

**Gisela Lin, Ph.D.**  
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**(A) Professional Preparation**

University of California, Berkeley	Electrical Engineering	B.S., 1990
University of California, Berkeley	Material Science Engineering	B.S., 1990
University of California, Santa Barbara	Electrical Engineering	M.S., 1992
University of California, Los Angeles	Electrical Engineering	Ph.D., 1998
University of California, Irvine	Biomedical Engineering	Post-Doc, 2003 – 2005

**(B) Appointments**

2006 – present: Center Development Manager, Micro/Nano Fluidics Fundamentals Focus (MF3) Center, University of California, Irvine, CA  
2002–2003: MEMS Technology Consultant, San Diego, CA  
2000–2002: Technical Sales Engineer, Standard MEMS Inc., Los Angeles, CA  
1998–2000: Member of Technical Staff, Jet Propulsion Laboratory, Pasadena, CA.

**(C) Publications**

*Five Most Relevant:*

1. G. Lin and A.P. Lee, "Microfluidics: An Emerging Technology for Food and Health Science," *Annals of the New York Academy of Sciences*, vol. 1190, pp. 186 – 192, March 2010.
2. A.P. Lee and G. Lin, "Chapter 11: Current and Future Trends in Microfluidics within Biotechnology Research," in *Microfluidics for Biological Applications*, Wei-Cheng Tian and Erin Finehout, editors, Springer US, New York, September 2008.
3. G. Lin and R. A. Lawton, "3D MEMS in Standard Processes: Fabrication, Quality Assurance, and Novel Measurement Microstructures," *Proceedings Measurement Science Conference 2000*, Anaheim, California, pp. 315 - 325, January 20 - 21, 2000.
4. G. Lin, W. C. Tang, "Wearable Sensor Patches for Physiological Monitoring," *NASA Tech Briefs*, Vol. 24, No. 2, p. 54, February 2000.
5. M. Pottenger, B. Eyre, E. Kruglick, G. Lin, "MEMS: Maturing of a New Technology," *Solid State Technology*, vol. 40, no. 9, pp. 89 - 96, September 1997.

*Five Significant:*

1. Y.-H. Wen, G. Y. Yang, V. J. Bailey, G. Lin, W. C. Tang, and J. H. Keyak, "Mechanically robust micro-fabricated strain gauges for use on bones," *Proc. 3rd Annual Int. IEEE EMBS Special Topic Conf. Microtechnologies in Med. and Biol.*, Kahuku, Oahu, HI, May 12 – 15, 2005, pp. 302 – 304.
2. G. Lin, V. C. Wu, R. E. Hainley, L. A. Flanagan, E. S. Monuki, W. C. Tang, "Development of a MEMS Microsystem to Study the Effect of Mechanical Tension on Cerebral Cortex Neurogenesis," *26th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, San Francisco, California, pp. 2607 – 2610, September 1 - 5, 2004.
3. L. M. Phinney, G. Lin, J. Wellman, A. Garcia, "Surface Roughness Measurements of Micromachined Polycrystalline Silicon Films," *Journal of Micromechanics and Microengineering*, vol. 14, no. 7, pp. 927 – 931, 2004.
4. G. Lin, R. E. Palmer, K. S. J. Pister, K. P. Roos, "Miniature Heart Cell Force Transducer System Implemented in MEMS Technology," *IEEE Transactions on Biomedical Engineering*, Vol. 48, No. 9, pp. 996 – 1006, September 2001.
5. G. Lin, K. S. J. Pister, K. P. Roos, "Surface Micromachined Polysilicon Heart Cell Force Transducer," *Journal of Microelectromechanical Systems*, vol. 9, no. 1, pp. 9 - 17, March 2000.

#### **(D) Synergistic Activities**

1. As the Center Development Manager for the MF3 Center headquartered at UCI, Dr. Lin manages all center activities (both technical and administrative). Duties include: (1) Monitoring progress on center core research via regular meetings with faculty research teams and defining/maintaining lists of deliverables and project schedules, (2) Disseminating information to the entire center via secure website and email. Dr. Lin developed and oversees maintenance of a database on the secure website which includes past meeting materials, progress reports, references, etc. (3) Organizing semiannual center “all-hands” meetings to facilitate faculty/industry/govt/student collaborations and interactions as well as update everyone on research progress and new developments within the center (such as new research tools made available for center use, new collaborative efforts initiated between center members, funding updates/opportunities, updated administrative protocols, etc.), (4) Primary interface with companies and legal entities in terms of corporate recruiting, processing legal documents pertaining to membership and corporate-funded research.
2. While a post-graduate researcher at UCI, Dr. Lin built up the lab infrastructure, as well as mentored biomedical engineering rotational graduate students. She initiated 4 new research collaborations with the School of Medicine and School of Biological Sciences. She developed a summer research program for high school students. Students performed hands-on research in the laboratory (under Dr. Lin’s guidance) geared towards manipulating stem cell differentiation via a novel mechanical stimulus. Library research and visits to other labs in the Biomedical Engineering Department and UCI School of Medicine were also included in the program. Over half the students were women, and the feedback from the students was very positive. All went on to top tier colleges to pursue scientific disciplines.
3. While a technical sales engineer at Standard MEMS, Inc, Dr. Lin developed a short course in biomedical MEMS (including a section on microfluidics) for potential customers. At the time MEMS was a relatively new technology. The short course was not only an effective sales tool but also a good opportunity to educate medical professionals on the emerging technology.
4. Service positions/activities include: (1) Reviewer of manuscripts submitted to *Journal of Microelectromechanical Systems* (2003 – present), *IEEE Sensors Journal* (2003 – present), *Journal of Micromechanics and Microengineering* (2005) (2) Technical Program Committee member and “Biophysical Interfaces” session chair for *Transducers 2003*, Boston, Massachusetts, June 8 – 12, 2003. (3) Co-organizer of DARPA-sponsored “Analytical MEMS Workshop” held in Bloomington, MN, June 24, 2008. (4) Organized and taught portions of the MEMS Technology Seminars in BioMEMS for the American Society of Mechanical Engineers (ASME), 2001 – 2004.
5. While a graduate student at UCLA, Dr. Lin had several undergraduate summer interns from other colleges assisting in her thesis research. The research, sponsored by the American Heart Association, won 3<sup>rd</sup> prize, Best Basic Science Presentation, Laverna Titus Young Investigators Forum held at Cedars-Sinai Medical Center, Los Angeles, California, May 21, 1996.

#### **(E) Collaborators and Other Affiliations**

##### *Collaborators and Co-editors since 2003:*

Mark Bachman (UCI), Debjyoti Banerjee (Texas A&M University), David Beebe (University of Wisconsin), Jim Brody (UCI), Robert Corn (UCI), Tianhong Cui (U. Minnesota), Don DeVoe (U. Maryland), Hugh Fan (U. Florida), Lisa Flanagan (UCI), Elliot Hui (UCI), Noo-Li Jeon (UCI), Joyce Keyak (UCI), Michelle Khine (UCI), Abraham Lee (UCI), Luke Lee (UC Berkeley), Ralph Liedert (VTT Technical Research Center Finland), Liwei Lin (UC Berkeley), Marc Madou (UCI), Edwin Monuki (UCI), Betty Olson (UCI), Ian Papautsky (U. Cincinnati), Bruce Peterson (Douglas Machine), Leslie Phinney (Sandia National Labs), Juan Santiago (Stanford University), Ivan Soltesz (UCI), William Tang (UCI), Jeff Wang (Johns Hopkins University), Joanne Wellman (Jet Propulsion Laboratory), Steven Wereley (Purdue University), George Whitesides (Harvard)

*Graduate Advisor:* Dr. Kristofer S. J. Pister, University of California, Berkeley

*Postdoctoral Sponsor:* Dr. William C. Tang, University of California, Irvine

*Thesis Advisor and Postgraduate-Scholar Sponsor:* none