

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME David J. Beebe	POSITION TITLE Assoc. Prof. of Biomedical Engineering		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Wisconsin, Madison, WI	B.S.	1987	Electrical Eng.
University of Wisconsin, Madison, WI	M.S.	1990	Electrical Eng.
University of Wisconsin, Madison, WI	Ph.D.	1994	Elec.Eng. & Biotech.

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

2005-present	Professor of Biomedical Engineering Member-UW Comprehensive Cancer Center, Biotechnology Training Program, Genomic Sciences Training Program, Computation and Informatics in Biology and Medicine Training Program, Stem Cell Training Program University of Wisconsin-Madison, Madison, WI
2005-present	Co-founder & Chief Scientific Officer, Salus Discovery LLC
2005-present	Co-founder, Ratio Inc.
2001-2005	Associate Professor of Biomedical Engineering University of Wisconsin-Madison, Madison, WI
2000-2001	Assistant Professor of Biomedical Engineering University of Wisconsin-Madison, Madison, WI
2000-present	Co-founder and Manager, Vitae, LLC (formerly Micro Agri Systems), Madison, WI
1996-1999	Assistant Professor, Electrical and Computer Engineering University of Illinois at Urbana-Champaign, Urbana, IL
1994-1996	Assistant Professor, Department of Biomedical Engineering Louisiana Tech University, Ruston, LA

B. Selected (from total of 82) peer-reviewed publications (in chronological order). Abhyankar, V. V., M. A. Lokuta, A. Huttenlocher and D. J. Beebe, "Characterization of a membrane based gradient generation system for use in cell-signaling studies," *Lab on a Chip*, in press, 2006.

Paguirigan, A and D. J. Beebe, "Gelatin based microfluidic devices for cell culture," *Lab on a Chip*, in press, 2006.

Atencia, J. and D. J. Beebe, "Microcirculatory systems (part 2): Steady flow generation," *Lab on a Chip*, in press, 2006.

Atencia, J. and D. J. Beebe, "Microcirculatory systems (part 1): The capillary insert," *Lab on a Chip*, in press, 2006.

Agarwal, A. K., S. S. Sridharamurthy, D. J. Beebe and H. R. Jiang (2005). "Programmable autonomous micromixers and micropumps." *Journal of Microelectromechanical Systems* 14(6): 1409-1421.

Yu, H. M., I. Meyvantsson, I. A. Shkel and D. J. Beebe (2005). "Diffusion dependent cell behavior in microenvironments." *Lab on a Chip* 5(10): 1089-1095.

Atencia, J. and D. J. Beebe (2005). "Controlled microfluidic interfaces." *Nature* 437: 648-655.

Bassetti, M. J., A. N. Chatterjee, N. R. Aluru and D. J. Beebe (2005). "Development and modeling of electrically triggered hydrogels for microfluidic applications." *Journal of Microelectromechanical Systems* 14(5): 1198-1207.

Clark, S. G., K. Haubert, D. J. Beebe, C. E. Ferguson and M. B. Wheeler (2005). "Reduction of

polyspermic penetration using biomimetic microfluidic technology during in vitro fertilization." *Lab Chip* 5(11): 1229-32.

Zeringue, H. C., M. B. Wheeler and D. J. Beebe, "A Microfluidic Method for Removal of the Zona Pellucida from Mammalian Embryos," *Lab on a Chip*, vol. 5, pp. 108-110, 2005.

Zeringue, H. C., J. J. Rutledge and D. J. Beebe, "Early Mammalian Embryo Development Depends on Cumulus Removal Technique," *Lab on a Chip*, vol. 5, pp. 86-90, 2005.

Walker, G. M., H. Zeringue and D. J. Beebe, "Microenvironment design considerations for cellular scale studies," *Lab. Chip.*, vol. 4, pp. 91-97, 2004.

Moorthy, J., G. A. Mensing, S. Mohanty, D. T. Eddington, D. Kim, J. Bassett, W. Tepp, E. Johnson and D. J. Beebe, "Microfluidic Tectonics Platform: A Colorimetric, Disposable BoTox ELISA System," *Electrophoresis*, vol. 25, pp. 1705-1713, 2004.

Eddington, D. T. and D. J. Beebe, "Flow control with hydrogels," *Adv Drug Delivery Reviews*, vol. 56, pp. 199-210, 2004.

Zhao, B., N. O. Viernes, J. S. Moore and D. J. Beebe, "Control and applications of immiscible liquids in microchannels," *J Am Chem Soc*, vol. 124, pp. 5284-5, 2002.

Zhao, B., J. S. Moore and D. J. Beebe, "Principles of surface-directed liquid flow in microfluidic channels," *Anal Chem*, vol. 74, pp. 4259-68, 2002.

Walker, G. M., M. S. Ozers and D. J. Beebe, "Insect cell culture in microfluidic channels," *Biomedical Microdevices*, vol. 4, pp. 161-166, 2002.

Walker, G. M. and D. J. Beebe, "A passive pumping method for microfluidic devices," *Lab on a Chip*, vol. 2, pp. 131-134, 2002.

Walker, G. M. and D. J. Beebe, "An evaporation-based microfluidic sample concentration method," *Lab on a Chip*, vol. 2, pp. 57-61, 2002.

Khoury, C., G. A. Mensing and D. J. Beebe, "Ultra rapid prototyping of microfluidic systems using liquid phase photopolymerization," *Lab on a Chip*, vol. 2, pp. 50-55, 2002.

Beebe, D. J., G. A. Mensing and G. M. Walker, "Physics and applications of microfluidics in biology," *Annu Rev Biomed Eng*, vol. 4, pp. 261-86, 2002.

Beebe, D. J., J. S. Moore, Q. Yu, R. H. Liu, M. L. Kraft, B. H. Jo and C. Devadoss, "Microfluidic tectonics: a comprehensive construction platform for microfluidic systems," *Proc Natl Acad Sci U S A*, vol. 97, pp. 13488-93, 2000.

Beebe, D. J., J. S. Moore, J. M. Bauer, Q. Yu, R. H. Liu, C. Devadoss and B. H. Jo, "Functional hydrogel structures for autonomous flow control inside microfluidic channels," *Nature*, vol. 404, pp. 588-90, 2000.

Zhao, B., J. S. Moore and D. J. Beebe, "Surface-directed liquid flow inside microchannels," *Science*, vol. 291, pp. 1023-6, 2001.

Editorial Responsibilities

Editorial Board, *Lab on a Chip*, Royal Society of Chemistry, 2005 – present

Beebe, D. J. and A. Folch (Special Issue Editors), "The Science and Applications of Cell Biology in Microsystems," *Lab on a Chip*, vol. 5, pp. 2-3, 2005.

Editorial board of J. G. Webster (ed.), *Encyclopedia of medical devices and instrumentation*, New York: John Wiley & Sons, 2nd ed. (in preparation).

Associate Editor, *Journal of Biomechanical Engineering*, ASME, F. Yin (Editor), 2003-2005

Subject Editor, *Journal of Microelectromechanical Systems*, ASME/IEEE, R. Muller (Editor-in-Chief), 2003-2004.

Honors

- Fellow, Royal Society of Chemistry
- IEEE-EMBS Distinguished Lecturer, 2004-present
- 2003 Romnes Award
- 2001 IEEE EMBS Early Career Achievement Award for "Significant contributions to the field of microelectromechanical systems (MEMS) and their applications to medicine and biology".