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Associate Professor (with tenure)

Department of Electrical and Computer Engineering

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EDUCATION

- 1999 Ph.D. in Bioengineering
University of Utah, Salt Lake City, Utah
Dissertation: Metallic Microinstrumentation for Biomedical Fluid Applications
Dissertation Chair: Dr. A. Bruno Frazier
- 1995 B.S. in Biomedical Engineering
Boston University, Boston, Massachusetts
Research Project: High Performance Capillary Electrophoresis
Project Advisor: Dr. Cassandra Smith

PROFESSIONAL EXPERIENCE

- 2008 - present Director, University of Cincinnati Center for Micro/Nano Fabrication
- 2007-2009 Master Engineering Educator, College of Engineering, University of Cincinnati, OH
- 2006 - present Associate Professor (with tenure), Department of Electrical and Computer Engineering, University of Cincinnati, OH
- 2002 - present Adjunct Assistant Professor, Department of Biomedical Engineering University of Cincinnati, OH
- 2000 - 2006 Assistant Professor, Department of Electrical and Computer Engineering & Computer Science, University of Cincinnati, OH
- 1995 - 1999 Research Assistant, Department of Bioengineering, University of Utah, UT

AWARDS AND HONORS

Recognition of my work

- 2009 Distinguished Engineering Researcher, College of Engineering, University of Cincinnati
- 2007 Master Engineering Educator, College of Engineering, University of Cincinnati
- 2007 Ohio Bioscience 30 in Their 30s
- 2007 Top ten most frequently downloaded SPIE Newsroom article, *Top Notch Research: September 2007 Edition*, <http://spie.org/x15553.xml>.
- 2007 Excellence and Service Award, International Society for Optical Engineering (SPIE)
- 2006 William E. Restenmeyer Teaching Excellence Award, University of Cincinnati (\$1,500)
- 2006 Work featured on the cover of the *Microfluidic Techniques: Reviews and Protocols*, S. Minter, ed., Totowa, NJ: Humana Press., 2006.
- 2005 Excellence and Service Award, International Society for Optical Engineering (SPIE)
- 2005 Work featured on the cover of the *Ohio Engineer Magazine*, vol. 54, no. 2, August, 2005.
- 2005 Invited participant for the NASA Environmental Sentinels 2005 Workshop, NASA Johnson Space Center, Houston, TX, June 1-2, 2005.
- 2004 William H. Middendorf Research Excellence Award, University of Cincinnati (\$1,500)
- 2004 Invited participant for the National Science Foundation (NSF) Environmental Observatories Workshop, Seattle, WA, November 30-December 1, 2004.
- 2004 Nominated: Future of Learning Award, University of Cincinnati
- 2004 Nominated: William E. Restenmeyer Teaching Excellence Award, University of Cincinnati
- 2003 Professor of the Quarter Award, College of Engineering, University of Cincinnati, Spring 2003
- 2003 Nominated: Professor of the Quarter Award, College of Engineering, University of Cincinnati, Winter 2003
- 2002 William E. Restenmeyer Teaching Excellence Award, University of Cincinnati (\$1,500)
- 2002 Invited participant for the SENSORS for Biological Research and Medicine, NIH BEACON 2002 Conference, Bethesda, MD, June 24-25, 2002.
- 2001- Named as “one of the faculty to make the most significant, positive impact” on students, Electrical and Computer Engineering Department, University of Cincinnati
- 1998 Graduate Research Fellowship, University of Utah (\$10,500)
- 1998 DARPA MEMS Travel Award, University of Utah (\$1,400)
- 1998 Invited participant for the Commercialization of Microsystems '98 sponsored by the Semiconductor Equipment and Materials International (SEMI), San Diego, CA, September 13-17, 1998.
- 1996 Outstanding Graduate Poster Presentation, Department of Bioengineering, University of Utah (\$50)

Recognition in press

- 2007 “Thirty in their 30s: young bioscience professionals make their mark in Ohio,” *Accelerating Excellence*, BioOhio, Spring/Summer 2007
- 2007 “Ohio Bioscience Magazine Delivers Honors to Young UC Faculty,” *UC Currents*, June 6, 2007, by Carey Hoffman (www.uc.edu/news)
- 2007 “UC researchers have cause to celebrate,” *Update from the Office of Research*, University of Cincinnati, June 2007, by Sandra Degen (research.uc.edu)
- 2006 “Research Brief 133: Microelectrodes for Environmental Monitoring,” *National Institute of Environmental Health Sciences (NIEHS)*, Release date: 01/04/2006.
- 2004 “Congressman Steve Chabot Visits UC College of Engineering,” *College News in Brief*, April 15, 2004. (<http://www.eng.uc.edu/resources/collegenews/>)
- 2002 “Biology-Engineering Collaboration Improves Detection of Dangerous Microbes,” *UC Currents*, March 27, 2002, by Chris Curan (www.uc.edu/news)

Recognition of work with advisees

- 2009 Institute for Nanoscale Science and Technology Grant (with Woohyuck Choi), University of Cincinnati (\$1,500)
- 2009 Institute for Nanoscale Science and Technology Grant (with Li Shen), University of Cincinnati (\$1,500)
- 2009 Institute for Nanoscale Science and Technology Grant (with Taher Kagalwala), University of Cincinnati (\$1,500)
- 2009 Outstanding Ph.D. Dissertation Award (with Ali Asgar S. Bhagat), Electrical and Computer Engineering, University of Cincinnati
- 2009 University Research Fellowship (with Woohyuck Choi), University of Cincinnati (\$3,000)
- 2009 Rindsberg Memorial Fund Fellowship (with Preetha Jothimuthu), University of Cincinnati (\$10,000)
- 2008 Nanomedicine UGA Award, Institute for Nanoscale Science and Technology, (with Preetha Jothimuthu), University of Cincinnati (\$11,000)
- 2008 Chemical and Biological Microsystems Society (with Ali Asgar S. Bhagat), μ TAS 2008 Travel Grant (\$500)
- 2008 Institute for Nanoscale Science and Technology Grant (with Andrew Carroll), University of Cincinnati (\$1,000)
- 2008 Institute for Nanoscale Science and Technology Grant (with Ali Asgar S. Bhagat), University of Cincinnati (\$1,000)
- 2008 Outstanding Ph.D. Dissertation Award (with Jin-Hwan Lee), Electrical and Computer Engineering, University of Cincinnati
- 2008 Outstanding M.S. Thesis Award (with Preetha Jothimuthu), Electrical and Computer Engineering, University of Cincinnati
- 2008 Best Poster Award (with Yun Shuai), Electrical and Computer Engineering Poster Forum, University of Cincinnati (\$100)
- 2008 Institute for Nanoscale Science and Technology Grant (with Woohyuck Choi), University of Cincinnati (\$1,000)
- 2008 Institute for Nanoscale Science and Technology Grant (with Preetha Jothimuthu), University of Cincinnati (\$1,000)

- 2007 Nanomedicine UGA Award, Institute for Nanoscale Science and Technology, (with Preetha Jothimuthu), University of Cincinnati (\$22,000)
- 2007 Institute for Nanoscale Science and Technology Grant (with Andrew Sampson), University of Cincinnati (\$1,000)
- 2007 Institute for Nanoscale Science and Technology Grant (with Joshua Butler), University of Cincinnati (\$1,000)
- 2007 Institute for Nanoscale Science and Technology Grant (with Srinidi Kuntaegowdanahalli), University of Cincinnati (\$1,000)
- 2007 Research Internship at Palo Alto Research Center (with Ali Asgar S. Bhagat), Palo Alto, CA (\$20,000)
- 2007 Best Poster Award (with Preetha Jothimuthu), Electrical and Computer Engineering Poster Forum, University of Cincinnati (\$100)
- 2007 University Research Fellowship (with Ali Asgar S. Bhagat), University of Cincinnati (\$3,000)
- 2007 Best Poster Award (with Andre Pais), University of Cincinnati Graduate Poster Forum (\$100)
- 2007 Institute for Nanoscale Science and Technology Grant (with Erik Peterson), University of Cincinnati (\$1,000)
- 2006 Rindsberg Memorial Fund Fellowship (with Jin-Hwan Lee), University of Cincinnati (\$10,000)
- 2006 Institute for Nanoscale Science and Technology Grant (with Jayalakshmi Parasuraman), University of Cincinnati (\$1,000)
- 2006 Institute for Nanoscale Science and Technology Grant (with Andrea Pais), University of Cincinnati (\$1,000)
- 2006 Institute for Nanoscale Science and Technology Grant (with Preetha Jothimuthu), University of Cincinnati (\$1,000)
- 2005 Rindsberg Memorial Fund Fellowship (with Jin-Hwan Lee), University of Cincinnati (\$10,000)
- 2005 University Research Fellowship (with Ali Asgar S. Bhagat), University of Cincinnati (\$2,100)
- 2004 University Research Fellowship (with Jin-Hwan Lee), University of Cincinnati (\$1,500)
- 2004 S. Ted Isaacs Prize, Paper Contest for Engineers (with Gabriel Dagani), College of Engineering, University of Cincinnati (\$500)
- 2004 University Research Fellowship (with Rhonda Myers), University of Cincinnati (\$1,500)
- 2004 Outstanding Senior Design Project Award (with Gabriel Dagani and Patrick Williams), Department of Electrical and Computer Engineering, University of Cincinnati (\$50)
- 2003 Research Fellowship (with Rhonda Myers), American Association of University Women (AAUW) (\$12,000)
- 2003 University Research Fellowship (with Rhonda Myers), University of Cincinnati (\$1,500)
- 2002 NSF Graduate Fellowship (with Jackie Rettig), University of Washington
- 2002 University Research Fellowship (with Erik Peterson), University of Cincinnati (\$1,500)
- 2002 Student Travel Award (with Hima Bindu Eluru), IEEE EMBS MMB Conference (\$1,000)

REFEREED JOURNAL ARTICLES

1. S. S. Kuntaegowdanahalli, A. A. S. Bhagat, and **I. Papautsky**, “Dean force coupled inertial migration based particle separation in spiral microchannels,” *Lab Chip*, 2009, DOI:10.1039/B908271A.
2. T.-S. Lim, J.-H. Lee, **I. Papautsky**, “Effects of Recess Dimensions on Performance of the Recessed Cathode Dissolved Oxygen Sensor,” *Sensors Actuators B*, 2009, DOI:10.1016/j.snb.2009.05.041.
3. A. A. S. Bhagat, S. S. Kuntaegowdanahalli, and **I. Papautsky**, “Geometrically modulated inertial microfluidics for continuous particle filtration and extraction,” *Microfluid. Nanofluid.*, 2009, DOI:10.1007/s10404-008-0377-2.
4. W. H. Lee, J.-H. Lee, P. L. Bishop, **I. Papautsky**, “Biological Application of MEMS Microelectrode Array Sensors for Direct Measurement of Phosphate in the Enhanced Biological Phosphorous Removal Process,” *Water Environ. Res.*, vol. 81, 2009, DOI:10.2175/106143008X370449.
5. P. Jothimuthu, A. A. S. Bhagat, A. Carroll, G. Lin, J. Mack, and **I. Papautsky**, “Photodefinable PDMS thin films for microfabrication applications,” *J. Micromech. Microeng.*, *J. Micromech. Microeng.*, vol. 19, 045024, 2009.
6. J.-H. Lee, W. H. Lee, P. L. Bishop, **I. Papautsky**, “Cobalt Coated Needle-type Microelectrode Array Sensor for In Situ Monitoring of Phosphate,” *J. Micromech. Microeng.*, vol. 19, 025022, 2009.
7. A. A. S. Bhagat, S. S. Kuntaegowdanahalli, and **I. Papautsky**, “Continuous particle separation in spiral microchannels using Dean flows and differential migration,” *Lab Chip*, vol. 8, pp. 1906-1914, 2008.
8. A. A. Bhagat, S. Kuntaegowdanahalli, and **I. Papautsky**, “Enhanced particle filtration in straight microchannels using shear-modulated inertial migration,” *Physics of Fluids*, vol. 20, 101702, 2008.
9. A. A. S. Bhagat, and **I. Papautsky**, “Enhancing particle dispersion in a passive planar micromixer using rectangular obstacles,” *J. Micromech. Microeng.*, vol. 18, 085005, 2008.
10. S. Dasgupta, A. A. S. Bhagat, M. Horner, **I. Papautsky**, and R. K. Banerjee, “Effects of applied electric field and microchannel wetted perimeter on electroosmotic velocity,” *Microfluid. Nanofluid.*, vol. 5, pp. 185-192, 2008.
11. A. Pais, A. Banerjee, D. Klotzkin, and **I. Papautsky**, “High-sensitivity, disposable lab-on-a-chip with thin-film organic electronics for fluorescence detection,” *Lab Chip*, vol. 8, pp. 794-800, 2008.

12. A. Banerjee, A. Pais, **I. Papautsky**, and D. Klotzkin, "A polarization isolation method for high-sensitivity, low cost on-chip fluorescence detection for microfluidic lab-on-a-chip," *IEEE Sensors Journal*, vol. 8, no. 5, pp. 621-627, 2008.
13. **I. Papautsky** and E. T. K. Peterson, "An introductory course to biomedical microsystems for undergraduates," *Biomed. Microdev.*, vol. 10, pp. 375-378, 2008.
14. J.-H. Lee, Y. Seo, T.-S. Lim, P. L. Bishop, and **I. Papautsky**, "MEMS needle-type sensor array for in situ measurements of dissolved oxygen and redox potential," *Environ. Sci. Technol.*, vol. 41, no. 22, pp 7857-7863, 2007.
15. J.-H. Lee, T.-S. Lim, Y. Seo, P. L. Bishop, and **I. Papautsky**, "Needle-type dissolved oxygen microelectrode array sensors for *in situ* measurements," *Sensors Actuators B*, vol. 128, pp. 179-185, 2007.
16. A. A. S. Bhagat, P. Jothimuthu, and **I. Papautsky**, "Photodefinable polydimethylsiloxane (PDMS) for rapid lab-on-a-chip prototyping," *Lab Chip*, vol. 7, pp. 1192-1197, 2007.
17. A. A. S. Bhagat, E. T. K. Peterson, and **I. Papautsky**, "A passive planar micromixer with obstructions for mixing at low Reynolds numbers," *J. Micromech. Microeng.*, vol. 17, pp. 1017-1024, 2007.
18. G. Jing, A. Polaczyk, D. Oerther, and **I. Papautsky**, "Developing biochip for culture based detection of environmental mycobacteria," *Sensors Actuators B*, vol. 123, pp. 614-629, 2007.
19. A. A. S. Bhagat, A. Pais, P. Jothimuthu, and **I. Papautsky**, "Re-usable quick-release interconnect for characterization of microfluidic systems," *J. Micromech. Microeng.*, vol. 17, pp. 42-49, 2007.
20. D. Klotzkin and **I. Papautsky**, "High-sensitivity integrated fluorescence analysis for microfluidic lab-on-a-chip," *SPIE News*, 2007, DOI: 10.1117/2.1200705.0748
21. J.-H. Lee, A. Jang, R. R. Myers, P. Bhadri, W. Timmons, F. R. Beyette, P. L. Bishop, and **I. Papautsky**, "Fabrication of microelectrode arrays for sensing of oxidation reduction potentials," *Sensors Actuators B*, vol. 115, no. 1, pp. 220-226, 2006.
22. A. Polaczyk, B. Kinkle, **I. Papautsky**, and D. B. Oerther, "Culture-based MEMS device to track *Gordonia* in activated sludge," *Environ. Sci. Technol.*, vol. 40, no. 7, pp 2269-2274, 2006.
23. C. Li, F. E. Sauser, R. G. Azizkhan, C. Ahn, and **I. Papautsky**, "Polymer flip-chip bonding pressure sensors on flexible Kapton film for neonatal catheters," *J. Micromech. Microeng.*, vol. 15, no. 9, pp. 1729-1735, 2005.

24. A. Jang, J.-H. Lee, P. R. Bhadri, W. Timmons, F. R. Beyette, **I. Papautsky**, and P. L. Bishop, "Miniaturized redox potential probe for *in situ* environmental monitoring," *Environ. Sci. Technol.*, vol. 39, no. 16, pp. 6191-6197, 2005.
25. G. Jing, H. B. Eluru, A. Polaczyk, B. Kinkle, D. B. Oerther, and **I. Papautsky**, "Paraffin surfaces for culture-based detection of mycobacteria in environmental samples," *J. Micromech. Microeng.*, vol. 15, no. 2, pp. 270-276, 2005.
26. G. Jing, G. Hollis, A. Polaczyk, H. B. Eluru, B. Kinkle, D. B. Oerther, and **I. Papautsky**, "Developing rapid detection of mycobacteria using microwaves," *Analyst*, vol. 129, no. 10, pp. 963-969, 2004.
27. J. Narasimhan and **I. Papautsky**, "Polymer embossing tools for rapid prototyping plastic microfluidic devices," *J. Micromech. Microeng.*, vol. 14, no. 1, pp. 96-103, 2004.
28. P. Srinivasan, F. R. Beyette, and **I. Papautsky**, "Micromachined arrays of cantilevered glass probes," *Applied Optics*, vol. 43, no. 4, pp. 776-782, 2004.
29. I. Nikcevic, A. Bange, E. T. K. Peterson, **I. Papautsky**, W. R. Heineman, H. B. Halsall, and C. J. Seliskar, "Imaging fluorescently labeled microbeads on polymer surfaces using epifluorescence microscopy," *Sci. Technol. Safety*, vol. 2, pp. 35-40, 2004.
30. **I. Papautsky**, S. Mohanty, R. Weiss, and A. B. Frazier, "High lane density slab-gel electrophoresis using micromachined instrumentation," *Electrophoresis*, vol. 22, pp. 3908-3915, 2001.
31. **I. Papautsky**, J. Brazzle, H. Swerdlow, and A. B. Frazier, "Micromachined pipette arrays," *IEEE Trans. Biomed. Eng.*, vol. 47, no. 6, pp. 812-819, 2000.
32. J. Brazzle, **I. Papautsky**, and A. B. Frazier, "Hollow metallic micromachined needle arrays," *Biomedical Microdevices*, vol. 2, no. 3, pp. 197-205, 2000.
33. A. B. Frazier, K. D. Caldwell, B. K. Gale, and **I. Papautsky**, "Integrated micromachined components for biological analysis systems," *Int. J. Micromech.*, vol. 1, no. 1, pp. 67-84, 2000.
34. T. Ameal, **I. Papautsky**, R. O. Warrington, R. S. Wegeng, and M. K. Drost, "Miniaturization technologies for advanced energy conversion and transfer systems," *AIAA Journal of Propulsion and Power*, vol. 16, no. 4, pp. 577-582, 2000.
35. **I. Papautsky**, J. Brazzle, T. Ameal, and A. B. Frazier, "Laminar fluid behavior in microchannels using micropolar fluid theory," *Sensors Actuators A*, vol. 73, no. 2, pp. 101-108, 1999.

36. J. Brazzle, **I. Papautsky**, and A. B. Frazier, "Micromachined hollow metallic needle arrays for use in drug delivery or fluid extraction," *IEEE Engineering in Medicine and Biology Society Magazine*, November/December, pp. 53-58, 1999.
37. **I. Papautsky**, J. Brazzle, H. Swerdlow and A. B. Frazier, "A low temperature, IC compatible process for fabricating surface micromachined metallic microchannels," *J. Microelectromech. Syst.*, vol. 7, no. 2, pp. 267-273, 1998.

MANUSCRIPTS IN REVIEW

38. A. Banerjee, Y. Shuai, **I. Papautsky**, and D. Klotzkin, "Measurements and modeling of concentration dependence of fluorescence signal in a microfluidic fluorescence detector," *J. Luminance*, in review.
39. K. A. Comandur, A. A. S. Bhagat, S. Dasgupta, **I. Papautsky**, and R. K. Banerjee, "Transport and Reaction of Nano-Liter Samples in a Microfluidic Reactor Using Electroosmotic Flow," *J. Micromech. Microeng.*, in review.

BOOK CHAPTERS

1. J.-H. Lee, Y. Seo, W.-H. Lee, P. L. Bishop, and **I. Papautsky**, "MEMS Needle-type multi-analyte microelectrode array sensors for *in situ* environmental applications," in V. Shal, ed., *Emerging Environmental Technologies*, Springer, 2009.
2. **I. Papautsky** and Ali Asgar S. Bhagat, "Microflow Visualization Techniques," in D. Li, ed., *Encyclopedia of Microfluidics and Nanofluidics*, Springer-Verlag, Berlin, Germany, 2008, pp. 1325-1334.
3. **I. Papautsky** and E. T. K Peterson, "Micromolding," in D. Li, ed., *Encyclopedia of Microfluidics and Nanofluidics*, Springer-Verlag, Berlin, Germany, 2008, pp. 1256-1267.
4. **I. Papautsky** and A. Pais, "On-Chip Waveguides," in D. Li, ed., *Encyclopedia of Microfluidics and Nanofluidics*, Springer-Verlag, Berlin, Germany, 2008, pp. 1544-1553.
5. **I. Papautsky**, "Hot embossing for lab-on-a-chip applications," in W. Wang and S. A. Soper, eds., *BioMEMS: Technology and Applications*, CRC Press, 2007, pp. 117-143.
6. **I. Papautsky**, "Culture-based biochip for rapid detection of environmental mycobacteria," in W. Wang and S. A. Soper, eds., *BioMEMS Devices and Systems*, CRC Press, 2007, pp. 299-325.
7. E. T. K. Peterson and **I. Papautsky**, "Microtextured polydimethylsiloxane substrates for culturing mesenchymal stem cells," in S. Minter, ed., *Microfluidic Techniques: Reviews and Protocols*, Totowa, NJ: Humana Press, 2006, pp. 179-197.

8. D. I. Bylski-Austrow, D. L. Glos, F. E. Sauser, **I. Papautsky**, A. H. Crawford, and E. J. Wall, "Bilateral intra-annular spinal compressive stresses *in vivo*," in D. Uyttendaele and P. H. Dangerfield, eds., *Research into Spinal Deformities 5*, IOS Press: Amsterdam, The Netherlands, 2006, pp. 398-403.

EDUCATIONAL ARTICLES

1. J.-H. Lee, C. Purdy, and **I. Papautsky**, "Graduate student experiences and mentor benefits of the preparing future faculty program in engineering," *ASEE Conference*, Austin, TX, June 14-17, 2009. (10 pages)
2. J.-H. Lee, A. A. S. Bhagat, K. Davis, and **I. Papautsky**, "BioMEMS problem-based research senior projects in electrical engineering," *ASEE Conference*, Pittsburgh, PA, June 22-25, 2008. (6 pages)
3. **I. Papautsky**, C. Maltbie, D. Eddington, A. A. S. Bhagat, H. Caicedo, "Introducing microfluidics through a problem-based laboratory course," *ASEE Conference*, Pittsburgh, PA, June 22-25, 2008. (6 pages)
4. **I. Papautsky** and A. A. S. Bhagat, "NSF CCLI: A problem-based microfluidics laboratory course for undergraduates," *ASEE Conference*, Honolulu, HI, June 24-27, 2007. (6 pages)
5. **I. Papautsky** and E. T. K. Peterson, "Integrating BioMEMS and biomedical microsystems into electrical engineering education: a three-year pilot study," *ASEE Conference*, Honolulu, HI, June 24-27, 2007. (7 pages)
6. **I. Papautsky** and A. A. S. Bhagat, "Introducing microfluidics to electrical engineers: an integrated problem-based learning experience," *ASEE Conference*, Honolulu, HI, June 24-27, 2007. (9 pages)
7. **I. Papautsky** and E. T. K. Peterson, "A biomedical microsystems course for electrical engineers," in Proc. *ASEE Conference*, Chicago, IL, June 18-21, 2006. (7 pages)
8. J. Bickle, S. Iyer, T. Mantei, **I. Papautsky**, M. Schulz, V. Shanov, L. Smith, and A. Steckl, "Integration of Nanoscale Science and Technology into Undergraduate Curricula," in Proc. *IEEE Nano Conference*, Cincinnati, OH, July 17-20, 2006. (4 pages)
9. Vesselin Shanov, Yun Yeo-Heung, Leigh Smith, Suri S. Iyer, Shalyajit Jadhav, Thang B. Hoang, A. Gorton, M. Schulz, T. Mantei, J. Abel, C. Barbour, N. D'Souza, C. Direnzi, D. Dlesk, Z. Kier, N. Negassi, R. Schaub, K. Seger, R. Wagner, E. Witt, J. Bickle, **I. Papautsky**, and F. Gerner, "First Experiences Teaching Experimental Nanoscale Science and Technology to Undergraduate Students," in Proc. *IEEE Nano Conference*, Cincinnati, OH, July 17-20, 2006. (4 pages)

10. **I. Papautsky** and E. T. K. Peterson, "Introducing biomedical microsystems into the electrical engineering curriculum," in Proc. *ASEE Conference*, Portland, OR, June 12-15, 2005. (8 pages)

REFEREED CONFERENCE PROCEEDINGS

1. A. A. S. Bhagat, S.S. Kuntaegowdanahalli, and **I. Papautsky**, "High-throughput flow cytometry using inertial microfluidics," in Proc. *International Conference on Chemical and Biochemical Analysis Systems (μ TAS)*, Jeju, Korea, November 1-5, 2009.
2. P. Jothimuthu, E. N. Haynes, and **I. Papautsky**, "Lab-on-a-chip for detection of manganese and zinc in blood," in Proc. *International Conference on Chemical and Biochemical Analysis Systems (μ TAS)*, Jeju, Korea, November 1-5, 2009.
3. W. Choi, W.-H. Lee, P. Bishop, and **I. Papautsky**, "Integrated dissolved oxygen-compensated needle-type sensor for phosphate analysis of biological and environmental samples," in Proc. *International Conference on Chemical and Biochemical Analysis Systems (μ TAS)*, Jeju, Korea, November 1-5, 2009.
4. P. Jothimuthu, E. Haynes, **I. Papautsky**, "Lab-on-a-chip sensor for point-of-care measurement of manganese exposure," in Proc. *Transducers '09*, Denver, CO, June 22-25, 2009. (4 pages)
5. S.S. Kuntaegowdanahalli, A. A. S. Bhagat, **I. Papautsky**, "Continuous multi-particle separation using deterministic focusing in spiral microchannels," in Proc. *Transducers '09*, Denver, CO, June 22-25, 2009. (4 pages)
6. P. Jothimuthu, E. Haynes, **I. Papautsky**, "Lab-on-a-Chip Sensor for Assessment of Manganese Exposure," in Proc. *IEEE Conference on Sensors*, Lecce, Italy, October 26-29, 2008.
7. Y. Shuai, A. Banerjee, D. Klotzkin, **I. Papautsky**, "On-Chip Fluorescence Detection with Organic Thin Film Devices for Disposable Lab-on-a-Chip Sensors," in Proc. *IEEE Conference on Sensors*, Lecce, Italy, October 26-29, 2008.
8. T.-S. Lim, J.-H. Lee, **I. Papautsky**, "Effects of Recess Dimensions on Performance of the Recessed Cathode Dissolved Oxygen Sensor," in Proc. *IEEE Conference on Sensors*, Lecce, Italy, October 26-29, 2008.
9. J.-H. Lee, P. Bishop, **I. Papautsky**, "Needle-Type Sensor Array for Multi-Analyte in Situ Measurements," in Proc. *IEEE Conference on Sensors*, Lecce, Italy, October 26-29, 2008.

10. A. A. S. Bhagat, S.S. Kuntaegowdanahalli, **I. Papautsky**, "Passive microfluidic sorting of particles using differential migration," in Proc. *International Conference on Chemical and Biochemical Analysis Systems (μ TAS)*, San Diego, CA, October 12-16, 2008.
11. Y. Shuai, A. Banerjee, D. Klotzkin, **I. Papautsky**, "A high-sensitivity on-chip fluorescence detection for lab-on-a-chip," in Proc. *International Conference on Chemical and Biochemical Analysis Systems (μ TAS)*, San Diego, CA, October 12-16, 2008.
12. P. Jothimuthu, A. A. S. Bhagat, **I. Papautsky**, "Rapid prototyping and non-planar patterning using photodefinable PDMS," in Proc. *International Conference on Chemical and Biochemical Analysis Systems (μ TAS)*, San Diego, CA, October 12-16, 2008.
13. W. H. Lee, J.-H. Lee, P.L. Bishop, and **I. Papautsky**, "Biological Application of MEMS Microelectrode Sensors for Direct Measurement of Phosphate in the Enhanced Biological Phosphorus Removal Process," *Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC'08)*, Chicago, IL, October 18-22, 2008.
14. A. A. S. Bhagat, S. S. Kuntaegowdanahalli, D. D. Dionysiou, and **I. Papautsky**, "Lab-on-a-chip for passive particle separations in environmental applications," *236th American Chemical Society Meeting*, Philadelphia, PA, August 17-21, 2008. (4 pages)
15. P. Jothimuthu, A. A. S. Bhagat, and **I. Papautsky**, "PhotoPDMS: Photodefinable PDMS for Rapid Prototyping," *17th IEEE University Government Industry Micro/Nano Symposium (UGIM'08)*, Louisville, KY, July 13-16, 2008. (4 pages)
16. Y. Shuai, A. Banerjee, D. Klotzkin, and **I. Papautsky**, "On-chip fluorescence detection using organic thin film devices for a disposable lab-on-a-chip," *17th IEEE University Government Industry Micro/Nano Symposium (UGIM'08)*, Louisville, KY, July 13-16, 2008. (4 pages)
17. A. Banerjee, Y. Shuai, **I. Papautsky**, and D. Klotzkin, "High-sensitivity MEMS based on-chip fluorescence detection system: measurement and analysis of ultimate sensitivity limits," *17th IEEE University Government Industry Micro/Nano Symposium (UGIM'08)*, Louisville, KY, July 13-16, 2008. (5 pages)
18. K. A. Comandur, A. A. S. Bhagat, S. Dasgupta, **I. Papautsky**, and R. K. Banerjee, "Electroosmotic injection and chemical kinetics in micro reactors," *ASME 2008 Summer Bioengineering Conference (SBC2008)*, Marco Island, Florida, June 25-29, 2008. (4 pages)
19. A. A. S. Bhagat, S. S. Kuntaegowdanahalli, D. D. Dionysiou, and **I. Papautsky**, "Spiral microfluidic nanoparticle separators," *SPIE Microfluidics, BioMEMS, and Medical Microsystems Conference*, vol. 6886, San Jose, CA, January 19-24, 2008. (8 pages)
20. A. M. Sampson, E. T. K. Peterson, and **I. Papautsky**, "Interdigitated array microelectrode capacitive sensor for detection of paraffinophilic Mycobacteria," *SPIE*

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INVITED TALKS (not listed above)

1. "Microfluidic Systems for Environmental and Biological Applications," University of Arizona, Department of Electrical and Computer Engineering, April 18, 2008.
2. "Microfluidic Lab-on-a-Chip for Sizing and Separating Nanoparticles," Ohio Nanotechnology Summit, April 11, 2008.
3. "Needle-type sensors for *in situ* measurements in biological systems," University of Illinois at Chicago, Department of Bioengineering, Chicago, IL, December 7, 2007.
4. "Needle-type sensor array for simultaneous measurement of dissolved oxygen and redox potential *in situ*," Ecole Supérieure d'Ingénieurs en Electronique et Electrotechnique (ESIEE), Paris, France, October 11, 2007.
5. "Microelectromechanical Systems (MEMS) for Bio Applications," keynote speech at TechnoInnova 2007, Congreso de Ingenieria Mecatronica, Tecnologico de Monterrey, Querétaro, Mexico, September 20-21, 2007.
6. "Needle-type sensor array for simultaneous measurement of dissolved oxygen and redox potential *in situ*," Recent Advances in Sensors for Environmental Monitoring, Environmental Chemistry Division, 234th American Chemical Society Meeting, Boston, MA, August 20, 2007.
7. "Microelectrodes for *in situ* monitoring of dissolved oxygen," Department of Electrical and Computer Engineering, University of Alabama, Birmingham, December 1, 2006.
8. "Writing Winning Proposals," Preparing Future Faculty Seminar, Cincinnati, OH, May 22, 2006.
9. "Developments in Micro and Nano Technologies for Surgical Applications," Nanoscale Science and Technology in Medicine Symposium, Cincinnati, OH, January 20, 2006.

10. "Microscale Sensors for Environmental Monitoring," Invited Talk, Midwestern Symposium on Circuits and Systems, Cincinnati, OH, August 9, 2005.
11. "Commercialization efforts at Biomedical Microsystems Laboratory," Cincinnati Chamber of Commerce, Cincinnati, OH, July 18, 2005.
12. "Microelectrode Array Sensors for *In Situ* Monitoring in the Environment," NASA Environmental Sentinels Workshop, Houston, TX, June 1, 2005.
13. "Culture based biochips for detection of mycobacteria," Biomedical Research Symposium, Department of Electrical and Computer Engineering, University of Cincinnati, Cincinnati, OH, May 6, 2005.
14. "Developing Culture-Based Biochips for Detecting Mycobacteria in the Environment," Keynote Address, IEEE Cincinnati Section Meeting, February 24, 2005.
15. "Developing Culture-Based Biochips for Sensing Mycobacteria in the Environment," General Electric Research Park, Albany, NY, January 21, 2005.
16. "IEEE Engineering in Medicine and Biology (EMB) Club at UC," General Meeting of the IEEE Engineering in Medicine and Biology (EMB) Club, University of Cincinnati, Cincinnati, OH, October 5, 2004.
17. "MEMS Pressure Sensors for Biomedical Applications in Pediatric Surgery," Department of Pediatrics, Cincinnati Children's Hospital Medical Research Center, Cincinnati, OH, August 8, 18, 2004.
18. "Biomedical Microelectromechanical Systems," Keynote Speech, Tau Kappa Nu Banquet, Cincinnati, OH, March 10, 2004.
19. "Developing Culture-Based Biochips for Environmental Monitoring," Electronic Materials and Devices Seminar, Department of Electrical and Computer Engineering, University of Cincinnati, Cincinnati, OH, February 6, 2004.
20. "Culture-based detection of mycobacteria," Biodefense Research Symposium, University of Cincinnati, Cincinnati, OH, June 25, 2004.
21. "Micro instrumentation for fetal surgery," Children's Medical Research Center, Cincinnati Children's Hospital, Cincinnati, OH, May 19, 2004.
22. "Physiological microsensors," Congressman Steve Chabot Visit, UC College of Engineering, Cincinnati, OH, April 15, 2004.
23. "BioMEMS for Biosurgery," Clinical Applications of Biomedical Engineering in the Surgical Environment Symposium, Cincinnati, OH, January 23, 2004.

24. "Developing Culture-Based Biochips for Detecting Mycobacteria in Environmental Samples," Department of Chemical and Materials Engineering, University of Cincinnati, Cincinnati, OH, December 2, 2003.
25. "Developing Culture-Based Biochips for Detecting Mycobacteria in Environmental Samples," Louisiana State University, Baton Rouge, LA, September 12, 2003.
26. "Interdisciplinary BioMEMS Research and Education at UC," Wilkes University, Berry, PA, March, 2003.
27. "Biomedical Microsystems," *Kraft Inc.*, Cincinnati, OH, December 6, 2002.
28. "Biomedical Microsystems," Department of Biomedical Engineering, University of Cincinnati, Cincinnati, OH, June 13, 2002.
29. "Microelectromechanical Systems," Keynote Speech, Ohio Tau Beta Pi Chapter Banquet, Cincinnati, OH, May 23, 2002.
30. "Microelectromechanical Systems," Computer Engineering Seminar Series, Department of Electrical and Computer Engineering, University of Cincinnati, Cincinnati, OH, April 24, 2002.
31. "Biomedical Microsystems," Electronic Materials and Devices Seminar, Department of Electrical and Computer Engineering, University of Cincinnati, Cincinnati, OH, October 3, 2001.
32. "Biomedical Applications of MEMS," Department of Electrical and Computer Engineering, University of Cincinnati, Cincinnati, OH, April 13, 2001.
33. "Biomedical Microsystems," *International Paper Inc.*, Cincinnati, OH, April 3, 2001.
34. "Use of Microsystems and Microsensors to evaluate physiological parameters in the mouse," *Experimental Biology 2001 Workshop*, Meeting of the American Physiological Society, Orlando, Florida, March 31, 2001.
35. "Biomedical Microsystems," Keynote Speech, UC Tau Kappa Nu Banquet, Cincinnati, OH, February 26, 2001.
36. "Metallic Micro Instrumentation for Biomedical Applications," Department of Material Sciences, University of Cincinnati, Cincinnati, OH, February 8, 2001.

PATENT APPLICATIONS

1. I. Papautsky and A. A. S. Bhagat, "Microfluidic Devices for Separation of Nanoparticles," filed October 3, 2008.
2. I. Papautsky, F. Beyette, P. Bishop, "Micro sensor arrays for *in situ* measurements," filed October 24, 2005. U.S. Patent Application Serial No. 11/257,418.
3. I. Papautsky and D. Oerther, "Paraffin Culture-Based Microfluidic Biochip for Detection of Mycobacteria in Clinical Samples" filed April 20, 2005. U.S. Patent Application Serial No. 60/673,229.
4. I. Papautsky and D. Oerther, "Culture-Based Microfluidic Biochip" filed March 4, 2005. U.S. Patent Application Serial No. 60/658,693.
5. I. Papautsky, C. Ahn, and R. Azizkhan, "Microsensor Catheter and Method for Making the Same," filed January 24, 2005. International PCT Patent Application Docket No. CHM02-GN058W.
6. I. Papautsky, F. Beyette, P. Bishop, "Potentiometric Microelectrode Sensors for In Situ Environmental Monitoring" filed October 22, 2004. U.S. Patent Application Serial No. 60/621,504.
7. I. Papautsky, C. Ahn, and R. Azizkhan, "Microsensor Catheter and Method for Making the Same," filed January 23, 2004. U.S. Patent Application Serial No. 60/538,549.
8. A. B. Frazier and I. Papautsky, "Methods for preparing devices having metallic hollow microchannels on planar substrate surfaces." U.S. Patent No. 5,876,582. Issued March 2, 1999

INVENTION DISCLOSURES

9. I. Papautsky and A. A. S. Bhagat, "Low-voltage Electrophoretic System," filed February 6, 2008. University of Cincinnati IDF No. UC 108-057.
10. I. Papautsky and A. A. S. Bhagat, "Microfluidic Devices for Separation of Nanoparticles," filed January 31, 2008. University of Cincinnati IDF No. UC 108-056.
11. I. Papautsky and D. Klotzkin, "Cross Polarization Scheme for Fluorescence Detection," filed March 1, 2007. University of Cincinnati IDF No. UC 107-078.
12. I. Papautsky, J. Parasuraman, J.-H. Lee, "Fabrication of Nanotips with Meniscus Etching," filed October 23, 2006. University of Cincinnati IDF No. UC 107-047.
13. I. Papautsky, J.-H. Lee, T.-S. Lim, "Recess Fabrication Methods for Penetrating Ion-selective Micro/Nano Electrode Sensors," filed October 20, 2006. University of Cincinnati IDF No. UC 107-046.

14. I. Papautsky, J.-H. Lee, and T.-S. Lim, "Microelectrode Sensor for Measurement of Dissolved Oxygen Saturation," filed October 4, 2006. University of Cincinnati IDF No. 107-043.
15. I. Papautsky and A. A. S. Bhagat, "Positive-acting Photo-definable Silicone for Fabrication of Lab-on-a-chip Systems," filed October 4, 2006. University of Cincinnati IDF No. 107-042.
16. I. Papautsky and X. Wei, "Methods of fabricating recessed microelectrode probes," filed August 19, 2005. University of Cincinnati IDF No. 106-014.
17. I. Papautsky and D. Oerther, "Paraffin Culture-Based Microfluidic Biochip for Detection of Mycobacteria in Clinical Samples" filed April 11, 2005. University of Cincinnati IDF No. 105-030.
18. I. Papautsky and D. Oerther, "Culture-Based Microfluidic Biochip" filed March 10, 2005. University of Cincinnati IDF No. 105-016.
19. I. Papautsky and C. Ahn, "Physiologic Microsensors for Neonatal Care" filed October 15, 2004. University of Cincinnati IDF No. 104-070.
20. I. Papautsky, F. Beyette, P. Bishop, "Potentiometric Microelectrodes for Environmental Monitoring" filed October 14, 2004. University of Cincinnati IDF No. 104-069.
21. D. Glos, F. Sauser, I. Papautsky, D. Bylski-Austrow, "Miniature implantable pressure transducer for measurement of relatively high physiological pressures," filed November 4, 2003. Cincinnati Children's Hospital Medical Center.
22. I. Papautsky, D. Oerther, and G. Hollis, "Rapid Detection of Microorganisms Using Microwaves" filed January 2002. University of Cincinnati IDF No. 102-016.
23. D. Oerther, I. Papautsky, B. Kinkle, "BioMEMS Device for Quantifying Mycobacteria and Nocardioforms," filed February 21, 2001. University of Cincinnati IDF No. 101-007.

RESEARCH AND TEACHING GRANTS AND CONTRACTS

A. National Science Foundation

1. DUE-081491, Collaborative Research: Microfluidics for Multiple Engineering Disciplines, \$300,000 (40% I. Papautsky, PI; D. Eddington, 20% University of Illinois at Chicago; 20% B. Gale, University of Utah; 20% J.-W. Choi, Louisiana State University), December 2008 – November 2011. ~\$100,000 in additional matching funds.

2. ECCS-0725812, Integrated Optical Microfluidic Chips for On-Site Fluorescence-Based Assays, National Science Foundation, \$299,726, (50% D. Klotzkin, PI; 50% I. Papautsky), September 2007 – August 2010.
3. ECCS-0722619, MRI: Acquisition of an Inductively Coupled Plasma Etch System, National Science Foundation, \$300,000, (100% T. Mantei, PI; I. Papautsky senior personnel among 10 others), August 2007 – July 2010.
4. CBET-0734502, REU Supplement: SST: Integrated Multi-Analyte Microelectrode Array Sensors for In Situ Environmental Monitoring, National Science Foundation, \$6,000, (100% I. Papautsky, PI), May 2007 – September 2007.
5. DUE-0724941, Supplement: CCLI: Integrating Micro/Nanofluidics in the Undergraduate Electrical Engineering Curriculum, National Science Foundation, \$24,726, (100% I. Papautsky, PI), May 2007 – January 2008.
6. CBET-0630752, REU Supplement: SST: Integrated Multi-Analyte Microelectrode Array Sensors for In Situ Environmental Monitoring, National Science Foundation, \$6,000, (100% I. Papautsky, PI), May 2006 – September 2006.
7. DUE-0536799, CCLI: Integrating Micro/Nanofluidics in the Undergraduate Electrical Engineering Curriculum, National Science Foundation, \$139,889, (100% I. Papautsky, PI), February 2006 – January 2009.
8. BES-0529217, SST: Integrated Multi-Analyte Microelectrode Array Sensors for In Situ Environmental Monitoring, National Science Foundation, \$328,787, (40% I. Papautsky, PI; 35% F. Beyette; 25% P. Bishop), October 2005 – September 2008.
9. BES-0428600, SENSORS: Rapid, Culture-Based Sensor with Direct Electronic Imaging to Track Environmental Microorganisms, National Science Foundation, \$367,295, (47% I. Papautsky, PI; 45% D. Oerther; 8% D. Mast), September 2004 – August 2008.
10. BES-0228603, Integrated Microelectrode Arrays for Field-Based Environmental Monitoring, National Science Foundation, \$99,776, (34% I. Papautsky, PI; 33% F. Beyette; 33% P. Bishop), August 2002 – July 2004.
11. BES-0116912, Rapid Identification, Enumeration, and Characterization of Mycobacteria and Nocardioforms in Environmental Samples Using BioMEMS, National Science Foundation, \$99,294, (34% D. Oerther, PI; 33% I. Papautsky; 33% B. Kinkle), September 2001 – November 2002.

B. Competitive Federal Funding

1. U54 EB007954, Point-of-care center for emerging neurotechnologies (POC-CENT) center, National Institute of Biomedical Imaging and Bioengineering (NIBIB), \$9,335,594 (senior personnel among 25 others), September 2007 – June 2012.

2. Lab-on-a-chip sensor for on-site detection and sizing of nanoparticles, National Institute of Occupational Safety and Health (NIOSH), Health Pilot Research Project Training Program Center (T42 OH008432-04), \$7,000, July 2008 – June 2009.
3. New lab-on-a-chip sensor for worksite assessment of individual manganese exposure, National Institute of Occupational Safety and Health (NIOSH), Health Pilot Research Project Training Program Center (T42 OH008432-03), \$7,000 (70% Papautsky, PI; 30% E. Haynes), July 2007 – June 2008.
4. 68-C-00-159 Task Order Number Fifty-one, Pipe Leak Detection Experimental Station, U.S. Environmental Protection Agency, \$44,549, (25% P. Bishop, PI; 25% I. Papautsky, 25% D. Boccelli, 25% A. Ioannides), September 2007 – April 2008.
5. SBIR: Microelectrodes for environmental monitoring, National Institutes of Health, \$222,740, (40% P. Bishop, PI; 30% I. Papautsky; 30% F. Beyette), November 2002 – March 2005.

C. Other Funding

1. Microfluidic Model of Pollutant Diffusion in Brownfield Soil, Seed Grant Program, Center for Sustainable Urban Engineering, University of Cincinnati, \$20,000, (50% J. Shann, PI; 50% I. Papautsky) July 2008 – June 2009.
2. A New Microfluidic Sensor for Nanoparticle Sizing and Separations, Seed Grant Program, Institute for Nanoscale Science and Technology, University of Cincinnati, \$30,000 (65% I. Papautsky, PI; 30% S. Iyer, 5% D. Dionysiou), January 2008 – December 2008.
3. New nanowire lab-on-a-chip sensor for point-of-care diagnosis of manganese exposure, Nanomedicine UGA Award Program, Institute for Nanoscale Science and Technology, University of Cincinnati, \$22,000 (100% I. Papautsky, PI), September 2007 – August 2008.
4. Attending the annual conference: American Society of Engineering Education, Faculty Development Council, University of Cincinnati, \$1,755, (100% I. Papautsky, PI), June 2007 – July 2007.
5. A New Nanowire/Plasmonic Ultrasensitive Biosensor, Seed Grant Program, Institute for Nanoscale Science and Technology, University of Cincinnati, \$35,000 (40% H. Jackson, PI; 40% L. Smith, 20% I. Papautsky), January 2007 – December 2007.
6. Nanowire sensor with electrohydrodynamic sample handling for diagnostics of biofluids, Seed Grant Program, Institute for Nanoscale Science and Technology, University of Cincinnati, \$25,000 (50% I. Papautsky, PI; 50% R. Banerjee), January 2006 – December 2006.

7. Supplement: SBIR: Microelectrodes for Environmental Monitoring, EnteraTech, Inc., \$4,000, (100% I. Papautsky, PI), February 2005 – March 2005.
8. Microsensing Catheters for Neonates, Cincinnati Children's Hospital Medical Center Research Foundation, \$54,992, (100% I. Papautsky, PI), August 2004 – July 2006.
9. Mechanobiology of Growth: In Vivo Growth Plate Pressure, Cincinnati Children's Hospital Medical Center Research Foundation, \$100,000, (80% D. Bylski-Astrow, PI; 20% I. Papautsky), November 2004 – September 2006.
10. Intravascular Sensors for “Smart” Neonatal Catheters, Cincinnati Children's Hospital Medical Center Research Foundation, \$139,678, (50% I. Papautsky, PI; 50% C. Ahn), March 2002 – February 2004.
11. Detection of Microorganisms Using Microwaves, Emerging Concepts, Inc., \$12,000, (100% I. Papautsky, PI), November 2001 – April 2002.
12. Investigation of Liquid Flows in Microchannels for BioMEMS Devices, University of Cincinnati Research Council, \$5,000, (100% I. Papautsky, PI), July 2000 – June 2001.

GRADUATE STUDENTS ADVISED

Doctoral

<u>Name</u>	<u>Enrolment</u>	<u>Proposal</u>	<u>Defense</u>
Jin-Hwan Lee	Sep 2002	Sep 2005	December 13, 2007
Ali Asgar S. Bhagat	Sep 2004	Feb 2008	February 10, 2009
Preetha Jothimuthu	Sep 2005	Feb 2009	Jun 2010 (anticipated)
Woohyuck Choi	Sep 2007	TBA	Jun 2011 (anticipated)
Li Shen	Sep 2008	TBA	Jun 2012 (anticipated)

Masters

<u>Name</u>	<u>Enrolment</u>	<u>Graduation</u>
Divakar Ramgopal	Sep 2000	July 26, 2002
Grant Hollis	Sep 2001	Mar 6, 2003
Jagannathan Narasimhan	Sep 2000	May 8, 2003
Pradeep Srinivasan	Sep 2000	Aug 11, 2003
Hima Bindu Eluru	Sep 2000	Aug 18, 2004
Gaoshan Jing	Sep 2001	Aug 4, 2004
Bongsu Kim	Sep 2002	Sep 9, 2004
Frank Sauser	Sep 2002	Feb 24, 2005
David Pepples	Sep 2002	May 13, 2005
Xingtao Wei	Sep 2003	Aug 5, 2005
Ali Asgar S. Bhagat	Sep 2003	July 11, 2006
Erik T. K. Peterson	Sep 2003	July 25, 2006

Jayaprakash Venkatraman	Sep 2004	Feb 26, 2007
Andrea Pais	Sep 2005	May 31, 2007
Tae-Sun Lim	Sep 2005	Aug 10, 2007
Preetha Jothimuthu	Sep 2005	May 29, 2008
S. Kuntaegowdanahalli	Sep 2007	May 4, 2009
Yun Shuai	Sep 2007	May 21, 2009
Andrew Carroll	Sep 2008	Jun 2009 (anticipated)
Andrew Sampson	Sep 2006	Mar 2009 (anticipated)

Visiting Scholars

- Frank Sauser, M.S., Cincinnati Children's Hospital, Cincinnati, OH, March 2005 – November 2006.
- Mathew Estes, Ph.D. Candidate in Biomedical Engineering, University of Cincinnati, Cincinnati, OH, January – May 2004
- Robert Argile, M.S. Candidate in Electrical Engineering, University of Newcastle, Newcastle, England, September – December 2003.
- Adam Bangee, Ph.D. Candidate in Chemistry, University of Cincinnati, Cincinnati, OH, March – May 2003.

Bachelor -- Senior Design Projects

- Katherine Wurm, September 2006 – June 2007.
- Cheryl Hardin, September 2005 – June 2006.
- Andrew Sampson and Hung Vu, September 2005 – June 2006.
- Emily Voellmecke and Grant DeVilbiss, September 2004 – June 2005.
- Gabriel Dagani and Patrick Williams, September 2003 – June 2004.
- Ryan Prater and Josh Jelly, September 2003 – June 2004.
- Maryam Hamad and Lisa Holcomb, September 2002 – June 2003.
- Jackie Rettig and Kenneth Miller, September 2001 – June 2002.
- Joshua Gilchrist, September 2001 – June 2002.
- Edward Johnson and Mansoor Nassir, September 2000 – June 2001.

Bachelor -- Summer REU Students

- Katherine Wurm, June-August 2007.
- Andrew Sampson, June-August 2006.
- Grabowski Neal, May-August 2006

High School – Students Working at UC

- Grabowski Neal, June – July 2005
- Janna Vincigverra, July – August 2005

COMMITTEE SERVICE

Doctoral Dissertation Committees

<u>Name</u>	<u>Advisor</u>	<u>Proposal</u>	<u>Defense</u>
Kwang Wook Oh	Chong Ahn	Apr 2000	Mar 2001
Hyoung Jin Cho	Chong Ahn	May 2001	Feb 6, 2002

Aniruddha Puntambekar	Chong Ahn	Nov 2002	Oct 1, 2003
Anish Saran	Joseph T. Boyd	Nov 2002	May 10, 2004
Chien-Chong Hong	Chong Ahn	Jun 2003	Jul 16, 2004
Xiaoshan Zhu	Chong Ahn	Jun 2004	Mar 9, 2005
Yu Qi	Thomas Mantei	Jun 2002	Apr 27, 2005
Chuan Gao	Chong Ahn	Sep 2004	Apr 12, 2005
Praveen Madis	Thurman Henderson	Aug 2003	Nov 2005
Kuntao Ye	Fred Beyette	Jul 2004	Feb 16, 2006
Srinivas Parimi	Thurman Henderson	Mar 2005	Apr 19, 2006
Clayton Sippola	Chong Ahn	Jul 2005	Apr 24, 2006
Jungyoun Han	Chong Ahn	Nov 2005	Jul 14, 2006
Jaephil Do	Chong Ahn	Dec 2005	Aug 14, 2006
Rong Rong	Chong Ahn	Aug 2006	Apr 16, 2007
Se Hwan Lee	Chong Ahn	Aug 2006	May 12, 2008
Soo Hyun Lee	Chong Ahn	Aug 2006	Nov 19, 2007
Girish Kumar	Chia-Chi Ho	Sep 2006	Feb 1, 2008
Chunyan Li	Chong Ahn	Mar 2007	Oct 25, 2007
Duck Kim	Andrew Steckl	Mar 2007	TBA
Ansuman Benerje	David Klotzkin	Apr 2007	Aug 1, 2008
Kaichang Zhou	Jason Haikenfeld	Apr 2007	Jul 19, 2008
Mathew Estes	Chong Ahn	Aug 2008	Apr 17, 2009
Andrew Browne	Chong Ahn	Sep 2008	TBA
Manjeet Dhindsa	Jason Haikenfeld	Feb 2009	TBA

Master Thesis Committees

<u>Name</u>	<u>Advisor</u>	<u>Defense</u>
Brent Van Dyke	Thurman Henderson	May 2000
Arum Han	Chong Ahn	Jun 2000
Bharath Seshadri	Fred Beyette	Jan 23, 2001
Chien-Chong Hong	Chong Ahn	Feb 19, 2001
Rahman A. Rub	Chong Ahn	May 2001
Eugene Kopaygorodsky	Vadim Guliants	Dec 2001
Shomir Banerjee	Chong Ahn	Nov 18, 2002
Phalgun Mynei	Chong Ahn	May 21, 2004
Chunyan Li	Chong Ahn	May 21, 2004
Alok Jain	Chong Ahn	May 24, 2004
Robert Cole	Chong Ahn	Jul 27, 2004
Shilpa Thati	Chong Ahn	Aug 4, 2004
Soo Hyun Lee	Chong Ahn	Aug 3, 2005
Angan Das	Fred Beyette	Aug 24, 2005
Ashwin Kumar	Chong Ahn	Aug 1, 2006
Ravi Chandar Alla	Fred Beyette	Nov 14, 2008
Sachin Gupta	Fred Beyette	Nov 14, 2008

INTERNATIONAL CONFERENCE CHAIR AND ORGANIZER

- Conference Chair, *5th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 22-25, 2007.
- Conference Chair, *4th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 23-26, 2006.
- Conference Chair, *3th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 24-27, 2005.
- Conference Chair, *2th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 25-28, 2004.
- Conference Organizing Committee, *Biomedical Engineering Society Conference, BioMEMS for Cellular/Tissue Engineering Track*, Nashville, TN, October 1-4, 2003.
- Conference Co-Chair, *1th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 26-29, 2003.
- Conference Organizing Committee, *Joint 2002 IEEE EMBS/BMES Conference, BioMEMS, Sensors, and Instrumentation Track*, Austin, TX, October 23-26, 2002.

INTERNATIONAL CONFERENCE SESSION CHAIR

- Session Chair, *4th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 23-26, 2006.
- Session Chair, *3th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 24-27, 2005.
- Session Chair, *2th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 25-28, 2004.
- Session Chair, *Biomedical Engineering Society Conference, BioMEMS for Cellular/Tissue Engineering Track*, Nashville, TN, October 1-4, 2003.
- Session Chair, *1th International Conference on SPIE Microfluidics, BioMEMS, and Medical Microsystems*, SPIE (International Society for Optical Engineering), San Jose, CA, January 26-29, 2003.
- Session Chair, *Joint 2002 IEEE EMBS/BMES Conference, BioMEMS, Sensors, and Instrumentation Track*, Austin, TX, October 23-26, 2002.
- Session Chair, *21st International Conference of the IEEE EMBS*, Atlanta, GA, October 13-16, 1999.

EDITORIAL DUTIES

- Associate Editor, *SPIE Journal of Microlithography, Microfabrication, and Microsystems (JM3)*, 2006 – present.
- Guest Editor, *SPIE Journal of Microlithography, Microfabrication, and Microsystems (JM3)*, “BioMEMS and Microfluidics,” April 2006.
- Editor, *Proceedings of SPIE*, “Microfluidics, BioMEMS, and Medical Microsystems IV,” January 2006.
- Editor, *Proceedings of SPIE*, “Microfluidics, BioMEMS, and Medical Microsystems III,” vol. 5718, January 2005.
- Editor, *Proceedings of SPIE*, “Microfluidics, BioMEMS, and Medical Microsystems II,” vol. 5345, January 2004.
- Co-Editor, *Proceedings of SPIE*, “Microfluidics, BioMEMS, and Medical Microsystems,” vol. 4982, January 2003.
- Guest Editor, Thematic Issue on Microfluidics, *Biomedical Microdevices*, vol. 3, no. 3, September 2001.

SERVICE

College of Engineering Committees

- Director, ERC Cleanroom Center, 2008
- Curriculum: 2006
- Engineering Research Center (ERC) Cleanroom Committee: 2001-2008
- *Ad Hoc*
 - Judge, University of Cincinnati National Science Foundation Research Experience for Undergraduates (REU) Site Poster Completion, August 18, 2005.
 - Participant, Congressman Steve Chabot Visit, April 15, 2004.

Electrical and Computer Engineering Department Committees

- EE Program Undergraduate Advisor, Juniors: 2008-
- Graduate Student Advisor, EMD Group: 2008-
- EE Curriculum: 2005-2008
- Graduate Admissions: 2002-2008
- ECE|21 Committee: 2007-2008
- Graduate Research Council: 2007
- Awards Committee, 2003, 2005, 2007
- Host for:
 - Professor David Eddington, Ph.D., University of Illinois at Chicago, June 7, 2007

REVIEWER

National Science Foundation

- CBET Emerging Environmental Technology Review Panels, 2007-.
- Genomics and Proteomics SBIR Phase I Technical Panels, 2002-2007.
- Biosensors and Biochips SBIR Phase I/Phase II Technical Panels, 2002-2007.
- Division of Bioengineering and Environmental Science (BES) Review Panels, 2004-2006.
- Course, Curriculum, and Laboratory Improvement (CCLI) Review Panel, Division of Undergraduate Education (DUE), February 2005.
- Engineering Research Centers (ERC) Review Panel, Division of Bioengineering and Environmental Science (BES), August 2005.

National Institutes of Health

- NIH Center for Scientific Review, Special Emphasis Panels, Bioengineering Sciences and Technologies (BST) Group, 2007-2008.
- *Ad Hoc* Technical Panels, Nov 2004, Mar 2007, July 2007, Nov 2008.

Department of Energy

- Environmental Remediation Science Program (ERSP) Review Panel, Office of Biological and Environmental Research, August 2008

Department of Homeland Security

- National Defense Science and Engineering Graduate Fellowship Review Panel, June 2003.

Publications

- Journal of Micromechanics and Microengineering (JMM), IEEE Journal of Microelectromechanical Systems (JMEMS), SPIE Journal of Micromachining, Microlithography, and Microfabrication (JM3), Sensors and Actuators A: Physical, Sensors and Actuators B: Chemical, Environmental Science and Technology, IEEE Sensors, Analytical Chemistry, Biomedical Microdevices, Applied Physics Letters, Sensors and Materials, Chemical Engineering Communications

PROFESSIONAL AFFILIATIONS

- Institute for Electronics and Electrical Engineers (IEEE)
 - Senior member since 2008
 - Member 2003 – 2008
 - Associate member 2000 – 2003
 - Student member 1996 – 1999
- IEEE Engineering in Medicine and Biology Society (EMBS)
 - Member since 1997

- Conference Organizing Committee, *Joint 2002 IEEE EMBS/BMES Conference*, BioMEMS, Sensors, and Instrumentation Track, Austin, TX, October 23-26, 2002.
- American Society for Engineering Education (ASEE)
 - Member since 2004
- International Society for Optical Engineering (SPIE)
 - Member since 2000

LAST UPDATED

July 14, 2009