

BIOGRAPHICAL SKETCH

Liwei Lin

Professor of Mechanical Engineering, University of California, Berkeley

Education

- M.S.** 1991, Mechanical Engineering, University of California, Berkeley, CA.
Ph.D. 1993, Mechanical Engineering, University of California, Berkeley, CA.

Professional Experience

- 1. Professor** (7/04 – present)
Associate Professor (7/01 – 6/04)
Assistant Professor, University of California, Berkeley (8/99 – 6/01)
Co-Director, Berkeley Sensor and Actuator Center, (8/99 – present)
Research: Current research projects include
 - MEMS Post-Packaging by Localized Heating (NSF-CAREER)
 - MEMS Strain Sensors for Roller Bearings (ARO)
 - Bacterial-Based Micro Fuel Cells (NSF)**Teaching:** Teaching activities include
 - Graduated 8 Ph.D. students and 8 M.S. students
 - Supervising 8 Ph.D. students
 - Developed a new graduate & Undergraduate courses on *Microelectromechanical Systems***Service:** Current Professional services include
 - Chair, Executive Committee, MEMS sub-division, ASME
 - Editor, IEEE/ASME Journal of MEMS
 - Editor, Sensors and Actuators
- 2. Assistant Professor, University of Michigan**, Ann Arbor, MI, (9/96 – 8/99)
- 3. Associate Professor, National Taiwan University**, Taipei, Taiwan, (8/94-8/96)
- 4. Senior Research Scientist:** BEI Electronics Inc., Fremont, CA, (11/93-7/94)

Publications Related to the Project

1. Ongi Englander, Dane Christensen, and Liwei Lin, "Local Synthesis of Silicon Nanowires and Carbon Nanotubes on Microbridges," *Applied Physics Letters*, Vol. 82, No. 26, pp. 4797-4799, June 2003.
2. D. Christensen, O. Englander, J. Kim, and L. Lin, "Room Temperature Local Synthesis of Carbon Nanotubes," *IEEE-Nano 2003, Technical Digest*, pp.581-584, San Francisco, August 2003.
3. M. Chau, O. Englander and L. Lin, "Nanostructure-based Nanoactuator," *IEEE Nano 2003, Technical Digest*, pp. 879-880, San Francisco, CA, August, 2003.
4. O. Englander, D. Christensen, M. Chiao, J.B. Kim and L. Lin, "Localized Synthesis of Silicon Nanowires," *12th Int. Conference on Solid State Sensors and Actuators, Transducers'03*, Technical Digest, pp. 186-189, Boston, June 2003.
5. Liwei Lin, A.P. Pisano and V.P. Carey, "Thermal Bubble Formations on Polysilicon Micro Resistors," *ASME Journal of Heat Transfer*, Vol. 120, pp.735-742, Sep. 1998.

Other Significant Publications

1. Y.T. Cheng, Liwei Lin and K. Najafi, "A Hermetic Galss-Silicon Package Formed Using Localized Aluminum/Silicon-Glass Bonding," *IEEE/ASME Journal of Microelectromechanical Systems*, Vol. 10, No. 3, pp. 392-399, 2001.

2. Jr-Hung Tsai and Liwei Lin, "A Thermal-Bubble-Actuated Micronozzle-Diffuser Pump," *IEEE/ASME Journal of Microelectromechanical Systems*, Vol. 11, pp. 665-671, 2002.
3. Liwei Lin, R.T. Howe and A.P. Pisano, "Microelectromechanical Filters for Signal Processing," *IEEE/ASME Journal of Microelectromechanical Systems*, Vol. 7, pp. 286-294, Sep. 1998.
4. Liwei Lin, A.P. Pisano and R.T. Howe, "A Micro Strain Gauge with Mechanical Amplifier," *IEEE/ASME Journal of Microelectromechanical Systems*, Vol. 6, pp. 313-321, Dec. 1997.
5. Liwei Lin, "Selective Encapsulations of MEMS: Micro Channels, Needles, Resonators and Microelectromechanical Filters", Ph.D. Dissertation, Mechanical Engineering Department, University of California, Berkeley, 1993.

Patents

1. Liwei Lin, C. T.-C. Nguyen, R.T. How and A.P. Pisano, "Microelectromechanical Signal Processors," US patent, No. 5,455,547, 1995.
2. Liwei Lin, C. T.-C. Nguyen, R.T. How and A.P. Pisano, "Microelectromechanical Signal Processors," US patent, No. 5,537,083, 1996.
3. Liwei Lin, C. T.-C. Nguyen, R.T. How and A.P. Pisano, "Microelectromechanical Signal Processors Fabrication," US patent, No. 5,589,082, 1997.
4. Liwei Lin and A.P. Pisano, "Silicon-Processed Microneedles," US patent, No. 5,591,139, 1997.
5. Weijie Yun, Liwei Lin and Tariq Haniff, "Method of Making a Surface Micro-machined Silicon Pressure Sensor," US patent, No. 5,759,870, 1998.
6. Liwei Lin and A. P. Pisano, "IC-Processed Microneedles", US patent, No. 5,855,801, Jan. 5, 1999.
7. Liwei Lin, Yu-Ting Cheng, Khalil Najafi and Kensall Wise, "Process for Making Microstructures and Microstructures Made Thereby," *US patent*, No. 6,232,150, May 15, 2001.
8. Liwei Lin, Yu-Ting Cheng, Khalil Najafi and Kensall Wise, "Microstructures," *US patent*, No. 6,436,853 August 20, 2002.

Lists of Collaborators in the Past 5 Years

1. Profs. B. Boser, C. Grigoropoulos, R. Howe, L. Lee, D. Liepmann, R. Maboudian, A. Majumdar, R. Muller, A. Pisano, K. Pister, R. White - University of California, Berkeley, CA.
2. Prof. S. Shen, University of Washington, Mechanical Engineering Department.
3. Prof. N. Tien, University of California at Davis.
4. Dr. E. Garcia, Sandia National Laboratory.
5. Drs. R. Ku and David Kuo Seagate Technology, Inc.
6. Dr. R. Panos, ALZA Inc.
7. Dr. S. Mao, Lawrence Berkeley National Laboratory
8. Prof. J.C. Chiao, University of Texas, Arlington

List of Graduate Students

Drs. Y.T. Cheng, L. W. Pan, D. Joachim, J.H. Tsai, Y.C. Su, M. Chiao, J.B. Kim, K.S. Teh. PhD students: A. Cao, D. Christensen, O. Englander, KB Lam, S. Li, L. Luo, F. Sammoura, B. Sosnowchik.

Graduate Advisor

A.P. Pisano (ME Dept) & R.T. Howe (EECS Dept), University of California, Berkeley