, Reichert WM. Anal Bioanal Chem. 2010 Oct;398(4):1695-705. Epub 2010 Aug 28.PMID: 20803006

Soluble factor effects on glial cell reactivity at the surface of gel-coated microwires. Polikov VS, Hong JS, Reichert WM. J Neurosci Methods. 2010 Jul 15;190(2):180-7. Epub 2010 May 12.PMID: 20470825 [PubMed - in process]Related citations

Peptide interfacial biomaterials improve endothelial cell adhesion and spreading on synthetic polyglycolic acid materials. Huang X, Zauscher S, Klitzman B, Truskey GA, Reichert WM, Kenan DJ, Grinstaff MW. Ann Biomed Eng. 2010 Jun;38(6):1965-76. Epub 2010 Mar 19.PMID: 20300848 [PubMed - in process]Related citations

Intravital microscopy evaluation of angiogenesis and its effects on glucose sensor performance. Koschwanez HE, Reichert WM, Klitzman B. J Biomed Mater Res A. 2010 Jun 15;93(4):1348-57.PMID: 19911378 [PubMed - in process]Related citations

Percutaneous window chamber method for chronic intravital microscopy of sensor-tissue interactions. Koschwanez HE, Klitzman B, Reichert WM. J Diabetes Sci Technol. 2008 Nov;2(6):977-83.PMID: 19885287 [PubMed]Free PMC ArticleFree textRelated citations

Haptotactic gradients for directed cell migration: stimulation and inhibition using soluble factors. Smith JT, Kim DH, Reichert WM. Comb Chem High Throughput Screen. 2009 Jul;12(6):598-603.PMID: 19601757 [PubMed - indexed for MEDLINE]Related citations

Control protocol for robust in vitro glial scar formation around microwires: essential roles of bFGF and serum in gliosis. Polikov VS, Su EC, Ball MA, Hong JS, Reichert WM. J Neurosci Methods. 2009 Jul 30;181(2):170-7. Epub 2009 May 15.PMID: 19447137 [PubMed - indexed for MEDLINE]Free PMC ArticleFree textRelated citations

Comparison of endothelial cell phenotypic markers of late-outgrowth endothelial progenitor cells isolated from patients with coronary artery disease and healthy volunteers. Stroncek JD, Grant BS, Brown MA, Povsic TJ, Truskey GA, Reichert WM. Tissue Eng Part A. 2009 Nov;15(11):3473-86.PMID: 19435420 [PubMed - indexed for MEDLINE]Related citations

Active NIH Support as listed by RePORT

None.

<u>DOCTORAL STUDENT HISTORY</u> (primary advisor only)

1. Dr. Peter A. Suci, Department of Bioengineering, University of Utah (1988).
Dissertation: "Characterization of an interfacial fluorescence technique using Langmuir-Blodgett deposited thin films."
Current position: Research Professor, Montana State University.

2. Dr. Jeffery T. Ives, Department of Bioengineering, University of Utah (1990).
Dissertation: "Optical waveguide sensors: characterization of evanescent and scatter excitation."
Current position: Research Scientist, Molecular Tool, Inc., Baltimore, MD.

3. Dr. Shulei Zhao, Department of Biomedical Engineering, Duke University (1992).
Dissertation: "Experimental modeling study of avidin binding in lipid monolayers."
Current position: Research Scientist, Baylor College of Medicine.

4. Dr. Dwight S. Walker, Department of Biomedical Engineering, Duke University (1993).
Dissertation: "Conformational changes in avidin-biotin binding studied by infrared and Raman spectroscopy and atomic force microscopy."
Current position: Research Scientist, Glaxo-Smith-Kline.

5. Dr. Jeffery Burmiester, Department of Biomedical Engineering, Duke University (1996).
Dissertation topic: Studying endothelial cell adhesion on polymers using TIRF microscopy.
Current position: Professor, University of the Pacific

6. Dr. Adam Sharkawy, Department of Biomedical Engineering, Duke University (1997).
Dissertation topic: Engineering the wound healing tissue that encapsulates subqutaneous sensors.
Current position: VP for Cardiovascular R&D, Smith & Nephew, Boston, MA.

7. Dr. Amy Blawas, Department of Biomedical Engineering, Duke University (1998).
Dissertation topic: Protein patterning.
Current position: Consultant.

8. Dr. T. Edward Plowman, Department of Biomedical Engineering, Duke University (1999)
Dissertation topic: "Thin film waveguide immunosensors."
Current position: Consultant.

9. Dr. Viniak Bhat, Department of Biomedical Engineering, Duke University (2000)
Dissertation topic: Biotin-aividin medicated endothelial cell adhesion to biomaterials.
Current position: Research Scientist, Guidant, Corp.

10. Dr. Anshu Mathur, Department of Biomedical Engineering, Duke University (2001)
Dissertation topic: Mechanotransduction in endothelial cells.
Current position: Associate Professor, MD Anderson.

11. Dr. Natalie Wisniewski, Department of Biomedical Engineering, Duke University (2002)
Disseration topic: Characterizing in vivo sensor biofouling using microdialysis
Current position: Consultant, San Francisco, CA

12. Dr. Jason Smith, Department of Biomedical Engineering, Duke University (2005)
Dissertation topic: Endothelial cell migration on fibronectin gradients
Current position: Associate, Gore and Associates.

13. Dr. Lori Norton, Department of Biomedical Engineering, Duke University (2006)
Dissertation topic: Growth factor and steroid release from biosensor coatings
Current position: Associate, Gore and Associates

14. Dr. Charles Anamelechi, Department of Biomedical Engineering, Duke University (2008)
Endothelial cell growth on vascular graft materials
Current position: Research Scientist, FDA

15. Dr. Robert Schutte, Department of Biomedical Engineering, Duke University (2008)
In vivo collection of macrophage-derived cytokines in response to biomaterials
Current position: Research Scientist, Humacyte, Inc.

16. Dr. Xin Huang: Department of Biomedical Engineering, Duke University (2008)
Endothelial cell adhesion using phage display peptides
Current position: Consultant, McKinsey & Associates

17. Dr. Vadim Polikov, Department of Biomedical Engineering, Duke University (2009)
Dissertation topic: Glial scarring around neuroelectrodes
Current position: President, Astrum Solar, Annapolis Junction, MD

18. Dr. Heidi Koshwanez, Department of Biomedical Engineering, Duke University (2009)
Dissertation topic: In vivo assessment of sponge-encapsulated glucose sensors.
Current position: Postdoctoral fellow in medical psychology, University of Auckland

19. Dr. John Stroncek, Department of Biomedical Engineering, Duke University (2011)
Dissertation topic: Adhesion of autologous EPCs from patients with coronary heart disease.
Current position: Research engineer, Smith &Nephew, Boston, MA

20. Dr. Alice Brochu, Department of Biomedical Engineering, Duke University (2013)
Dissertation topic: Self-healing bone cement.
Current Position: Research scientist, Medtronic, San Francisco, CA

21. Dr. Matt Novak, Department of Biomedical Engineering, Duke University
Dissertation topic: In vivo assessment of drug-releasing glucose sensors.
Current position: Research scientist, Becton and Dickenson, Durham, NC

22. Dr. Suzana Vallejo-Heligon, Department of Biomedical Engineering, Duke University
Dissertation topic: In vitro release of drugs form implanted sensors.
Current position: Research Scientist, Quintiles, Durham, NC

23. Mr. Michael Nichols, Department of Biomedical Engineering, Duke University
Affinity isolation of EPCs from peripheral blood
Defended May 2017