

Elliot En-Yu Hui -- BIOGRAPHICAL SKETCH

a. Professional Preparation

Massachusetts Institute of Technology	Physics; EECS	B.S., 1994
University of California, Berkeley	Electrical Engineering	Ph.D., 2002
Massachusetts Institute of Technology	Biomedical Engineering	postdoc, 2003-08

b. Appointments

Professional Experience:

Assistant Professor of Biomedical Engineering, University of California, Irvine, 2008 – current
Postdoctoral Fellow, Sangeeta Bhatia, Health Sciences & Technology, MIT, 2003-08

Honors:

Ruth L. Kirschstein NRSA Postdoctoral Fellow, National Institutes of Health, 2004-06
Graduate Fellow, National Science Foundation, 1996-99

Societies:

Biomedical Engineering Society
American Society for Cell Biology

c. Selected Publications

Five publications closely related to the proposed project

1. Nguyen TV, Duncan PN, Ahrar S, **Hui EE** (2012). Semi-autonomous liquid handling via on-chip pneumatic digital logic. *Lab Chip* 12(20):3991-4.
2. Ahrar S, Nguyen TV, Shi Y, Ikrar T, Xu X, **Hui EE** (2013). Optical stimulation and imaging of functional brain circuitry in a segmented laminar flow chamber. *Lab-on-a-Chip*, *in press*.
3. Rao N, Evans S, Stewart D, Spencer KH, Sheikh F, **Hui EE**, Christman KL (2012). Fibroblasts influence muscle progenitor differentiation and alignment in contact independent and dependent manners in organized co-culture devices. *Biomedical Microdevices*, *in press*.
4. Nguyen TV, Ahrar S, Duncan PN, **Hui EE** (2011). Microfluidic finite state machine for autonomous control of integrated fluid networks. The 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences, μ TAS 2011 Conference, Oct.2-6, 2011.
5. Duncan PN, Nguyen TV, **Hui EE** (2010). Precision microfluidic oscillators for on-chip timing and control. The 14th International Conference on Miniaturized Systems for Chemistry and Life Sciences, μ TAS 2010 Conference, October 3-7, 2010.

Other significant publications

1. **Hui EE**, Bhatia SN (2007). Micromechanical Control of Cell-Cell Interactions. *Proceedings of the National Academy of Sciences of the United States of America* 104(14):5722-6. PMC1851558
2. March S, **Hui EE**, Underhill GH, and Bhatia SN (2009). Control of Microenvironmental Cues and Function in Liver Sinusoidal Endothelial Cells. *Hepatology* 50(3):920-8. PMC2890242
3. **Hui EE**, Bhatia SN (2007). Microscale Control of Cell Contact and Spacing via Three-Component Surface Patterning. *Langmuir* 23(8):4103-7. PMC3145459
4. Evans AR, Euteneuer S, Chavez E, Mullen LM, **Hui EE**, Bhatia SN, Ryan AF (2007). Laminin and fibronectin modulate inner ear spiral ganglion neurite outgrowth in an in vitro alternate choice assay. *Developmental Neurobiology* 67(13):1721-30. PMID: 17600813
5. **Hui EE**, Bhatia SN* (2007). Silicon microchips for manipulating cell-cell interaction. *Journal of Visualized Experiments* (7):268. PMC2565843

d. Synergistic Activities

1. Developed new curriculum for UCI BME 50A/B, a two-quarter course in molecular and cell biology designed for bioengineering undergraduates. All lectures have been recorded as electronic podcasts.
2. Rocket Science Tutors: Increased the participation of UCI student volunteers in hands-on STEM after-school program in Santa Ana junior high schools. Instrumental in initiating and planning on-campus laboratory visits by school children participating in this program.
3. Invited talks: Lab-on-a-Chip World Congress (2012), Univ of Illinois, Chicago (2012), MEPTec Medical Electronics Symposium (2011), The LabAutomation Conference and Exposition (2011), DARPA N/MEMS Program Review (2010), UC Systemwide Bioengineering Symposium (2009)
4. Professional Meetings: Biomedical Engineering Society, session chair (2012); Society for Laboratory Automation and Screening, track chair (2013), track co-chair (2012), session chair (2011); IEEE-NEMS Conference, program committee (2011)
5. Journal reviewer for Lab on a Chip, Integrative Biology, Sensors and Actuators A/B, IEEE/ASME Journal of Microelectromechanical Systems, Applied Physics Letters, and IEEE J of Selected Topics in Quantum Electronics

e. Collaborators and Other Affiliations

Collaborators

Karen Christman, UCSD
Olivier Cinquin, UCI
Robert Edwards, UCI
Steven George, UCI
Enrico Gratton, UCI
Christopher Hughes, UCI
Lawrence Kroemer, Georgetown
Abraham Lee, UCI
Leslie Lock, UCI
Marian Waterman, UCI
Xiangmin Xu, UCI

Mentors

Graduate: Roger Howe, Electrical Engineering, Stanford
Postdoctoral: Sangeeta Bhatia, Health Sciences & Technology, Massachusetts Institute of Technology

Trainees

Total of 6 doctoral students at UC Irvine
Philip Duncan
Monica Kim
Philip Thomas
Katrina Spencer
Siavash Ahrar
David Li