

• GEORGIA INSTITUTE OF TECHNOLOGY • SCHOOL OF CHEMICAL AND BIOMOLECULAR ENGINEERING •  
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**Hang Lu, Ph.D.**

## **Curriculum Vitae**

### **I. EARNED DEGREES**

- Ph.D. in Chemical Engineering, with a minor in music composition, Massachusetts Institute of Technology, Cambridge, MA, 1998-2003
- M.S. in Chemical Engineering Practice, Massachusetts Institute of Technology, Cambridge, MA, 1998-2000
- B.S. in Chemical Engineering, with highest distinction, summa cum laude, University of Illinois at Urbana-Champaign, Urbana, IL, 1995-1998

### **II. EMPLOYMENT**

- Love Family Professor, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, 2015-present
- Deputy Director of the Interdisciplinary Bioengineering Program, College of Engineering, Georgia Institute of Technology, 2017-present
- Professor, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, 2013-present  
Additional affiliations:
  - Interdisciplinary Bioengineering Program Faculty 2005-
  - Parker H. Petit Institute for Bioengineering and Bioscience Faculty 2005-
  - NSF Center for Behavior Neuroscience Faculty 2005-
  - Center for the Study of Systems Biology 2006-
  - Program faculty for Department of Biomedical Engineering, 2007-
  - Integrative BioSystems Institute, 2007-
- Associate Professor, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, 2010-2013
- Assistant Professor, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, 2005-2010
- Postdoctoral Associate, with Professor Cornelia I. Bargmann, Laboratory of Behavior and Neural Circuits, Howard Hughes Medical Institute, University of California San Francisco and the Rockefeller University, 2003-2005
- Graduate Research Assistant, with Professors Klavs F. Jensen and Martin A. Schmidt, Massachusetts Institute of Technology, 1999-2003
- Engineering consultant, General Electric Plastics Division, Indiana, and Cargill Dow Polymers and Cargill Inc., Minnesota, 2000

### **III. HONORS AND AWARDS**

The Women In Engineering Teaching Excellence Award (1 of 2 awardees), Georgia Institute of Technology, 2017  
Invitee to present at the Nobel Symposium on microfluidics, 2017  
Outstanding Doctoral Thesis Advisor award (one per year), Georgia Institute of Technology, 2016  
Love Family Professorship, Georgia Institute of Technology, 2015-  
American Institute for Medical and Biological Engineering (AIMBE) fellow, 2015  
Invitee to participate in the National Academy of Sciences' 26<sup>th</sup> annual Kavli Frontiers of Science Symposium, Brazil, 2014  
Fellow of American Association for the Advancement of Science (AAAS) since 2013  
ACS Analytical Chemistry Young Innovator Award, Chemical and Biological Microsystems Society, 2013  
Saville Lectureship, Princeton University, 2013  
Invitee to participate in the National Academy of Sciences' 24<sup>th</sup> annual Kavli Frontiers of Science symposium, 2012  
Sigma Xi Best Paper Award, 2012  
H. C. Van Ness Award Lectures, Rensselaer Polytechnic Institute, 2011

James R. Fair Faculty Fellowship, 2011-2014  
 Council of Systems Biology in Boston (CSB2) Prize in Systems Biology (single awardee), 2011  
 NIH Study Section member – Instrumentation and Systems Development, 2010-2014  
 National Science Foundation CAREER award, 2010  
 Invitee to participate in the US Frontiers of Engineering Symposium, National Academy of Engineering, 2009  
 Sigma Xi Young Faculty Award, 2009  
 Sloan Foundation Fellowship in Neuroscience (1 of 16 nation-wide), 2009  
 Georgia Tech CETL/BP Junior Faculty Teaching Excellence Award, 2008  
 DARPA Young Faculty Award (1 of 24 nation-wide), 2007  
 DuPont Young Professor Award (1 of 12 nation-wide), 2006  
 MIT Technology Review TR35 (top 35 technology innovators under age 35), 2005  
 NIH Mentored Quantitative Research Career Development Award, 2004-2007  
 American Cancer Society Postdoctoral Fellowship, 2004 (fellowship awarded but not accepted)  
 National Science Foundation Pre-doctoral Fellowship, 1998-2001  
 Holloway Fellowship, MIT, 1998  
 University Honor (Bronze Tablet), UIUC, 1998  
 Reynold Clayton Fuson Award, School of Chemical Sciences, UIUC, 1998  
 Hauser Scholarship for undergraduate research, UIUC, 1997  
 International Paper Foundation Scholarship, 1997  
 Tau Beta Pi National Engineering Honors Society, 1997  
 Edmund J. James Scholar, University of Illinois at Urbana-Champaign, 1995-1998

#### IV. SOCIETY AFFILIATIONS

American Institute of Chemical Engineers (2002-)  
 Biomedical Engineering Society (2005-)  
 American Chemical Society (2014-)  
 Genetic Society of America (2005-)  
 American Vacuum Society (2008-2009)

#### V. SCHOLARLY ACCOMPLISHMENTS

##### A. Published Books and Parts of Books

1. Daniel A. Porto, Tel M. Rouse, Adriana San-Miguel, and Hang Lu, "Microfluidic platforms for quantitative biology studies in model organisms", *Microfluidic Methods for Molecular Biology*, edited by Chang Lu and Scott Verbridge, Springer, 2015
2. Mei Zhan, Hang Lu, "Quantitative Evo-Devo in Microfluidic Devices", *Advances in Evolution and Development*, edited by J. Todd Streebman, John Wiley & Sons, 2013.
3. Sharon Hamilton, Hang Lu, and Johnna Temenoff, "Patterned Hydrogels for Tissue Engineering with Stem Cells", *Biomaterials as Stem Cell Niche*, edited by Krishnendu Roy, in series "Studies in Mechanobiology, Tissue Engineering and Biomaterials" (Series Editor: Prof. Amit Gefen) by Springer-Verlag, 2010.
4. Jan Krajniak, Edward Park, and Hang Lu, "Packaging for Bio-micro-electro-mechanical Systems (BioMEMS) and Microfluidic Chips", *Nano-Bio-Electronic, Phononic, and MEMS Packaging*, Ed. C.P. Wong, K. Moon, G.Y. Li, Springer, New York, 2010.
5. Hang Lu and Klavs F. Jensen, "Cellular and Subcellular Analysis On-Chip," in *Lab-on-a-chips for Cellomics: Micro and Nanotechnologies for Life Science*, Ed. Helene Andersson and Albert van den Berg, Kluwer Academic, Dordrecht; London, 2004.

##### B. Refereed Publications [\* corresponding author; \* co-first author]

###### B1. Refereed journal publications

1. Weipeng Zhuo, Hang Lu<sup>+</sup>, and Patrick T. McGrath<sup>+</sup>, "Microfluidic Platform with Spatiotemporally Controlled Micro-Environment for Studying Long-term *C. elegans* Developmental Arrests", **Lab on a Chip**, in press.
2. Thomas J. Levario, Yogesh Goyal, Henry Mattingly, Susan Holmes, Stanislav Y. Shvartsman, and Hang Lu, "Parallel live imaging of Capicua dynamics in *Drosophila* embryos", in press.
3. Yohei Matsunaga, Hyundoo Hwang, Barbara Franke, Rhys Williams, McKenna Penley, Hiroshi Qadota, Levi Morran, Hang Lu, Olga Mayans, and Guy Benian<sup>+</sup>, "Twitchin Kinase Inhibits Muscle Activity", **Molecular Biology of the Cell**, in press.

4. Ariel S. Kniss-James, Catherine A. Rivet, Loice Chingozha, Hang Lu, and Melissa L. Kemp, "Single-cell resolution of intracellular T cell Ca<sup>2+</sup> dynamics in response to frequency-based H<sub>2</sub>O<sub>2</sub> stimulation", **Integrative Biology**, 9 (3), 238-247.
5. Giovanni Diana, Dhaval S. Patel, Eugeni v. Entchev, Mei Zhan, Hang Lu, and QueeLim Ch'ng<sup>+</sup>, "Genetic Control of Encoding Strategy in a Food-sensing Neural Circuit", *eLife*, 6, e24040.
6. Yongmin Cho, Charles L. Zhao, and Hang Lu<sup>+</sup>, "Trends in High-throughput and Functional Neuroimaging in *C. elegans*", **WIREs Systems Biology and Medicine**, accepted.
7. Adriana San Miguel, Peri Kurshan, Mathew M. Crane, Kang Shen, and Hang Lu<sup>+</sup>, "Identification of weak alleles and inference of mechanisms by high-dimensional quantification and analysis of morphometric profiles", **Nature Communications**, 7, Article number: 12990 (2016), doi:10.1038/ncomms12990. PMID: 27876787. Open Access.
8. Catherine A. Rivet, Ariel S. Kniss-James, Margaret A. Gran, Anish Potnis, Abby Hill, Hang Lu, Melissa L. Kemp<sup>+</sup>, "Calcium Dynamics of Ex Vivo Long-Term Cultured CD8<sup>+</sup> T Cells Are Regulated by Changes in Redox Metabolism", **PLoS One**. 2016 Aug 15;11(8):e0159248. doi: 10.1371/journal.pone.0159248. eCollection 2016. PMID: 27526200
9. Shinsuke Niwa, David M Lipton, Manatsu Morikawa, Charles Zhao, Nobutaka Hirokawa, Hang Lu, Kang Shen<sup>+</sup>, "Autoinhibition of a Neuronal Kinesin UNC-104/KIF1A Regulates the Size and Density of Synapses", **Cell Reports** 2016 Aug 10. pii: S2211-1247(16)30961-5. doi: 10.1016/j.celrep.2016.07.043.
10. Yi Liu and Hang Lu, "Microfluidics in systems biology-hype or truly useful?", **Current Opinions of Biotechnology**, 2016 Jun;39:215-20. doi: 10.1016/j.copbio.2016.04.020. PMID: 27267565 PMCID: PMC4901307 [Available on 2017-06-01]
11. Emily L. Jackson and Hang Lu, "Three-dimensional models for studying development and disease: from organisms to organs-on-a-chip and organoids", **Integrative Biology**, 2016 Jun 13;8(6):672-83. doi: 10.1039/c6ib00039h. Epub 2016 May 9. PMID: 27156572 PMCID: PMC4905804 [Available on 2017-06-13]
12. Kathleen E. Bates, Hang Lu, "Optics-Integrated Microfluidic Platforms for Biomolecular Analyses", **Biophysical J.**, 2016 Apr 26;110(8):1684-97. doi: 10.1016/j.bpj.2016.03.018., PMID: 27119629 PMCID: PMC4850344 [Available on 2017-04-26]
13. Thomas J. Levario, Charles Zhao, Stanislav Y. Shvartsman, and Hang Lu<sup>+</sup>, "Large-scale data collection and precise perturbation of live *Drosophila* embryos via a microfluidic platform", **Scientific Reports**, 2016 Feb 11;6:21366. doi: 10.1038/srep21366, PMID: 26864815 PMCID: PMC4750044
14. Dawn E. Barnes, Hyundoo Hwang, Kanako Ono, Hang Lu, and Shoichiro Ono<sup>+</sup>, "Molecular evolution of troponin I and a role of its N-terminal extension in nematode locomotion" **Cytoskeleton**, 2016 Mar;73(3):117-30. doi: 10.1002/cm.21281, PMID: 26849746 PMCID: PMC4846289 [Available on 2017-03-01]
15. Hyundoo Hwang, Dawn E. Barnes, Yohei Matsunaga, Guy M. Benian, Shoichiro Ono, Hang Lu<sup>+</sup>, "Muscle contraction phenotypic analysis enabled by optogenetics reveals functional relationships of sarcomere components in *Caenorhabditis elegans*", **Scientific Reports**, 2016 Jan 29;6:19900. doi: 10.1038/srep19900. PMID: 26822332 PMCID: PMC4731793
16. Thomas J. Levario, Bomyi Lim, Stanislav Y. Shvartsman, Hang Lu<sup>+</sup>, "Microfluidics for High-Throughput Quantitative Studies of Early Development", **Annual Review of Biomedical Engineering**, 2016 Jul 11;18:285-309. doi: 10.1146/annurev-bioeng-100515-013926. Epub 2016 Feb 29. PMID: 26928208
17. Md. Abul Hassan Samee, Bomyi Lim, Núria Samper, Hang Lu, Christine A. Rushlow, Gerardo Jiménez, Stanislav Y. Shvartsman, and Saurabh Sinha<sup>+</sup>, "A Systematic Ensemble Approach to Thermodynamic Modeling of Gene Expression from Sequence Data", **Cell Systems**, 2015 Dec 23;1(6):396-407. doi: 10.1016/j.cels.2015.12.002. Epub 2015 Dec 23. PMID: 27136354
18. Douglas E. White, Jonathan B. Sylvester, Melissa A. Kinney, Thomas J. Levario, Hang Lu, J. Todd Strelman, Todd C. McDevitt, Melissa L. Kemp<sup>+</sup>, "Quantitative Multivariate Analysis of Dynamic Multicellular Morphogenic Trajectories", **Integrative Biology**, 2015 Jul 6;7(7):825-33. doi: 10.1039/c5ib00072f., PMID: 26095427

19. Lining Ju, Yunfeng Chen, Fangyuan Zhou, [Hang Lu](#), Miguel A. Cruz, and Cheng Zhu<sup>+</sup>, “Von Willebrand factor-A1 domain binds platelet glycoprotein Iba in multiple states with distinctive force-dependent dissociation kinetics”, **Thrombosis Research**, 2015 Jun 20. pii: S0049-3848(15)30029-3. doi: 10.1016/j.thromres.2015.06.019. PMID: 26213126
20. Bomyi Lim, Carmeline J. Dsilva, Thomas J. Levario, [Hang Lu](#), Trudi Schüpbach, Ioannis G. Kevrekidis, and Stanislav Y. Shvartsman<sup>+</sup>, “Dynamics of Inductive ERK Signaling in the Drosophila Embryo”, **Current Biology**, 2015 Jun 29;25(13):1784-90. doi: 10.1016/j.cub.2015.05.039. Epub 2015 Jun 18. PMID: 26096970
21. Robert J. Mallis, Ke Bai, Haribabu Arthanari, Rebecca E. Hussey, Maris Handley, Zhenhai Li, Loice Chingozha, Jonathan S. Duke-Cohan, [Hang Lu](#), Jia-Huai Wang, Cheng Zhu, Gerhard Wagner, Ellis L. Reinherz<sup>+</sup>, “Pre-T cell receptor ligand binding impacts thymocyte development prior to  $\alpha\beta$  TCR expression”, **PNAS**, 2015 Jul 7;112(27):8373-8. doi: 10.1073/pnas.1504971112. Epub 2015 Jun 8. PMID: PMC4500245
22. Mei Zhan, Matthew M. Crane, Eugeni Entchev, Antonio Caballero, Diana Andrea Fernandes de Abreu, QueeLim Ch'ng, and [Hang Lu](#)<sup>+</sup> “Automated Processing of Imaging Data Through Multi-Tiered Classification of Biological Structures Illustrated Using *Caenorhabditis elegans*”, **PLoS Computational Biology**, April 24, 2015, DOI: 10.1371/journal.pcbi.1004194. <http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1004194>. PMID: PMC4409145
23. Eugeni V. Entchev<sup>\*</sup>, Dhaval S. Patel<sup>\*</sup>, Mei Zhan<sup>\*</sup>, Andrew J. Steele, Hang Lu<sup>+</sup>, and QueeLim Ch'ng<sup>+</sup>, “A gene-expression-based neural code for food abundance that modulates lifespan”, **eLife**, 2015;4:e06259. DOI: <http://dx.doi.org/10.7554/eLife.06259>. PMID: PMC4417936
24. Carmeline J Dsilva, Bomyi Lim, [Hang Lu](#), Amit Singer, Ioannis G Kevrekidis, and Stanislav Y Shvartsman<sup>+</sup>, “Temporal ordering and registration of images in studies of developmental dynamics”, **Development**, 142:1717-1724, 2015. PMID: PMC4419277
25. Guillaume Aubry, Mei Zhan, and [Hang Lu](#)<sup>+</sup>, “Hydrogel-droplet microfluidic platform for high-resolution imaging and sorting of early larval *Caenorhabditis elegans*”, **Lab on a Chip**, 2015, 15, 1424 – 1431, DOI: 10.1039/C4LC01384K. **Also a cover art of the issue**. PMID PMC4348330
26. Luye He,<sup>\*</sup> Ariel Kniss,<sup>\*</sup> Adriana San-Miguel, Tel Rouse, Melissa L. Kemp, [Hang Lu](#)<sup>+</sup>, “An automated programmable platform enabling multiplex dynamic stimuli delivery and cellular response monitoring for high-throughput suspension single-cell signaling studies”, **Lab on a Chip**, 2015, 15, 1497 – 1507, DOI: 10.1039/C4LC01070A. PMID: PMC4362087
27. Loice Chingozha, Mei Zhan, Cheng Zhu, [Hang Lu](#)<sup>+</sup>, “A generalizable, tunable microfluidic platform for delivering fast temporally varying chemical signals to probe single-cell response dynamics”, **Analytical Chemistry**, 2014, 86 (20), pp 10138–10147, DOI: 10.1021/ac5019843. PMID: PMC4204904
28. Hyewon Lee, Shin Ae Kim, Paula Mugno, Marc Hammarlund, Massimo A. Hilliard, and Hang Lu, “A Multi-channel device for high-density target-selective stimulation and long-term monitoring of cells and subcellular features in *C. elegans*”, **Lab on a Chip**, 2014,14, 4513-4522. DOI: 10.1039/C4LC00789A. PMID: PMC4213302
29. Peri T. Kurshan, Allan Q. Phan, George J. Wang, Matthew M. Crane, [Hang Lu](#), Kang Shen<sup>+</sup>, “Regulation of synaptic extracellular matrix composition is critical for proper synapse morphology”, **J. Neurosci.** 2014, 34(38): 12678-12689. PMID: PMC4166155
30. Hyundoo Hwang, Jan Krajniak, Yohei Matsunaga, Guy Benian, and [Hang Lu](#)<sup>+</sup>, “On-demand optical immobilization of *Caenorhabditis elegans* for high-resolution imaging and microinjection”, **Lab on a Chip**, 2014, 14 (18), 3498 - 3501. DOI: 10.1039/C4LC00697F. PMID: PMC4148454
31. Xiaoni Ai, Weipeng Zhuo, Qionglin Liang<sup>+</sup>, Patrick T. McGrath<sup>+</sup>, and [Hang Lu](#)<sup>+</sup>, “A high-throughput device for size based separation of *C. elegans* developmental stages”, **Lab on a Chip**, 2014, 14(10):1746-52. doi: 10.1039/c3lc51334c. PMID: PMC4042318.
32. Guillaume Aubry and [Hang Lu](#)<sup>+</sup>, “A perspective on optical developments in microfluidic platforms for *Caenorhabditis elegans* research”, **Biomicrofluidics**, 2014, 8(1):011301. doi: 10.1063/1.4865167. PMID: PMC3977797
33. Diana Andrea Fernandes de Abreu, Antonio Caballero, Pascal Fardel, Nicholas Stroustrup, Zhunan Chen, KyungHwa Lee, William D. Keyes, Zachary M. Nash, Isaac F. López Moyado, Federico Vaggi, Astrid

- Cornils, Martin Regenass, Anca Neagu, Ivan Ostojic, Chang Liu, Yongmin Cho, Deniz Sifoglu, Walter Fontana, [Hang Lu](#), Attila Csikasz-Nagy, Coleen Murphy, Adam Antebi, Eric Blanc, Javier Apfeld, Yun Zhang, Joy Alcedo, QueeLim Ch'ng, "An Insulin-to-Insulin Regulatory Network Orchestrates Phenotypic Specificity in Development and Physiology", **PLoS Genetics**, 2014,10(3):e1004225. doi: 10.1371/journal.pgen.1004225. PMID: PMC3967928
34. Devon M. Headen, Guillaume Aubry, [Hang Lu](#), and Andres Garcia<sup>+</sup>, "Microfluidic-Based Generation of Size-Controlled, Biofunctionalized Synthetic Polymer Microgels for Cell Encapsulation", **Advanced Materials**, 2014, 26(19):3003-8. doi: 10.1002/adma.201304880. PMID: PMC4058833
  35. Torri E. Rinker<sup>\*</sup>, Taymour M. Hammoudi<sup>\*</sup>, Melissa L. Kemp, [Hang Lu](#), Johnna S. Temenoff<sup>+</sup>, "Interactions between Mesenchymal Stem Cells, Adipocytes, and Osteoblasts in a 3D Tri-Culture Model of Hyperglycemic Conditions in the Bone Marrow Microenvironment", **Integrative Biology**, 2014, 6(3):324-37. doi: 10.1039/c3ib40194d. PMID: PMC3965183
  36. Celine I. Maeder, Adriana San Miguel, [Hang Lu](#)<sup>+</sup>, Kang Shen<sup>+</sup>, "In vivo neuron-wide analysis of synaptic vesicle precursor trafficking", **Traffic**, 2014, 15(3), 273-291. doi: 10.1111/tra.12142. Freely available online.
  37. Jeffrey N. Stirman, Bethany Harker, [Hang Lu](#), Matthew Crane<sup>+</sup>, "Animal microsurgery using microfluidics", **Current Opinion in Biotechnology**, 2014, 25: 24-29. doi: 10.1016/j.copbio.2013.08.007. PMID: PMC3912467
  38. Jenna L. Wilson, Shalu Suri, Ankur Singh, Catherine A. Rivet, [Hang Lu](#), Todd C. McDevitt<sup>+</sup>, "Single-cell Analysis of Embryoid Body Heterogeneity Using Microfluidic Trapping Array" **Biomedical Microdevices**, 2014, 16(1):79-90. doi: 10.1007/s10544-013-9807-3. PMID: PMC3945678.
  39. Emily L. Jackson, [Hang Lu](#)<sup>+</sup>, "Advances in microfluidic cell separation and manipulation", **Current Opinions in Chemical Engineering**, 2013, 2(4):398-404. PMID: PMC3970816
  40. Shalu Suri, Ankur Singh, Anh H. Nguyen, Andres M. Bratt-Leal, Todd C. McDevitt and [Hang Lu](#)<sup>+</sup> "Microfluidic-based patterning of embryonic stem cells for in vitro development studies", **Lab on a Chip**, 2013, 13(23):4617-24. doi: 10.1039/c3lc50663k. PMID: PMC3844158
  41. Daniel C. Williams, Rachid El Bejjani, Paula Mugno Ramirez, Sean Coakley, Shinae Kim, Hyewon Lee, Quan Wen, Aravi Samuel, [Hang Lu](#)<sup>+</sup>, Massimo A. Hilliard<sup>+</sup>, Marc Hammarlund<sup>+</sup>, "Rapid and permanent neuronal inactivation in vivo via subcellular generation of reactive oxygen with the use of KillerRed", **Cell Reports**, 2013 Oct 31;5(2):553-63. doi: 10.1016/j.celrep.2013.09.023. PMID: PMC3877846
  42. Mei Zhan, Loice Chingozha, and [Hang Lu](#)<sup>+</sup>, "Enabling Systems Biology Approaches Through Microfabricated Systems" **Analytical Chemistry**, 2013 Oct 1;85(19):8882-94. doi: 10.1021/ac401472y; also a cover article. PMID: PMC3966076
  43. Adriana San-Miguel and [Hang Lu](#)<sup>+</sup>, invited, "Microfluidics as a Tool for *C. elegans* Biological Research", **Wormbook**, 2013 Sep 24:1-19. doi: 10.1895/wormbook.1.162.1. Publically available.
  44. Bomyi Lim, Nuria Samper, [Hang Lu](#), Christine Rushlow, Gerardo Jimenez, and Stanislav Y. Shvartsman<sup>+</sup>, "Kinetics of gene derepression by ERK signaling", **PNAS**, 2013 Jun 18;110(25):10330-5. doi: 10.1073/pnas.1303635110. Epub 2013 Jun 3. PMID: PMC3690897
  45. Ariel Kniss, [Hang Lu](#), Dean P. Jones, Melissa L. Kemp<sup>+</sup>, "A microfluidic systems biology approach for live single-cell mitochondrial ROS imaging", 2013, **Methods in Enzymology**, 526: 219-230, doi: 10.1016/B978-0-12-405883-5.00013-2. PMID: PMC4085749
  46. Robin W. Klemm, Justin P. Norton, Ronald A. Cole, Chen S. Li, Matthew M. Crane, Liying Li, Diana Jin, Alexandra Boye-Doe, Yoko Shibata, [Hang Lu](#), Robert V. Farese Jr., Tom Rapoport, Craig Blackstone, Yi Guo, and Ho Yi Mak<sup>+</sup>, "a conserved role for atlastin GTPases in regulating lipid droplet size", **Cell Reports**, 2013 May 15. pii: S2211-1247(13)00197-6. doi: 10.1016/j.celrep.2013.04.015. PMID: PMC3742324
  47. Jan Krajniak, Yan Hao, Ho Yi Mak, [Hang Lu](#)<sup>+</sup>, "CLIP – Continuous Live Imaging Platform for Direct Observation of *C. elegans* Physiological Processes", **Lab on a Chip**, 2013, 13 (15), 2963 – 2971. DOI:10.1039/C3LC50300C.
  48. Ankur Singh, Shalu Suri, Ted Lee, Jamie M. Chilton, Weiqiang Chen, Jianping Fu, Steven L. Stice, [Hang Lu](#), Todd C. McDevitt, and Andrés J. García<sup>+</sup>, "Adhesion strength-based, label-free isolation of human

- pluripotent stem cells”, **Nature Methods**, 2013 May;10(5):438-44. doi: 10.1038/nmeth.2437. Epub 2013 Apr 7. PMID: PMC3641175
49. Thomas J Levario, Mei Zhan, Bomyi Lim, Stanislav Y Shvartsman, and Hang Lu<sup>+</sup>, “Microfluidic Trap Array for Massively Parallel Imaging of Drosophila Embryos”, **Nature Protocols**, 2013 Apr;8(4):721-36. doi: 10.1038/nprot.2013.034. Epub 2013 Mar 14.
50. Sharon K. Hamilton, Nathaniel C. Bloodworth, Christopher S. Massad, Taymour M. Hammoudi, Shalu Suri, Peter J. Yang, Hang Lu, and Johnna S. Temenoff<sup>+</sup>, “Development of 3D hydrogel culture systems with on-demand cell separation”, **Biotechnology J.**, 2013 Apr;8(4):485-95. doi: 10.1002/biot.201200200. Epub 2013 Feb 28. PMID: PMC3747669.
51. Edward S. Park, Michael A. DiFeo, Jacqueline M. Rand, Matthew M. Crane and Hang Lu<sup>+</sup>, “Sequentially-pulsed fluid delivery to establish soluble gradients within a scalable microfluidic chamber array”, **Biomicrofluidics**, 2013, 7: 011804, doi: 10.1063/1.4774313. PMID: PMC3555978
52. Hyundoo Hwang, and Hang Lu<sup>+</sup>, “Microfluidic tools for developmental studies of small model organisms – nematodes, fruit flies, and zebrafish”, invited review for **Biotechnology Journal**, 2013 Feb;8(2):192-205. doi: 10.1002/biot.201200129. Epub 2012 Nov 19. PMID: PMC3918482
53. Hyewon Lee, Matthew M. Crane, Yun Zhang, and Hang Lu<sup>+</sup>, “Quantitative screening of genes regulating tryptophan hydroxylase transcription in *C. elegans* using microfluidics and adaptive algorithm”, **Integrative Biology**, 2013, 5 (2), 372 - 380. doi: 10.1039/c2ib20078c. PMID: PMC3618955
54. Matthew M. Crane, Jeffrey N. Stirman, Chan-Yen Ou, Peri T. Kurshan, James M. Rehg, Kang Shen, and Hang Lu<sup>+</sup>, “Autonomous screening of *C. elegans* implicates new genes in synaptogenesis”, **Nature Methods**, 9, 977–980 (2012), doi:10.1038/nmeth.2141; highlighted by NSF Science 360 as breaking news story (8/20/2012); highlighted by NIH-NIGMS research news *Biomedical Beat* (9/21/2012); highlighted by Nature Methods as a method to watch (“Machines learn phenotypes”, Natalie de Souza, Nature Methods, 10, 38(2013), doi:10.1038/nmeth.2299) and The Scientist, Jan 2013 issue. PMID: PMC3530956
55. Aharon Helman, Bomyi Lim, María José Andreu, Yoosik Kim, Tatyana Shestkin, Hang Lu, Gerardo Jiménez, Stanislav Y. Shvartsman, and Ze'ev Paroush<sup>+</sup>, “RTK signaling modulates the Dorsal gradient”, **Development**, 2012, 139(16):3032-9, doi: 10.1242/dev.075812. PMID: PMC3403108
56. Kristin M. French, Archana V. Boopathy, Jessica A. DeQuach, Loice Chingozha, Hang Lu, Karen L. Christman, Michael E. Davis<sup>+</sup>, “A Naturally-Derived Cardiac Extracellular Matrix Enhances Cardiac Progenitor Cell Behavior In Vitro”, **Acta Biomaterialia**, 2012, 8(12):4357-64. DOI: <http://dx.doi.org/10.1016/j.actbio.2012.07.033>. PMID: PMC3488121
57. Steven Husson, Jana Liewald, Jeffrey Stirman, Hang Lu, and Alexander Gottschalk<sup>+</sup>, “Microbial light-activatable proton pumps as circuit breakers to functionally dissect neuronal networks in *C. elegans*”, **PLoS ONE**, 2012 7(7): e40937. doi:10.1371/journal.pone.0040937. PMID: PMC3397962
58. Sharon B. Sann, Matthew M. Crane, Alicia Arney, Hang Lu, Yishi Jin<sup>+</sup>, “Rabx-5 regulates Rab-5 early endosomal compartments and synaptic vesicle formation in *C. elegans*”, **PLoS ONE**, 2012 7(6): e37930. doi:10.1371/journal.pone.0037930. PMID: PMC3366993.
59. Taymour M. Hammoudi, Catherine A. Rivet, Melissa L. Kemp, Hang Lu<sup>+</sup>, and Johnna S. Temenoff<sup>+</sup>, “Three-Dimensional *In Vitro* Tri-Culture Platform to Investigate Effects of Crosstalk between Mesenchymal Stem Cells, Osteoblasts and Adipocytes”, **Tissue Engineering**, 2012, 18(15-16):1686-97. doi:10.1089/ten.tea.2011.0691. PMID: PMC3419849
60. Ivan de Carlos Cáceres, Nicholas Valmas, Massimo A. Hilliard, Hang Lu<sup>+</sup>, “Laterally Orienting *C. elegans* Using Geometry at Microscale for High-Throughput Visual Screens in Neurodegeneration and Neuronal Development Studies”, **PLoS ONE**, 2012, 7(4): e35037. doi:10.1371/journal.pone.0035037. PMID: PMC3335040.
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84. Kwanghun Chung<sup>\*</sup>, Jaekyu Cho<sup>\*</sup>, Edward Park, Victor Breedveld, and Hang Lu<sup>+</sup>, “Three-dimensional In Situ Temperature Measurement in Microfluidic System Using Brownian Motion of Nanoparticles”, **Analytical Chemistry**, 2009, 81(1): 210-217. DOI:10.1021/ac802031j. **[Ziegler best paper award, ChBE, GT, 2009]**
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87. Kwanghun Chung<sup>\*</sup>, Matthew M. Crane<sup>\*</sup>, Hang Lu<sup>+</sup>, “Automated On-Chip Rapid Microscopy, Phenotyping, and Sorting of *C. elegans*”, **Nature Methods**, 2008, 5: 637-643, doi:10.1038/nmeth.1227. **[This paper was reviewed in a “News and Views” article in the same issue of Nature Methods, and New York Times, Cell-based Assay Magazine, the Scientist, Eureka, and other on-line media reported on the work.]** – Full text freely available.  
  
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## B2. Refereed conference publications

1. Emily L. Jackson, Todd C. McDevitt, and Hang Lu, "A microfluidic platform for perfusion culture and multi-functional phenotypic analysis of individual stem cell aggregates", the Proceedings of the 20<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Dublin, Ireland, 2016
2. Guillaume Aubry and Hang Lu, "Droplet-on-demand platform for combinatorial screening of chemicals in *C. elegans*", the Proceedings of the 20<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Dublin, Ireland, 2016
3. Weipeng Zhuo, Patrick McGrath, and Hang Lu, "Microfluidic system with spatiotemporally controlled micro-environment for studying *C. elegans* developmental arrest responses", the Proceedings of the 20<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Dublin, Ireland, 2016
4. Fangyuan Zhou, Cheng Zhu, and Hang Lu, "Gapless protein patterning in microfluidic devices enabling mechanistic studies of pre-activation of type-1 diabetic platelets", the Proceedings of the 20<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Dublin, Ireland, 2016
5. Yongmin Cho, Hyundoo Hwang, Daniel Porto, and Hang Lu, "Microfluidic systems for high-throughput functional imaging of mechanosensing neurons in *Caenorhabditis elegans*", the Proceedings of the 19<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Gyeongju, Korea, 2015
6. Mei Zhan, Yongmin Cho, and Hang Lu, "Automatic Long-term microfluidic platform for individual tracking of healthspan and longevity of *Caenorhabditis elegans*", the Proceedings of the 19<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Gyeongju, Korea, 2015
7. Kathleen E. Bates and Hang Lu, "High-throughput behavioral drug screening using dedicated low-cost microscopy system for monitoring *C. elegans*", the Proceedings of the 19<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Gyeongju, Korea, 2015
8. Hyundoo Hwang, Dawn E. Barnes, Yohei Matsunaga, Guy M. Benian, Choichiro Ono, and Hang Lu, "High-throughput optogenetic study of muscle kinetics in *Caenorhabditis elegans*", the Proceedings of the 19<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Gyeongju, Korea, 2015
9. Tom J. Levario, Hyundoo Hwang, and Hang Lu, "Towards Multi-angle Microscopy: FEP-PDMS Hybrid Device for Enhanced Fluorescence Imaging", the Proceedings of the Eighteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), San Antonio, TX, 2014
10. Loice Chingozha, Cheng Zhu, and Hang Lu, "Single-cell High-throughput Live Imaging and Quantitative Multi-gene Transcriptional Analysis", the Proceedings of the Eighteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), San Antonio, TX, 2014
11. Luye He, Ariel Kniss, Melissa L. Kemp, and Hang Lu, "Automated High-throughput Microsystem for Tunable Temporal Stimulation and Analysis of Non-adherent Cells", the Proceedings of the Seventeenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Freiburg, Germany, 2013
12. Loice Chingozha, Mei Zhan, and Hang Lu, "Single-cell Oscillatory Platform for Extracellular Stimulation (SCOPE) over a Large Temporal Dynamic Range", the Proceedings of the Seventeenth International

Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Freiburg, Germany, 2013

13. Guillaume Aubry, Mei Zhan, and Hang Lu, "Hydrogel Droplet Platform for High-throughput, High-resolution Imaging and Sorting of Early Larval *Caenorhabditis elegans*", the Proceedings of the Seventeenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Freiburg, Germany, 2013
14. Hyewon Lee, Shin Ae Kim, and Hang Lu, "Fast target-selective chemical & optical stimulation based on high-throughput multi-channel imaging device", the Proceedings of the Sixteenth International Conference on Miniaturized Systems for Chemistry and Life Science (microTAS), Oct 2012, Okinawa, Japan.
15. Jan Krajniak and Hang Lu, "C.L.I.P – Continuous Live Imaging Platform for *C. elegans* at Physiological Conditions", the Proceedings of the Sixteenth International Conference on Miniaturized Systems for Chemistry and Life Science (microTAS), Oct 2012, Okinawa, Japan.
16. Alison Hirsch, Boyang Zhang, Che-Ying Kuo, and Hang Lu, "Mixing Analysis of neutrally buoyant particles of finite size in complex flow aided by a novel single-field three-dimensional epifluorescence particle imaging technique", the Proceedings of the Fourteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2010, Groningen, the Netherlands.
17. Catherine A. Rivet, Kwanghun Chung, Melissa L. Kemp, and Hang Lu, "High-density array of single cell traps for high-throughput imaging of calcium dynamics in response to oxidative stress", the Proceedings of the Fourteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2010, Groningen, the Netherlands.
18. Kwanghun Chung, Yoosik Kim, Emily Gong, Stanislav Shvartsman, and Hang Lu, "High-throughput end-on imaging of *Drosophila* embryo for quantitative analysis of morphogens and signaling", the Proceedings of the Fourteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2010, Groningen, the Netherlands.
19. Kwanghun Chung, Emily Gong, Jagan Srinivasan, Paul W. Sternberg, and Hang Lu, "Microfluidic chamber arrays for whole-organism high-throughput combinatorial chemical screening based on behavioral responses", the Proceedings of the Fourteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2010, Groningen, the Netherlands.
20. Jan Krajniak and Hang Lu, "Use of integrated electrodes and embryo traps for individually addressable loading, culturing and monitoring of *C. elegans*", the Proceedings of the Fourteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2010, Groningen, the Netherlands.
21. Kwanghun Chung and Hang Lu, "Automated Microsystem for High-Throughput In Vivo Cell Microsurgery to Study Neuronal Circuits", the Proceedings of the Thirteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Nov 2009, Jeju, Korea.
22. Hyewon Lee, Kwanghun Chung, and Hang Lu, "Multiplex Pressure Measurement in Microsystems using Volume Displacement of Nanoparticle Suspensions", the Proceedings of the Thirteenth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Nov 2009, Jeju, Korea.
23. Alison Hirsch, Catherine Rivet, Boyang Zhang, Melissa Kemp, and Hang Lu, "Parallel Multi-Time Point Cell Stimulus and Lysis in a Microfluidic Device Using Chaotic Mixing and Pressure Resistance," the Proceedings of the Twelfth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2008, San Diego.
24. Gina Cremona, Jeffrey Stirmann, and Hang Lu, "Quantitative Phenotyping of *C. elegans* Behavior in an Automated Microsystem," the Proceedings of the Twelfth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2008, San Diego.
25. Kwanghun Chung, Jaekyu Cho, Lauren Cheplen, Victor Breedveld, and Hang Lu, "Three-dimensional In Situ Temperature Measurement in Microfluidic System Using Brownian Motion of Nanoparticles," the Proceedings of the Twelfth International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2008, San Diego.
26. Kwanghun Chung, Matthew Crane, Hang Lu, "Automated and integrated micro system for high resolution imaging and high-throughput sorting of *C. elegans*," the Proceedings of the Eleventh International Conference on Miniaturized Systems for Chemistry and Life Sciences (microTAS), Oct 2007, France.

27. Yun Zhang, Hang Lu, Cornelia I. Bargmann. "Enhanced signaling of a serotonergic circuit regulates aversive olfactory learning of *C. elegans*," the 15th International *C. elegans* Meeting, June 2005, Los Angeles, CA.
28. Manuel Zimmer, Nikolas Chronis, Hang Lu, Jesse Gray, Cornelia I. Bargmann. "Development and function of an oxygen sensing neural circuit in *C. elegans*," the 15th International *C. elegans* Meeting, June 2005, Los Angeles, CA.
29. Hang Lu, Jesse M. Gray, David Karow, Andy J. Chang, Michael A. Marletta, Cornelia I. Bargmann, "A micro-aerotaxis device for studying oxygen response in *C. elegans*," the Eighth International Conference on Miniaturized Chemical and Biochemical Analysis Systems (microTAS), September 2004, Sweden.
30. Hang Lu, Jesse Gray, David Karow, Andy Chang, Michael Marletta, Cori Bargmann, "A micro-aerotaxis device for studying oxygen response in *C. elegans*," West Coast Worm Meeting, August 2004, Santa Barbara.
31. Hang Lu, Suzanne Gaudet, Peter K. Sorger, Martin A. Schmidt, and Klavs F. Jensen, "Microfluidic Isoelectric Focusing Device for Organelle Sorting," the Seventh International Conference on Miniaturized Chemical and Biochemical Analysis Systems (microTAS), October 2003, CA.
32. Hang Lu, Lily Y. Koo, Linda Griffith, Klavs F. Jensen, "Development of microfluidic shear assays for quantitative analysis of cell adhesion," the Sixth International Conference on Miniaturized Chemical and Biochemical Analysis Systems (microTAS), November 2002, Nara, Japan.
33. Hang Lu, Rebecca J. Jackman, Suzanne Gaudet, Michael Cardone, Martin A. Schmidt, Klavs F. Jensen, "Microfluidic devices for cell lysis and isolation of organelles," the Fifth International Conference on Miniaturized Chemical and Biochemical Analysis Systems (microTAS 2001), October 2001, Monterey, CA; one of the two Michael Widmer Poster Presentation Awards from 300 posters presented.

## C. Presentations

### C1. Invited Presentations

1. Distinguished Lecture at IBBME, U. Toronto, Nov 2017.
2. Invited speaker, microfluidics session, AIChE annual meeting, Minneapolis, MN, Oct 31/Nov 1 2017.
3. Keynote, Inaugural Australian *C. elegans* meeting, Brisbane, Oct 2017.
4. Invited, Nobel Symposium on Microfluidics, Svartsjö, Sweden, June 5-8 2017.
5. Seminar at Department of Biomedical Engineering, Brown University, Providence, RI, April 27, 2017.
6. Seminar at Department of Biomedical Engineering, University of Rochester, Rochester NY, March 7, 2017
7. Seminar at Department of Chemical and Biological Engineering, The University of Alabama, Dec 1, 2016
8. Seminar at the Research Institute of Molecular Pathology, Vienna, Austria, November 17, 2016
9. Keynote, Symposium Latsis EPFL 2016, "Multicellular organisms in microfluidic systems", Ecole Polytechnique Fédérale de Lausanne (EPFL), November 14-16 of 2016.
10. Joint seminar for Chemical and Biomolecular Engineering (CBE) and the Nanobiotechnology center (NBTC), Cornell U., Oct 24, 2016.
11. Invited, NSF workshop on neuro chemistry, Oct 2016.
12. Plenary speaker of the session honoring the AES Electrophoresis Society Mid-Career Achievement Awardee Amy Herr, SciX meeting in Minneapolis, MN in September, 18-23, 2016
13. Seminar at the Cain Department of Chemical Engineering at Louisiana State University, Baton Rouge, LA, September 30, 2016
14. Invited speaker, Single-Cell Analysis: Honoring Chemical Instrumentation Awardee Nancy Allbritton, ACS National Meeting, Philadelphia, PA, August 24, 2016.
15. Department of Bioengineering, UPenn, April 14, 2016.
16. Center for Molecular and Engineering Thermodynamics, U. Delaware, Feb 25, 2016
17. Georgia State University, Department of Chemistry seminar, Feb 12, 2016.

18. U. Oregon Neuroscience Institute seminar, Dec 3, 2015.
19. Department of Mechanical Engineering department seminar, RPI, New York.
20. Keynote talk, Princeton's inaugural Bioengineering Day, Princeton U., Oct 2, 2015.
21. Invited by students, Nanoscale Science and Engineering (NSE) seminar, U. California Berkeley, Sept 2015.
22. Invited, the Ninth Annual q-bio Conference, Blacksburg, VA, August 5-8, 2015.
23. Invited, GRC on Neuromodulatory Signaling Pathways that Modify the Function of Circuits, Hong Kong, June 21-26, 2015.
24. Keynote, Nano Engineering for Medicine and Biology (NEMB), April 19-22, 2015 in Minneapolis, MN.
25. ACS Symposium on Miniaturization in Chemistry- (sub)-nanoscale synthesis, analysis and application, Denver, March 22-26, 2015
26. Symposium on Microfluidics for Flow Biology, Pittcon 2015, New Orleans, March 8-12, 2015.
27. Symposium on microfluidic innovations to advance molecular analysis of disease pathways, Pittcon 2015, New Orleans, March 8-12, 2015.
28. Invited, BioMEMS session, BMES Annual Meeting, San Antonio, TX, October 23, 2014.
29. Keynote, Stanford Cracking the Neural Code Program Annual Symposium, Stanford U., Palo Alto, CA, August 15, 2014.
30. The 7<sup>th</sup> World Congress of Biomechanics, Boston, MA, July 9, 2014.
31. Emergent Behaviors of Integrated Cellular Systems retreat, U. Illinois, Urbana-Champaign, invited, June 23, 2014.
32. Division of Life Science seminar, Hong Kong University of Science and Technology, Hong Kong, May 9, 2014.
33. Department of Chemical Engineering, U. of Michigan, Ann Arbor, MI, January 28, 2014.
34. The Scripps Research Institute, Jupiter, FL, November 21, 2013.
35. Computational Science and Engineering seminar, College of Computing, Georgia Institute of Technology, Atlanta, GA, November 15, 2013.
36. In Honor of Klavs Jensen's 60th Birthday at the 2013 Annual Meeting of the American Institute of Chemical Engineers, November, 2013, San Francisco.
37. ACS Young Innovator Award lecture, the 17<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2013), Freiburg, Germany, Oct 27-31, 2013.
38. Department of Chemical & Biomolecular Engineering, U. of Notre Dame, South Bend, IN, Sept 24, 2013.
39. Symposium on "Micro- and Nanofluidics: Fundamentals and Applications", ACS Annual Meeting, Indianapolis, IN, Sept 8-12, 2013
40. British Society for Research on Ageing Annual Scientific Meeting, Norwich, UK, Sept 3, 2013.
41. Symposium on Neural Circuit Development and Function, Rockefeller University, New York, NY, August 24, 2013.
42. Department of Chemical Engineering, Imperial College London, London, United Kingdom, July 24, 2013.
43. U. Cambridge, MRC Laboratory of Molecular Biology, Cambridge, United Kingdom, July 19, 2013.
44. King's College London, MRC Centre for Developmental Biology, London, United Kingdom, July 17, 2013.
45. U. Oxford, Department of Biochemistry, Oxford, United Kingdom, July 15, 2013.
46. Advances on Microfluidics and Nanofluidics International Conference, invited talk, U. Notre Dame, IN, May 24-25, 2013.
47. ScienceTALK series, Department of Biology and Physics, Kennesaw State University, April 25, 2013.

48. Department of Chemistry, U. Memphis, April 12, 2013.
49. Saville Lecture, Department of Chemical and Biological Engineering, Princeton University, March 27, 2013.
50. Department of Biology, Emory University, Mar 19, 2013
51. Department of Infectious Disease, U. Georgia, Athens, GA, Feb 25, 2013.
52. Department of Chemical Engineering, Texas A&M, College Station, TX, Feb 13, 2013.
53. Invited talk, Society for Laboratory Automation & Screening Annual Conference (SLAS2013), Orlando, FL, Jan 16, 2013.
54. Neuroscience Program, University of Massachusetts Medical School, Worcester, MA, Jan 24, 2013.
55. Department of Chemical Engineering, MIT, Boston, MA, Dec. 7, 2012.
56. The Monsanto Fellows Symposium "From Genome to Phenome: Phenomics the Next Bottleneck", St. Louis, MO, Nov 28-29, 2012
57. Georgia Tech Institute of Bioengineering and Biosciences Bio Industry Symposium, invited, Oct 08, 2012.
58. Bioinformatics Research Center, Department of Bioinformatics and Genomics, University of North Carolina at Charlotte, Sept 28, 2012.
59. UNC/NCSU Joint Department of Biomedical Engineering seminar, Sept 21, 2012.
60. Yale University School of Medicine, June 26-28, 2012.
61. Buchmann Institute for Molecular Life Sciences and Institute of Biochemistry, Johann Wolfgang Goethe-Universität, Frankfurt, Germany, June 13, 2012.
62. Keynote talk, Ontario on a Chip, University of Toronto, Toronto, ON, Canada, May 17-18, 2012
63. Biochemistry and Molecular Biophysics/Biomedical Engineering, Columbia University, May 10, 2012.
64. Department of Bioengineering, UC Berkeley, April 10, 2012.
65. MRS Spring 2012, Symposium on engineered microenvironments for controlling and understanding stem cell and cancer biology, San Francisco, April 2012.
66. Institute for NanoBioTechnology, Johns Hopkins University, March 7, 2012.
67. Department of Chemical Engineering, University of Pennsylvania, February 29, 2012.
68. Micro Technology Laboratory, Massachusetts Institute of Technology, February 21, 2012.
69. Stanford University Bio X Seminar, February 16, 2012.
70. Institute of Genomics, U. Georgia, Athens, GA January 27, 2012.
71. Van Ness Award Lecture 2, Rensselaer Polytechnic Institute, Troy, NY, November 10, 2011. (The Van Ness Award "is presented annually to honor a chemical engineer who has made seminal contributions to the profession".)
72. Van Ness Award Lecture 1, Rensselaer Polytechnic Institute, Troy, NY, November 9, 2011.
73. Plenary presentation, the 2011 International Conference on the Systems Biology of Human Disease, June 22-24, 2011, Boston, MA.
74. Georgia Tech Biology REU program, July 5, 2011.
75. NanoFANS (Focusing on Advanced Nanobio Systems) Forum at the Nanotechnology Research Center (NRC), Georgia Tech, May 18, 2011.
76. Symposium on Gene and Cellular Networks: Insights from genetic model systems, Georgia State University, Atlanta, GA, April 15, 2011. Other speakers include Nobel Laureate Marty Chalfie of Columbia University.
77. Symposium on 'Lights, Cells, Action! Tracking Digital Embryos and Dynamic Phenotypes', the New York Academy of Sciences, New York City, November 19, 2010.
78. The Buck Institute for Age Research, Novato, CA, November 5, 2010.

79. The Institute for Biophysical Dynamics Interdisciplinary Research seminar series, University of Chicago, Oct 19, 2010
80. Computations in Science Seminar, the James Franck Institute, University of Chicago, Oct 20, 2010
81. U. of Illinois, Department of Chemical and Biomolecular Engineering, Urbana-Champaign, IL, Sept. 14, 2010.
82. Department of Biology, Georgia State University, July 30, 2010.
83. American Aging Association 39<sup>th</sup> Annual Meeting, Transatlantic Symposium, Portland, OR, June 4-7, 2010.
84. Invited, 2010 Stem Cell Bioengineering Conference, Boston, MA, May 2-5, 2010.
85. U. Michigan, Microfluidics in Biomedical Sciences Series, Ann Arbor, MI, April. 2010.
86. Department of Chemical Engineering, Virginia Tech, Blacksburg, VA, April 9, 2010.
87. Department of Bioengineering, University of Pennsylvania, Feb 18, 2010.
88. Association of Laboratory Automation meeting, San Diego, January 2010. [Kwanghun Chung gave the talk on behalf of Matthew Crane, Jeff Stirman, and Hang Lu.]
89. Emory University Physics Department Colloquium Series, Oct 30, 2009.
90. Microfluidics symposium, International Mechanical Engineering Congress and Exposition (IMECE-2009), Lake Buena Vista, Florida, Nov 13-20, 2009
91. Department of Mechanical Engineering, Cornell University, Oct 16, 2009.
92. Mount Desert Island Biological Laboratory, Maine, August 28, 2009.
93. SURE summer program, Georgia Tech, June 2009.
94. Gordon Research Conference on Physics and Chemistry of Microfluidics, Lucca, Italy, June 28-July 3, 2009.
95. Association of Laboratory Automation meeting, San Diego, January 2009. [Matthew Crane gave the talk on behalf of Kwanghun Chung and Hang Lu.]
96. DuPont Central Research and Development, Wilmington, DE, November 7, 2008
97. Keynote presentation, Atlanta Area Soft Matter and Complex Systems Symposium, Oct 25, 2008.
98. American Vacuum Society BioMEMS workshop, sponsored by NIH-NIBIB and DARPA-MTO, Boston, MA, October 21, 2008.
99. IBB Breakfast Seminar, Georgia Institute of Technology, Sept 16, 2008.
100. Stowers Institute for Medical Research, Kansas City, Missouri, Sept 10, 2008.
101. Chemical Engineering Department seminar, Vanderbilt University, September 1, 2008, Nashville, TN.
102. Georgia Tech IBB Biosensor Workshop, July 30, 2008.
103. Worm Genomics & Systems Biology meeting, Whitehead Institute, MIT, July 24-25, 2008, Cambridge, MA.
104. Center for Cancer Systems Biology, Department of Cancer Biology, Dana-Farber Cancer Institute, Harvard University Medical School, June 6, 2008, Boston, MA.
105. Chemical Engineering Department seminar, Northeastern University, June 2, 2008, Boston, MA.
106. Chemical Engineering Department seminar, Princeton University, Oct 24, 2007, Princeton, NJ.
107. DARPA MTO PI meeting, July 25-26, 2007, Long Beach, CA.
108. GA/SC Neuroscience Consortium meeting, April 21 2007, Augusta, GA.
109. Integrated BioSystems Initiative symposium day, Georgia Tech, March 14, 2007, Atlanta, GA.
110. National Institute of Standards and Technology, polymer division seminar, March 12, 2007, Gaithersburg, MD.

111. International Symposium for Biologically-inspired Design and Engineering, May 10-12, 2006, Atlanta, GA.
112. School of Biology, Georgia Institute of Technology, April 21, 2006, Atlanta, GA.
113. Department of Pathology, Emory University, November 15, 2005, Atlanta, GA.
114. QB3 MEMS and Biology, University of California - San Francisco, April 2004, San Francisco, CA.
115. American Chemical Society Meeting, March 2004, Anaheim, CA.
116. BSAC and Department of Electrical Engineering, University of California - Berkeley, October 2003, Berkeley, CA.

#### **Invited talks at teaching or career workshops or retreats**

117. NIH/NIBIB 2014 Training Grantees Meeting, Career Panel, Bethesda, MD.
118. "Teaching interdisciplinary subjects", CETL teaching workshop for faculty of King Saud University, July 2010, GT.
119. "Visualization and Humor in Teaching", CETL GTREET (teaching retreat for junior faculty), January 2010, GT.
120. "Teaching interdisciplinary subjects", CETL teaching workshop for faculty of King Saud University, July 2009, GT.

#### **D2. Conference Oral Presentations**

85 conference oral presentations by students and postdocs

#### **E. Other Scholarly Accomplishments**

##### Patent:

Hang Lu, Kwanghun Chung, Matthew Crane, "systems and methods for high-throughput detection and sorting", filed 9/18/2008, US Patent application PCT/US08/76869.

Kwanghun Chung, Catherine Rivet, Hang Lu, Melissa Kemp, "deterministic high-density single-cell trap array", filed Sept 24, 2012, US Patent application 2013/0078163

##### Provisional Patent:

1. Devon Headen, Andres Garcia, Guillaume Aubry, Hang Lu, "Microfluidic Polymer Droplet Gelation by Diffusion from Continuous Phase" (GTRC-6467), filed 9/9/13, serial number 61/875,287
2. Jeffrey Stirman, Matthew Crane, and Hang Lu, "Real-time Multi-Spectral Optical Illumination of Model Organisms or Cells" (GTRC ID 5514), filed 1/6/2011, serial number 61/430,234.
3. Kwanghun Chung, Catherine Rivet, Hang Lu, Melissa Kemp, "deterministic high-density single-cell array" (GTRC ID 5691), filed 9/22/2011, serial number 61/537,895.

##### Invention disclosures:

1. Hang Lu, Victor Breedveld, Mei Zhan, Yongmin Cho, et al., "Device for high-throughput purification of plasma from whole blood for nucleic acid quantification", GTRC ID 6680, filed 4/24/14.
2. Hang Lu, Hyundoo Hwang, Jan Krajniak, Guy Benian, Yohei Matsunaga, "Method for immobilizing biological objects" GTRC ID 6593, filed 1/21/2014
3. Ankur Singh, Shalu Suri, Todd McDevitt, Hang Lu, Andres Garcia, "Adhesive Signature Based Pluripotent Stem Cell Separation" (GTRC ID 5685), filed 6/21/11.
4. Loice Chingozha, Alison M. Hirsch, Hang Lu, Cheng Zhu, "microfluidic devices for single cell adhesion measurements", (GTRC ID 5300), filed 5/26/2010.
5. Taymour Marwan Hammoudi, Johnna Sue Temenoff, Hang Lu, "Stimuli-Responsive, Degradable Adhesives for Separation and Recovery of Co-Cultured Cells" (GTRC ID 5168), serial number 61/322,409", filed 4/9/2010.

#### **VI. GRANTS AND CONTRACTS**

##### **A. As Principal and Co-principal Investigator [Total of ~\$22M, of which >\$14M to the Lu lab]**

##### Current:

1. PI, NIH R01NS096581: Quantitative Understanding of Mechanosensory Circuit on Chip, \$1.7M total, 2016-2021.
2. PI (coPI: Cheng Zhu, Eric Felner), NIH R21EB020424: Microfluidic assays for hyper-reactive platelets in diabetes, 12/1/15-11/31/17, \$404,581 total, \$99,580 year 1 to HL
3. PI, NIH R21 EB021676: Automated Droplet-based Platform for Combinatorial Screens on Whole Animals, 9/15/2015-6/30/2017, \$428,724
4. MPI (with Patrick McGrath), NIH R21 AG050304: Evolving multigenic extensions to lifespan, total ~\$391k, ~\$200k to Lu lab, 4/1/15-3/30/17
5. PI (subcontract from Harvard U., parent R01 GM108962 PI Yun Zhang), "Functional characterization of an insulin-like peptide network that regulates learning", \$635,234, 2014-2019.
6. PI (coPI: Zhexing Wen), the Marcus Center for Therapeutic Cell Characterization and Manufacturing Collaborative Grant in Cell Manufacturing, \$200k direct, 2017-2018.
7. Investigator, NSF STC Emergent Behavior of Integrated Cellular Systems, 0939511, 2014-2020.
8. PI, National Institutes of Health – NIGMS, R01GM088333 "Quantitative microscopy-based rapid phenotyping and screening," \$2.3M (1.1M + 1.2M), 2011-2019
9. MPI (with Oliver Hobert): NSF Neuronex: Live imaging of the C. elegans Connectome, provisionally \$2M (~\$940k to Lu lab), projected start time Sept 2017.
10. MPI (with Patrick Phillips): NIH R01, Systems variation underlying the genetics of aging, provisionally \$3.3 M total budget (\$1.6M to Lu lab) R01AG056436, projected start time July 2017.

Completed:

1. PI, National Science Foundation, CBET 0954578, "CAREER: multiplex microfluidic and automation tools for neurogenetics and live imaging", \$400k [+\$20k GT equipment matching fund], 2010-2016
2. Co-PI (PI: Pamela Peralta-Yahya), "DARPA Young Faculty Award: Chip-based yeast engineering for the production of chemicals", \$500k total, ~\$150k to HL, 2014-2016.
3. PI (coPI Patrick McGrath, Biology), "Evolving Synergistic Weak Alleles for Aging Using Quantitative High-throughput Microscopy", IBB Seed Grant, \$100,000, 2014-2016.
4. Co-PI (PI: Shvartsman, Princeton; other co-PIs: Sinha, UIUC, and Rushlow, NYU), NSF EFRI 1136913 "MIKS: Multiscale Analysis of Morphogen Gradients", \$2M total, \$487k to GT, 2011-2016.
5. Co-PI (PI Melissa Kemp, other co-PI Niren Murthy), NIH, R01AI088023 "Spatiotemporal control of reactive oxygen species in T cells", \$1,443k total, (~\$540k to the Lu lab), 2011-2015.
6. MPI (with Melissa Kemp), NIH R56AI088023 "Spatiotemporal control of reactive oxygen species in T cells", \$371,424 total, (~\$150k to the Lu lab), 2015-2016.
7. Co-PI (PI: Olga Mayans U. Liverpool; other co-PIs: Guy Benian, Emory U, and Hans Robert Kalbitzer, U. Regensburg), Human Frontiers Science Program, "Role of cytoskeletal kinases in the mechanosensory feedback regulation of muscle", ~\$1.35M total, ~\$280k to Lu lab. 2012-2015
8. Co-PI (PI: Christine Payne, co-PIs: M. Grover, M. Kemp, H. Lu and Y. Xia), NSF Major Research Instrumentation, "MRI: Acquisition of a super-resolution microscope", \$469K Total, 2013- 201
9. PI, King's College London, "ERC NeuroAge Subcontract (PI: Ch'ng): Microfluidics for Quantitative Imaging", \$90k, 2010-2014.



10. PI, National Institutes of Health – NIBIB, R21EB012803 “High-Throughput High-Content Platform for Image-Based Screens”, 2010-2013, \$406k
11. PI, Sloan Foundation Research Fellowship in Neuroscience, Alfred P. Sloan Foundation, \$50k, 2009-2013
12. PI, National Institutes of Health – NIA, R01AG035317, “Sources, transmission and effects of transcriptional noise in *C. elegans* aging,” \$880k, 2009 – 2013.
13. PI (MPI with Todd Strelman, Biology GT), IBB seed grant, 25k (50k total), 2012-2013.
14. PI, “ARRA: Microfluidic Systems for Assaying Migration of Cancer Cells”, U. Washington (subcontract from RC1CA144825 -PI:Vessella), \$230k, 2009- 2012.
15. PI (MPI with Johnna Temenoff, BME), National Institutes of Health – NIBIB, R21EB009153, “3D Co-culture with Micropatternable Hydrogels to Promote Fibrous Tissue Formation”, \$400k, 2009-2012
16. PI, (Multiple PI plan with PI Melissa Kemp, BME) National Institutes of Health – NCI, R21CA134299, “Microfluidic system for high-throughput evaluation of T cell functionality with high-resolution in time,” \$401k, 2008-2011
17. PI, National Science Foundation, DBI-0649833, “IDBR: An automated, high-throughput micro system for precision imaging and ablation of cells,” \$425k, 2007-2011
18. PI (co-PI Melissa Kemp, BME), GT Integrative BioSystems Institute seed grant, “Systems Analysis of ROS and Calcium Signaling During T-cell Activation Enabled by Microfluidics and High Resolution Microscopy”, \$30k, 2009-2010
19. PI (co-PI Cheng Zhu, BME), GT Integrative BioSystems Institute seed grant, “Deciphering Molecular Mechanics with High-throughput Adhesion Microfluidic Assay”, \$30k, 2009-2010
20. PI, National Institutes of Health (NIH – NINDS R21NS058465), R21 “Dissecting Neural Circuits by Microfluidics-enabled Microscopy and Laser-ablation,” \$349k, 2007-2010
21. PI, National Institutes of Health (NIH – NIBIB K25EB004001), K25 Mentored Quantitative Research Career Development Award, Project title “Elucidating Oxygen Sensation in *C. elegans* with Microfluidics,” \$269k, 2004-2007
22. PI, DuPont foundation, DuPont Young Professor Grant, “A highly integrated micro-electro-mechanical system for parallel sample preparation,” \$75k, 2006-2009
23. PI, DARPA Young Faculty Award “Hybrid Biometric MEMS for Detecting Environmental Contamination,” \$150k, 2007-2008
24. PI, Industrial sponsored research from Celtaxsys – Georgia Research Alliance matching, “Predictive software models of chemotactic devices for drug discovery”, \$31k, 2008
25. PI (co-PI Melissa Kemp, BME), GT Integrative BioSystems Institute seed grant, “Detecting ROS and Calcium Signaling During T-cell Activation via Microfluidics-Enabled High-Resolution Microscopy”, \$35k, 2008-2009
26. PI (co-PI Kostas Konstantinidis, CE), GT Integrative BioSystems Institute seed grant, “Towards high-throughput single-cell genomic analysis of natural complex microbial assemblages enabled by microfluidics”, \$35k, 2008-2009

## VII. TEACHING

### A. Individual Student Guidance

#### Current PhD Students and Awards:

1. Emily Jackson (ChBE, jointly with Todd McDevitt), PhD candidate, 2012-date. **NSF Graduate Fellowship**, 2014-2017.
2. Tel Rouse (BioE/ChBE), PhD candidate, 2012-date; **NSF Graduate Fellowship**, 2012-2015

3. Daniel Porto (BioE/ECE), PhD candidate, 2012-date
4. Weipeng Zhuo (ChBE, jointly with Patrick McGrath), PhD candidate, 2012-date.
5. Fangyuan Zhou (ME, jointly with Cheng Zhu), PhD candidate, 2012-date.
6. Kathleen Bates (ChBE/BioE), PhD candidate, 2013-date.
7. Brian Yi Liu (ChBE), PhD candidate, 2014-date.
8. Sol-Ah Lee (ChBE), PhD candidate, 2015-date.
9. Kim Le (BME), PhD candidate, 2015-date; **NSF Graduate Fellowship**, 2016-2019
10. Farhan Kamili (BioE/ECE), PhD candidate, 2015-date.
11. Stephanie Reynolds (ChBE), PhD candidate, 2015-date; NIH T32 Biomaterials trainee
12. Shivesh Chaudhary (ChBE), PhD candidate, 2016-date
13. Seleipiri Charles (BME/BioE), PhD candidate, 2016-date
14. Robin Lawler (ChBE), PhD candidate, 2016-date
15. Alex Calhoun (BME, co-advisor: Rob Butera), PhD candidate.
16. [Daniel Watstein (ChBE, primary advisor: Mark Styczynski), PhD candidate, 2016-date]
17. [Monica McNerney (ChBE, primary advisor: Mark Styczynski), PhD candidate, 2016-date]

#### Past Students and Awards:

##### PhD Student:

18. Maria Elena Casas (ChBE), PhD candidate, 2011-date; **NSF Graduate Fellowship**, 2012-2015.
19. Luye He (ChBE, jointly with Melissa Kemp), PhD candidate, 2011-date.
20. Yongmin Cho (ChBE), PhD candidate, 2012-date.
21. Charles Zhao (BME, computational neuroscience), PhD candidate, 2012-2016.
22. Thomas Levario (ChBE), PhD, "Microfluidics and imaging techniques for high-throughput studies of early embryonic development", 2011-2016; **NIH F31 Awardee, 2014-; Ziegler best thesis proposal award**, 2014.
23. Ariel Kniss (BME, jointly with Melissa Kemp), PhD candidate, 2011-2016.
24. Loice Chingozha (ChBE), PhD candidate, 2009-2015 (jointly advised with Cheng Zhu, BME)
25. Mei Zhan (BioE/BME), PhD candidate, 2009-2014; **NSF graduate research fellowship**, 2011-2014.
26. Ivan Caceres (BioE/BME), "On-Chip Phenotypic Screening & Characterization of *C. elegans* Enabled by Microfluidics & Image Analysis Methods", 2007- 2013, NIH F31 **Predoctoral fellowship**.
27. Jan Krajniak (ChBE), "Microfluidic Toolkit for Scalable Live Imaging, Developmental and Lifespan Dynamic Studies of *C. elegans* with Single Animal Resolution", 2007-2013
28. Hyewon Lee (ChBE), PhD, 2007-2013, thesis title "Microfluidic Systems and Analytical Tools for Genetic Screening, Optogenetics, and Neuroimaging of *C. elegans*"; **award: AIChE Area 15d Bioengineering Student Poster award** (single awardee), 2011.
29. Taymour Hammoudi (GT/Emory, MD/PhD), 2007 – 2012, thesis title "3D Micropatternable Hydrogel Systems to Examine Crosstalk Effects Between Mesenchymal Stem Cells, Osteoblasts, and Adipocytes" (jointly advised with Johnna Temenoff, BME)
30. Catherine Rivet (BioE/ECE), PhD candidate, 2007 – August 2012, thesis title "Investigation of Altered Signaling Pathways in Aging T Cells using Microfluidic Platforms and Computational Modeling" (jointly with Melissa Kemp, BME), defended June 2012; **award: the F.L. "Bud" Suddath Memorial Award for graduate research achievement**, Parker H. Petit Institute of Bioengineering and Biosciences, Georgia Tech.
31. Jeffrey Stirman (ChBE/BioE), PhD, 2009-2012, thesis title "Automated microfluidic screening and patterned illumination for investigations in *C. elegans* neuroscience", **Sigma Xi Best Thesis Award 2012. Burroughs Wellcome Fund Career Award at the Scientific Interface, 2015.**
32. Alison M. Paul (ChBE), PhD, 2006 – Aug 2011, thesis title "Design and Optimization of Efficient Microfluidic Platforms for Particle Manipulation and cell Stimulation in Systems Biology". **Award: Ziegler best thesis proposal award, 2009**
33. Matthew M. Crane (BioE/ECE), PhD, 2006 – March 2011, thesis title "automated quantitative phenotyping and high-throughput screening in *C. elegans* using microfluidics and computer vision". **Award: Presidential Graduate Fellowship, GT, 2006; NSF graduate fellowship, 2006**
34. Edward Park (ChBE), PhD, 2005 – 2010, thesis title "Microfluidic Systems to Create Complex Microenvironments in Cell-Based Assays". *Awards: Presidential Graduate Fellowship, GT, 2005; National Defense Science and Engineering Graduate (NDSEG) Fellowship, 2006*
35. Kwanghun Chung (ChBE), PhD, 2005 – 2009, thesis title "Automated and Integrated Micro System for High-Throughput and High Resolution Imaging, Sorting, and Laser Ablation of *C. elegans*". **Award: Ziegler best paper award, 2009; Burroughs Wellcome Fund Career Award at the Scientific Interface, 2012.**

*Masters Students:*

36. Gina H. Cremona (ChBE), MS, 2006 – 2009. **Award: Department of Homeland Security Fellowship, 2006**
37. Melissa Li (BME), 2006 – 2008 (jointly with Rachel Chen), MS thesis title “A Microscale Molecular Weight Analysis Method for Characterizing Polymers Solutions of Unknown Concentrations”.

*Undergraduate Students and Awards:*

1. Katie Johnson (ChBE), May 2005 – Dec 2005, **PURA** (Presidential Undergraduate Research Award), summer 2005
2. Sam Fielden (BME), May 2005 – May 2006, **PURA**, fall 2005
3. Jessica Lee (BME), May 2005 – August 2006, **PURA**, spring 2006
4. Ashley Fritz (ChBE), May 2006 – August 2007, **PURA**, fall 2006; NSF Graduate Fellowship, 2007-2010; Air Product Undergrad Research Symposium poster, **second prize winner**, spring 2007
5. Matthew Dodd (ChBE), Jan 2007 – May 2008; **PURA**, fall 2007
6. Lauren Cheplen (ChBE), May 2007 – 2009; **PURA**, fall 2008
7. Kevin Liu (Biology REU), May 2007- August 2007
8. Matthew Pavlovich (ChBE), August 2007 – May 2009; **PURA**, fall 2008; DHS graduate fellowship for UC Berkeley
9. Michael Boyang Zhang (ChBE), January 2008 – 2009; **PURA**, summer 2008; Air Product undergraduate researcher, spring 2009; **Outstanding Undergraduate Researcher Award in College of Engineering, 2010**
10. Michael Difeo (ChBE), August 2008 – May 2009; Air Product undergraduate researcher, spring 2009; Air Product Undergrad Research Symposium poster, **second prize winner**, spring 2009
11. Stephen Pety (PTFE, with Y. Thio), August 2008 – August 2010; **PURA**, fall 2009
12. Nathan Bloodworth (BME, with J. Temenoff), spring 2009 – spring 2011
13. Francine Smith (Tuskegee University), SURE, summer 2009
38. Sean Bandzar (ChBE), summer 2009 – fall 2009
39. William Chiang (City College of New York), May – August 2009, BRAIN fellow (undergraduate research program in neuroscience supported by NIH-NIGMS)
40. Vincent Laufer (U. Notre Dame), May – August 2009, BRAIN fellow (undergraduate research program in neuroscience supported by NIH-NIGMS); **Sole winner of the 2009 RIGHT BRAIN Program Research Symposium poster competition**
41. Emily Gong, summer 2009 – summer 2010; Air Product undergraduate researcher, spring 2010; Air Product Undergrad Research Symposium poster, **first prize winner**, spring 2010
42. Iva Franjkic, fall 2009 – spring 2011; Air Product undergraduate researcher, 2010-2011, Air Product Undergrad Research Symposium poster, honorable mention, spring 2011
43. Alice Shen, fall 2009 – spring 2010
44. Che-Ying Charles Kuo, fall 2009 – summer 2010; **PURA**, summer 2010
45. John Nahabedian, summer 2010, Biology REU
46. Dorothy Copeland, summer 2010
47. Varun Charupadi (U. Mass Amherst), SURE, summer 2010
48. Ashley Deason, Tech to Teaching SURE, summer 2010
49. Wissam Charab, fall 2010
50. Nicholas Harris, fall 2010 – spring 2011
51. Jackie Rand, fall 2010 – summer 2011, Air Product Undergrad Research Symposium poster, **second prize winner**, spring 2011
52. Josue A. Rodriguez Cordero (U. Puerto Rico Mayaguez), summer 2011
53. Michael Ryan Warner (Earlham U.), summer 2011 Biology REU
54. Ryan Duvall, spring 2012 – fall 2012; **PURA**, fall 2012
55. Clayton Wilbanks, spring 2012 – Summer 2012 ; **PURA**, summer 2012
56. Enrique Daza, summer 2012
57. Jiyuan Ding, fall 2012 –; **Air Products Undergrad Researcher**, 2012, 2013; **College of Engineering Outstanding Undergraduate Researcher Award**, 2014
58. QuocAhn Vu, fall 2012 – Fall 2013; **PURA**, fall 2013
59. Tyrus Xin H. Tai, spring 2012 – Fall 2013
60. Daniel Puleri, spring 2012 – , Third place in Air Products undergrad research symposium, spring 2015; **PURA**, fall 2014; Air Product Undergrad scholar 2014-2015; 3rd Place, Food, Pharma, and Biotechnology IX undergrad poster competition, AIChE annual meeting, Atlanta, 2014

61. Max Virgill, Fall 2013
62. Xing Wei, Furman University, Summer 2014
63. Anna Hadsell, Fall 2014.
64. Trent Swords, Spring 2014-spring 2015.
65. Francesco Costantini, Fall 2014-spring 2015.
66. Hamim Nigena, Morehouse College, 2015, Petit Research Undergraduate Scholar.
67. Meagan McDowell, summer 2015, EBICS REU student.
68. Sean Patrick Martin, fall 2015 - ; **PURA**, spring 2016, third place within the College of Engineering at the Georgia Tech Undergraduate Research Symposium
69. William K Dyer, fall 2015.
70. Noah Oakland, fall 2015 –
71. John (Jack) Giblin, fall 2015-
72. Stellina Lee, spring 2016 –
73. Yiran Zhao, spring 2016 – ; **PURA**, spring 2017
74. Katie Lanthier, spring 2016 -
75. Josh Gray (UNC), summer 2016, Aquatic Biology REU
76. Shaaron Ochoa-Rios (Fayetteville State University), Summer 2016, SURE EBICS
77. Marija Milisavljevic, summer 2016 – spring 2017; third place in the Air Products Undergrad Research Symposium 2017
78. Alex Carusi, fall 2016-
79. Alice Robang, fall 2016-
80. Amanda Schafer, **Petite Scholar**, fall 2016- ; honorable mention in the Air Products Undergrad Research Symposium 2017
81. David Yaroshevsky, fall 2016-
82. Kirby Broderick, fall 2016-

*Current Postdoctoral Fellows:*

1. Gongchen Sun (U. Notre Dame, PhD 2017), May 2017 –
2. Dhaval Patel (UCL, PhD...), May 2017 –
3. Yongmin Cho (GT, PhD 2017), April 2017 –
4. Nan Xu (Cornell, PhD 2017), July 2017 –
5. Guillaume Aubry (U. Paris Sud, PhD 2011), Jan 2012 –

*Past Postdoctoral Fellows:*

1. Mei Zhan (GT BME/BioE, PhD 2014), Nov 2014-March 2015;
2. Adriana San Miguel (GT ChBE, PhD 2011), Aug 2011 – December 2015; **NIH K99R00 Pathway to Independence Awardee 2013**
3. Hyundoo Hwang (Seoul National U., PhD 2010), August 2012 – June 2015.
4. Shinae Kim (Seoul National U., ECE PhD 2011), May 2011 – Sept 2014
5. Shalu Suri (UT Austin, BME PhD 2010), Feb 2010 – July 2012
6. Venkata Gundabala (GT Physics postdoc), August 2011 – August 2012
7. Matthew Crane (GT BioE PhD 2011), May 2011 – Oct 2011
8. Kwanghun Chung (Georgia Tech ChBE PhD 2009), Aug 2009 – July 2010
9. Sharon Hamilton (Vanderbilt U. Chemistry PhD 2009), Aug 2009 – Aug 2011
10. Yan Xie (Case Western ECE PhD 2008), Sept 2008 – Jan 2009

*Visiting students:*

- Buyun Zhao (MRC/LMB, Cambridge, UK), spring 2016
  - European Molecular Biology Organization (**EMBO**) short term fellowship
- Ivan Gallotta (Institute of Genetics and Biophysics "Adriano Buzzati Traverso", Consiglio Nazionale delle Ricerche, Naples, Italy), fall 2012
  - European Molecular Biology Organization (**EMBO**) short term fellowship
- Anni Xiaoni Ai (Tsinghua U., Chemistry), fall 2011 – spring 2013
- Dane Maxwell (U. Utah, Biology), fall 2011

*Rotation students:*

- Chris Tuthill (Neuroengineering IGERT), fall 2006
- Ivan Caceres (Neuroengineering IGERT), summer 2007

Taymour Hammoudi (GT/Emory, MD/PhD), summer 2007  
 Charles Zhao (Computational Neuroscience trainee), summer 2012  
 Lijiang Long (GT Biology), summer 2016

#### Technicians:

Christine Alberico, 2009 – 2013  
 Courtney Fox, 2012 – 2014  
 Eric Anderson, 2014 –  
 Kathie Watkins, 2015 –

#### High School Student:

Jasmin Cutter, 2014-2015: PROJECT ENGAGE scholar; second place in state science fair, 2015.

### B. Other Teaching Activities

1. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, GT Lorraine, summer 2017
2. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2017 (co teaching with Kane)
3. ChBE 6710/4710, Microfluidics and biological applications, fall 2016
4. ChBE 2100, Chemical Process Principles, spring 2016.
5. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, summer 2015.
6. ChBE 4710/6710, Microfluidics and biological applications, fall 2014.
7. ChBE 4505/4525 Senior Design – bio design, spring 2014. 15 students, including wet-lab components.
8. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2014.
9. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2013.
10. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2013.
11. ChBE 4710/6710, Microfluidics and biological applications, fall 2012.
12. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, two sections, fall 2011.
13. ChBE 4710/8803, Microfluidics and biological applications, fall 2010.
14. ChBE 3210, Transport Phenomena – Mass Transfer, spring 2010.
15. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2009.
16. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2009; also mentoring Mariefel V. Olarte for her teaching practicum.
17. ChBE 8803/4803, Micro/nanofluidics, fall 2008.
18. ChBE 2100, Mass and Energy Balance, fall 2007.
19. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, summer 2007.
20. ChBE 8803/4803, Micro/nanofluidics and bioMEMS, spring 2007.
21. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2006.
22. ChBE 3200 Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2005.

### C. PhD Thesis Committees

Amy Su (Advisor: Mark Styczynski, ChBE), 2016-  
 Monica Mc Nerney (Advisor: Mark Styczynski, ChBE/BioE), 2016-  
 Matt Ballard (Advisor: Alexander Alexeev, ME), 2016-  
 Kirsten Parratt (Advisor: Krish Roy, MSE/BioE), 2015-  
 Abhirup Mukherjee (Advisor: Ravi Kane, ChBE), 2015-  
 Chad Varner (Advisor: Ravi Kane, ChBE), 2015-  
 Wing-Yin Tuet (Advisor: Saly Ng, ChBE), 2015-  
 Efraín Cermeño Blondet (Advisor: Andres Garcia, ME), 2014-  
 Ikechukwu (Ikay) Okafor (Advisor: Ajit Yoganathan, ChBE) 2014-  
 Prithviraj Jothikumar (Advisor: Cheng Zhu, BME) 2013-  
 Devon Headen (Advisor: Andres Garcia, ME) 2013-  
 Pradnya Samant (Advisor: Mark Prausnitz, ChBE) 2013-  
 Drew Owen (Advisor: Peter Hesketh, ME) 2013- 2016  
 Joohyung Lee (Advisor: Sven Behrens, ChBE) 2012-  
 Kipp Schoenwald (Advisor: Todd Sulchek, ME) 2012-  
 Seonhee Park (Advisor: Mark Prausnitz, ChBE) 2012-2015  
 Elaine Tang (Advisor: Ajit Yoganathan, ChBE) 2011-2015  
 Billy Wang (Advisor: Todd Sulchek, ME) 2013-2014  
 Kyung Hee Oh (Advisor: Victor Breedveld, ChBE) 2011-2014  
 Christopher Phaneuf (Advisor: Craig Forest, ME/BioE) 2011-2014

Andac Amutlulu (Advisor: Mark Allen, ChBE) 2011-2014  
 Mauricio Bedoya (Advisor: Jennifer Curtis, Physics) 2010-2015  
 Christopher Edmonds (Advisors: Sankar Nair, Peter Hesketh, BioE/ECE) 2009-2013  
 Shahana Safdar (Advisor: Lakeshia Taite, ChBE) 2009-2012  
 Adriana SanMiguel (Advisor: Sven Behrens, ChBE) 2009-2011  
 Jennifer Munson (Advisor: Ravi Bellamkonda, BioE/ChBE) 2009-2011  
 David Dumbauld (Advisor: Andres Garcia, BioE/ME) 2009-2011  
 Helene Simon (Advisor: Ajit Yoganathan, ChBE) 2009-2009  
 Zhengchun Peng (Advisor: Peter Hesketh, ME) 2009-2010  
 Ryan Maladen (Advisor: Dan Goldman, BioE/Physics) 2009-2010  
 Manoj Agrawal (Advisor: Rachel Chen, ChBE) 2008-2012  
 Fernie Pei Ying Goh (Advisor: Athanassios Sambanis, ChBE) 2008-2011  
 Andria Deaguero (Advisor: Andreas Bommarius, ChBE) 2008-2011  
 Tzu-Hsin Tsao (Advisor: Robert Butera, BioE/BME) 2008-2011  
 James Norman (Advisor: Mark Prausnitz, ChBE) 2008-2010  
 Alison Stucky (Advisor: Athanassios Sambanis, ChBE) 2008-2011  
 Danielle Drury-Stewart (Advisors: Marie Csete and Larry McIntire, BME) 2008-2011  
 Ying Liu (Advisor: Mark Prausnitz, ChBE) 2007-2011  
 Venmathy Rajarathinam (Advisors: Paul Kohl and Sue-Ann Bidstrup-Allen, ChBE) 2007-2010  
 Janna Blum (Advisor: Andreas Bommarius, ChBE) 2007-2011  
 Jae Kyu Chu (Advisor: Victor Breedveld, ChBE) 2006-2009  
 Michelle Kassner (Advisors: Chuck Eckert and Charlie Liotta, ChBE) 2007-2008  
 Prerona Chakravarty (Advisor: Mark Prausnitz, ChBE) 2006-2008  
 Rebecca Shiels (Advisor: Chris Jones, ChBE) 2006-2008  
 Yueming Hua (Advisor: Cliff Henderson, ChBE) 2006-2008  
 Charlene Rincon (Advisor: Carson Meredith, ChBE) 2005-2008  
 Joseph Charest (Advisor: Bill King, ME) 2006-2007  
 Liz Giambra Hill (Advisors: Chuck Eckert and Charlie Liotta, ChBE) 2005-2007

#### D. M.S. Thesis Committees

Souryadeep Bhattacharyya (Advisor: Pamela Peralta-Yahya, ChBE) 2014

#### E. Outreach Teaching Activities

1. Meadowcreek High School, seminar to biology and chemistry high school teachers, entitled "Using *C. elegans* as a classroom model organism – a proposal," Feb 9, 2006.
2. Mentor to GIFT fellow Dr. Annette Parrott, Lakeside High School, Atlanta, GA, summer 2006.
3. Mentor to GIFT fellow Dr. Bhagyalakshmi (Raj) Gopalsingh (Singh), Jonesboro High School, Clayton County Public Schools, GA, summer 2010.
4. Mentor to NNIN RET teacher, Dr. Gregory Hair, Meadowcreek High School, summer 2014.

### VIII. SERVICE

#### A. Professional Contributions

##### *Editorial Board:*

RSC Lab on a Chip associate editor 2017-

##### *Editorial Advisory Board:*

Biomechanics (American Institute of Physics) advisory board 2014-2018  
 ACS Analytical Chemistry Features Panel member 2014-2017  
 RSC Lab on a Chip advisory board 2016-

##### *Journal referee:*

ACS Chemical Neuroscience  
 Analytical and Bioanalytical Chemistry  
 Analytical Chemistry  
 ASME International Mechanical Engineering Congress & Exposition Proceeding  
 Biomechanics  
 Biophysical J.  
 Biotechnology and Bioengineering

Biotechnology Progress  
Chemical Engineering Education  
Chemical Engineering Science  
Current Biology  
Journal of Biomedical Optics  
Journal of Membrane Science  
Journal of Microfluidics and Nanofluidics  
Journal of Neuroscience Methods  
Journal of the Association for Laboratory Automation  
Journal of Visualized Experiments  
Lab on a chip  
Langmuir  
Microscopy Research and Technique  
Nano Letters  
Nature Biotechnology  
Nature Communication  
Nature Materials  
Nature Methods  
Nature Protocols  
Nature Scientific Reports  
PLoS Genetics  
PLoS ONE  
PNAS  
Science Translational Medicine  
Sensors and Actuators  
The International Journal of Robust and Nonlinear Control

*Ad hoc grant reviewer:*

Grant application to Technology Foundation STW, Board of the Dutch National Research Council, 07/2005  
NSF DMI (Civil, Mechanical and Manufacturing Innovation (CMMI)) NER (Nano Exploratory Research Grants) panel reviewer, 02/2006  
NSF Chemical, Bioengineering, Environmental, and Transport Systems (CBET) (chemical and biological separations grants) panel reviewer, 11/2006  
NSF CBET (NIRT) panel reviewer, 3/2007  
NSF CBET (transport phenomena) panel review, 6/2007  
NSF CBET (microfluidics, nanofluidics, rheology) panel review, 6/2007  
NIH National Institute of General Medical Sciences Special Emphasis Panel call-in review, ZGM1 MBRS-7 (SC) MBRS support of competitive research, 7/2007  
NSF Biological Sciences BIO-IDBR panel reviewer, 12/2007  
Grant application to North Carolina Biotechnology Center, 1/2008  
NSF Biological Sciences (BIO) instrumentation grant mail-in reviewer, 03/2008  
NIH Small Business Innovation Research/Small Business Technology Transfer Research (SBIR/STTR), Cell Biology IRG, Intercellular Interactions Study Section, 06/2008  
NIH study section - Instrumentation and Systems Development [ISD], 10/2008  
NIH Small Business Innovation Research/Small Business Technology Transfer Research (SBIR/STTR), Cell Biology IRG, Intercellular Interactions Study Section, 10/2008  
NSF Biological Sciences BIO-IDBR panel reviewer, 12/2008  
NIH Small Business Innovation Research/Small Business Technology Transfer Research (SBIR/STTR), Cell Biology IRG, Intercellular Interactions Study Section, 02/2009  
Reviewer for Italian Ministry of Health in association with NIH, 08/2009  
NIH study section - Instrumentation and Systems Development [ISD], 09/2009  
NSF DBI mail-in review, 02/2010  
NIH study section - Cell Biology and Molecular Imaging (IMST 16), 03/2010  
Natural Sciences and Engineering Research Council of Canada (NSERC) ad hoc grant review, 07/2010  
NSF DBI mail-in review, 09/2010  
NIH study section – Neurotechnology [NT] mail in review, 02/2011  
NIH T-R01 program mail in review, 03/2011  
Québec Consortium for Drug discovery, 05/2011  
CASIS proposal review, 09/2013

Human Frontiers Science Program grant mail-in review, 10/2013  
 Israeli Science Foundation, mail-in review, 02/2015  
 UK Medical Research Council, 12/2015

*Study Section / Reviewing Committee Member:*

NIH Director's New Innovator Award Program stage 1 reviewer, 2017  
 NIH NCI Special Emphasis Panel, Oct 2016  
 NIH study section standing member EBIT, 2016-2022  
 NIH Special Emphasis Panel to review NCI's Innovative Molecular Analysis Technologies (IMAT) Program initiative R21/R33 applications, June 2016  
 Chair, NIH Special Emphasis Panel to review Bioengineering Research Partnerships (BRPs): ZRG-1 BST-A (55), April 2016  
 External reviewer for NIH Center of Biomedical Research Excellence - COBRE Center for Molecular Analysis of Disease Pathways pilot project, the University of Kansas, Feb 2016  
 NIH Director's New Innovator Award Program stage 1 reviewer, 2016  
 Chair, NIH Special Emphasis Panel to review the Bioengineering Research Partnership (BRP) Program grants, November 2015  
 NIH NCI study section on "Advanced Development and Validation of Emerging Innovative Technology Development for Cancer Research (R33)", August 2015  
 NIH pilot study on grant application quality, Bioengineering Sciences and Technology integrated review group (BST IRG), July 2015  
 NIH special study section on single cell analysis, July 2014  
 NIH special study section on BRAIN initiative U01 grants, June 2014  
 NIH study section standing member ISD, 2010-2014  
 Executive Technical Program Committee member, the Chemical and Biological Microsystems Society MicroTAS (the International Conference on Miniaturized Systems for Chemistry and Life Sciences), 2012-2015  
 Technical Program Committee member, MicroTAS 2011, the 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences, Seattle, Washington, USA, October 2<sup>nd</sup> - 6th, 2011

*Conference session chair or other organizational positions:*

Chair of the Promotion Committee for MicroTAS 2017 (the 21<sup>st</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences).  
 Co-Chair for the Gordon Research Conference on the Physics and Chemistry of Microfluidics, 2019.  
 Co-Vice Chair for the Gordon Research Conference on the Physics and Chemistry of Microfluidics, 2017.  
 Chair for neurotechnique session, C. elegans neural meeting, Nagoya, Japan, July 27-30, 2016.  
 Discussion Leader at the Gordon Research Conference on the Physics and Chemistry of Microfluidics, Mount Snow, VT, 2015.  
 Session Chair for the 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2014), San Antonio, TX, October 2014.  
 Session Chair for the 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2013), Freiburg, Germany, October 2013.  
 Session Chair for Microfluidics (Area 1J), AIChE Annual Meeting, San Francisco, November 2013.  
 Co-organizer for Symposium honoring Klavs Jensen's 60<sup>th</sup> Birthday, AIChE Annual Meeting, San Francisco, November 2013.  
 Session Chair for Micro and Nanofluidic Technologies, Biomedical Engineering Society (BMES) annual meeting, Atlanta, GA, October 2012  
 Forum Organizing Committee for 2011 ASME Society-Wide Micro/Nano Technology Forum, ASME 2011 International Mechanical Engineering Congress & Exposition Denver, CO, November 11-17, 2011  
 Session Chair/Discussion Leader, the 2011 Microfluidics Gordon Conference, Waterville Valley Resort in Waterville Valley, NH, June 26 - July 1, 2011.  
 Workshop co-organizer (invited), Manipulating and Measuring Worm Behavior - the latest techniques of microfluidics/optogenetics/tracking, the 19<sup>th</sup> International Worm Meeting, UCLA, June 2011  
 Session Co-Chair for the C. elegans Neurobiology Topic Meeting, Madison, WI, June 27-30, 2010  
 Abstract planning committee for the C. elegans Neurobiology Topic Meeting, Madison, WI, June 27-30, 2010  
 Technical Review Committee for the Nanotech2010 Conference, Anaheim, CA, June 21-25, 2010  
 Session Co-Chair for American Institute of Chemical Engineering Annual Meeting, session on "Microfluidics and small-scale flows (I)", Nashville, TN, Nov 8-13, 2009



Session Co-Chair for American Institute of Chemical Engineering Annual Meeting, session on "Microfluidics and small-scale flows (II)", Nashville, TN, Nov 8-13, 2009

Session Co-Chair for American Institute of Chemical Engineering Annual Meeting, session on "Microfluidics and small-scale flows (III)", Nashville, TN, Nov 8-13, 2009

Session Chair for "Experimental and computational systems methods" in "Computational Biology, Bioinformatics, and Systems Biology Track", Annual Biomedical Engineering Society (BMES) Meeting in Pittsburgh, PA from October 7-10, 2009

Workshop co-organizer, microfluidics for *C. elegans* research, the 17<sup>th</sup> International Worm Meeting, UCLA, June 2009

Technical Review Committee for the Nanotech2009 Conference and microfluidics/nanofluidics session co-organizer, Houston, TX, May 3-7, 2009

Poster competition judge, MicroTAS 2008 (the 12<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences), San Diego, 10/2008

Session Chair for American Institute of Chemical Engineering Annual Meeting (American Electrophoresis Society Annual Meeting), session on "BioMEMS and Microfluidics – Novel Applications", Philadelphia, PA, Nov 16-21, 2008

Technical Review Committee for the Nanotech2008 Conference and microfluidics/nanofluidics session co-organizer, Boston, MA, June 1-5, 2008

Session chair for "Integrated Cell Culture/Analysis Systems," and poster competition judge, MicroTAS 2005 (the 9<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences), Boston, 10/2005

Gordon Research Conference on MEMS Technology and Biomedical Applications, session on Novel BioMEMS sensing, Connecticut College, New London, CT, 6/2006

*International External Review Board:*

External Review Panel member for the School of Chemistry and Chemical Engineering of Shanghai Jiao Tong University (SJTU), 2015

**B. Campus Contributions**

*Campus:*

Keck Foundation GT internal review committee, 2017

Co-organizer of the Suddath Symposium on Neuromodulation and Synaptic Control: Modern Tools and Applications 2017

Faculty Steering Committee for Petit Institute for Bioengineering and Bioscience, 2014-2016

Reviewer for the Center for Pediatric Innovation (CPI) see grant proposals, 2016

Member of steering committee for the Neuro@GT initiative, 2015 -

Chair of search committee for the chair of School of Biology, 2015-2016

Chair of Sigma Xi Best Faculty Paper Award Selection Committee, 2015

Faculty Search Committee, School of Biology, 2014-2015

Faculty Search Committee (computational and systems subcommittee), Department of Biomedical Engineering, 2014-2015

Member of the Petit Scholar Program selection committee, 2014

School of Biology faculty search committee, 2014-2015

Keck Foundation GT internal review committee, 2014

Member of the Petit Institute Steering Committee, 2013-2015

Member of the EBB1 Occupancy Planning Committee, 2013-

Chair of Sigma Xi Best Faculty Paper Award Selection Committee, 2013

Member of Sigma Xi Best MS Thesis Award Selection Committee, 2013

Reviewer for IBB/GTEC seed grants, 2012

Member of the Suddath Student Award Committee, 2012

DARPA young faculty award workshop panelist, 2010

Chair of Sigma Xi Young Faculty Award selection committee, 2010

Member of the Suddath Student Award Committee, 2008

Member of the IBB Undergraduate Research Proposal selection committee, 2007

*College of Engineering:*

Packard Fellow internal selection committee, 2016

Bioengineering Faculty Advisory Committee, substituting for Julie Champion, 2015-2016

EBB building COE Faculty Shepherd, 2013-

Dean's search interviewer, 2011  
Member of the BioEngineering Faculty Advisory Committee, 2006-2009  
Member of the BioEngineering Graduate Studies Committee, 2005-2006

*School of Chemical and Biomolecular Engineering:*

Faculty Search Committee, 2013-  
Graduate Studies Committee, 2010-2016 (serving as the Chair, 2012-2016 )  
- Conducted a major change in the PhD qualifying exams  
Faculty Mentor for Michelle Dawson, 2013-2016  
Member of Ziegler Award for best proposal committee, 2013  
Faculty Search and Screening Committee, 2005-2011  
Graduate Admissions and Recruiting Committee (focusing on running graduate recruiting week-ends),  
2006-2008  
Graduate Recruiting Committee, 2009-2012  
Member of Ziegler Award for best proposal committee, 2007  
AChEGS Seminar on how to apply for a graduate fellowship, Sept 13, 2007  
AIChE student chapter seminar on graduate school, Oct 24, 2006  
AChEGS Seminar on how to apply for a graduate fellowship – how to write an essay, Oct 10, 2006  
Ad hoc committee on improving quality of graduate student applicants, 2006  
AChEGS Professional Development and Leadership Skill Seminar for first year graduate students, April  
18, 2006

**C. Outreach and Public Engagement**

Elite Women of Excellence ([www.ewoe.org](http://www.ewoe.org)) mentor; program's goal is to motivate teenage girls to continually make positive choices, influence society, engage in their community, and to establish and achieve personal goals. 2016