

BIOGRAPHICAL SKETCH

Provide the following information for the sponsor (co-sponsor). **DO NOT EXCEED FOUR PAGES.**

NAME OF SPONSOR (CO-SPONSOR) Horst A. von Recum	POSITION TITLE Assistant Professor		
eRA COMMONS USER NAME HVONRECUM	Department of Biomedical Engineering Case Western Reserve University		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Rice University, Houston, TX	BA/BA	1992	Biochem. / Chem. Eng.
Rice University, Houston, TX	MChE	1993	Chemical Engineering
University of Utah, Salt Lake City, UT	PhD	1998	Bioengineering
MIT / Harvard Medical School	Postdoc	1998-2001	Chem. Eng. / Genetics
University of Washington	Postdoc	2001-2004	Hematology / Bioeng.

A. Positions and Honors.

Positions and Employment

1990-1991 Ford Foundation Honors Researcher, Dept. of Biochemistry, Rice, Houston, TX
1991-1992 Biosciences Honors Researcher, Dept. of Biochemistry, Rice, Houston, TX
1992-1993 Research Engineer, Mallinckrodt Medical, Angleton, TX
1992-1993 Graduate Research Fellow, Dept. of Chem. Eng., Rice University, Houston, TX
1993-1998 Graduate Research Fellow, Dept. of Bioengineering, University of Utah, Salt Lake City, UT
1998-2001 NIH Postdoctoral Fellow, MIT / Harvard Medical School, Boston, MA
2001-2003 NIH Hematology Fellow, University of Washington, Seattle, WA
2003-2004 Senior Fellow, Dept. of Bioengineering, University of Washington, Seattle, WA
2005-present Assistant Professor, Dept. of Biomedical Engineering, Case Western Reserve University,

Other Experience and Professional Memberships

1993-present Biomedical Engineering Society
2005-2007 BMES Session Chair
1992-present Society for Biomaterials
1994-present Controlled Release Society
2006-2008 SFB Program Chair for Cardiovascular Biomaterials Special Interest Group

Honors

1993-1995 Whitaker Foundation Bio-based Engineering Fellowship
1995-1996 Center for Biopolymers at Interfaces NIH Fellowship
1996 Controlled Release Society-Capsugel Young Investigator's Special Session Award
1996 NSF Japan Summer Institute Fellowship
1997 NIH/JSPS Short Term Travel Fellowship
1998-2001 NIH NRSA Postdoctoral Fellowship
2006 Carl F. Wittke Undergraduate Teaching Award Finalist
2007 Carl F. Wittke Undergraduate Teaching Award Nominee
2007 Srinivasa P. Gutti Memorial Engineering Teaching Award Nominee

B. Selected peer-reviewed publications (in chronological order).

1. "Growth factor release from thermally reversible substrates to improve growth and attachment", H.A. von Recum, Okano, T., Kim, S.W., J. Controlled Release, 55: 121-130 (1998).
2. "Retinal pigmented epithelium cultures on thermally responsive polymer porous substrates", H.A. von Recum, A. Kikuchi, M. Okuhara, Y. Sakurai, T. Okano, and S.W. Kim, J. Biomater. Sci. Polym. Ed., 9: 1241-1254 (1998).
3. "Growth factors and matrix molecules preserve cell function on thermally responsive culture surfaces," H.

- A. von Recum, A. Kikuchi, M. Yamato, Y. Sakurai, T. Okano, and S.W. Kim, *Tissue Engineering*, 5: 251-265 (1999).
4. "Retinoid metabolism maintained in retinal pigmented epithelium culture," H.A. von Recum, T. Okano, S.W. Kim, and P.S. Bernstein *Exp. Eye Res.*, 69: 97-107 (1999).
 5. "Novel manipulation technology of cell sheets for tissue engineering," M. Yamato, A. Kikuchi, A. Kohsaka, T. Terasaki, H.A. von Recum, S.W. Kim, Y. Sakurai, T. Okano *Tissue Engineering for Therapeutic Use*, Y. Ikada, T. Okano eds., Elsevier, New York, 1999.
 6. "Rapid ocular angiogenic control via naked DNA delivery to cornea," S.U. Stechshulte, A. M. Jousen, H.A. von Recum, V. Poulaki, Y. Moromizato, J. Yuan, R.J. D'Amato, C. Kuo, A.P. Adamis, *Invest. Ophthalmol. Vis. Sci.*, 42: 1975-1979 (2001).
 7. "Comparative evaluation of antitumor activity of antiangiogenic proteins delivered by gene transfer," C.J. Kuo, F. Farnebo, E.Y. Yu, R. Cristofferson, R.A. Swearingen, R. Carter, H.A. von Recum, J. Yuan, J. Kamihara, E. Flynn, R. D'Amato, J. Folkman, R.C. Mulligan, *Proc. Natl. Acad. Sci. USA*, 98: 4605-4610 (2001).
 8. "Biocompatibility and biofouling of MEMS drug delivery devices," G. Voskerician, M.S. Shive, R.S. Shawgo, H. von Recum, J.M. Anderson, M.J. Cima, R. Langer, *Biomaterials*, 24: 1959-1967 (2003).
 9. "Heterogeneity among large animal models of in vivo selection," R.E. Richard, R.A. De Claro, J. Yan, S. Chien, H.A. von Recum, J. Morris, H.-P. Kiem, D.C. Dalgarno, S. Heimfeld, T. Clackson, R. Andrews, C.A. Blau, *Molecular Therapy*, 10: 730-740 (2004).
 10. "Gold Nanoparticles as a Versatile Platform for Optimizing Physicochemical Parameters for Targeted Drug Delivery," J.M. Bergen*, H.A. von Recum*, T.T. Goodman, A.P. Massey, S.H. Pun, *Macromolecular Biosciences*, 6(7): 506-516 (2006).
 11. "Supramolecular Assembly of Cyclodextrin-Based Nanoparticles on Solid Surfaces for Gene Delivery", I.-K. Park, H.A. von Recum, S. Jiang, S.H. Pun, *Langmuir* 22(20):8478-8484 (2006).
 12. "Environmental Cues to Guide Stem Cell Fate Decision for Tissue Engineering Applications", E. Alsberg, H.A. von Recum*, M.J. Mahoney*, *Expert Opin. Biol. Ther.* 6(9):847-866 (2006).

* contributed equally to this work

C. Research Support

Clinical Tissue Engineering Center (Muschler, Caplan) BRTT "Molecular Surface Design for Tissue Engineered Hydrogels" Project PI: Horst A. von Recum	01/07/05-01/07/08 \$150,000 direct costs 25%
The Wallace H. Coulter Translational Partners Grant Program (Crago, Peckham) "Ladder-type Hydrogels for Adjuvant Release in HIV Therapy" Project-PI's: Horst A. von Recum, Michael Lederman, Scott Sieg	01/04/06-01/04/07 \$36,000 direct costs 10%
Case Presidential Research Initiative "Degradable Cross-linked Hydrogels for Vaccine Antigen Release" Co-PI's: Horst A. von Recum, Scott Sieg	01/05/06-01/04/08 \$80,000 direct costs 10%
National Brain Tumor Foundation (Alsberg) "Treatment of Malignant Brain Tumors via Controlled Local Gene Silencing" Co-I: Horst A. von Recum	05/01/06-05/01/07 \$25,000 direct costs 5%
Coulter-Case Translation and Innovations Partnership Award (Crago, Peckham) "Antibiotic Delivery from Hernia Repair Meshes" Project PI's: Horst A. von Recum, Michael Rosen	04/01/07-03/31/08 \$60,000 direct costs 10%
American Heart Association Beginning Grant-in-Aid "Molecular Imaging to Evaluate the Function of Implanted Endothelial Stem Cells in Cardiac Repair" PI: Horst A. von Recum	07/01/07-06/30/09 \$110,000 direct costs 5.5%