HANG LU
LOVE FAMILY PROFESSOR OF CHEMICAL AND BIOMOLECULAR ENGINEERING
SCHOOL OF CHEMICAL & BIOMOELCULAR ENGINEERING

UPDATED MAY 2021

Table of Content

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 HISTORY

- Love Family Professor, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, 2015-present
- Director of the Interdisciplinary Bioengineering Program, College of Engineering, Georgia Institute of Technology, 2018-present
- Deputy Director of the Interdisciplinary Bioengineering Program, College of Engineering, Georgia Institute of Technology, 2017-2018
- 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

A. International or National Awards

Fellow of the Royal Society of Chemistry, 2021
Lab on a Chip/Dolomite Pioneers of Miniaturization Lectureship, 2019
Board of Directors, Chemical and Biological Microsystems Society, 2017-2021
Invitee to present at the Nobel Symposium on Microfluidics, 2017
American Institute for Medical and Biological Engineering (AIMBE) fellow, 2015

Invitee to participate in the National Academy of Sciences' 26th 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' 24th annual Kavli Frontiers of Science symposium, 2012
H. C. Van Ness Award Lectures, Rensselaer Polytechnic Institute, 2011
Council of Systems Biology in Boston (CSB2) Prize in Systems Biology (single awardee), 2011
National Science Foundation CAREER award, 2010
Invitee to participate in the US Frontiers of Engineering Symposium, National Academy of Engineering, 2009
Sloan Foundation Fellowship in Neuroscience (1 of 16 nation-wide), 2009
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

B. Institute or School Awards

The Women in Engineering Teaching Excellence Award (1 of 2 awardees), Georgia Institute of Technology, 2017
Outstanding Doctoral Thesis Advisor award (one per year), Georgia Institute of Technology, 2016
Love Family Professorship, Georgia Institute of Technology, 2015-
James R. Fair Faculty Fellowship, Georgia Institute of Technology, 2011-2014
Sigma Xi Best Paper Award, Georgia Institute of Technology, 2012
Sigma Xi Young Faculty Award, Georgia Institute of Technology, 2009
Georgia Tech CETL/BP Junior Faculty Teaching Excellence Award, Georgia Institute of Technology, 2008

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

Asterisk (*) indicates products that resulted from work done during tenure-track or tenured appointment at Georgia Tech; the names of advisees (i.e., post-docs, graduate or undergraduate students) are in boldface.

A. Published Books, Book Chapters, and Edited Volumes

A1. Books

N/A.

A2. Refereed Book Chapters

*5. **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

*4. **Mei Zhan**, Hang Lu, "Quantitative Evo-Devo in Microfluidic Devices", Advances in Evolution and Development, edited by J. Todd Streelman, 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.
*2. **Jan Krajniak, Edward Park**, and Hang Lu, "Packaging for Bio-micro-electro-mechanical Systems (BioMEMS) and Microfluidic Chips", Nano-Bio-Electronic, Phonotic, and MEMS Packaging, Ed. C.P. Wong, K. Moon, G.Y. Li, Springer, New York, 2010.
1. 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 and Submitted Articles

B1. Published and Accepted Journal Articles

* Ashleigh Thomas, Kathleen Bates, Alex Elchesen, Iryna Hartsock, Hang Lu, Peter Bubenik, "Topological data analysis of C. elegans locomotion and behavior", accepted
* Gongchen Sun, Cassidy-Arielle Manning, Ga Hyun Lee, Maryam Majeed, and Hang Lu, "Microswimmer Combing: Controlling Interfacial Dynamics for Open-Surface Multifunctional Screening of Small Animals", Advanced Healthcare Materials, accepted https://doi.org/10.1002/adhm.202001887.

* 126. Shivesh Chaudhary, Sol Ah Lee, Yueyi Li, Dhaval S. Patel, Hang Lu, "Graphical-model framework for automated annotation of cell identities in dense cellular images", **eLife** 2021;10:e60321 DOI: 10.7554/eLife.60321
* 125. Fobang Liu, Nga Lee Ng^{+}, and Hang Lu^{+}, "Emerging applications of microfluidic techniques for in vitro toxicity studies of atmospheric particulate matter", **Aerosol Science and Technology** 55 (6), 623-639.
* 124. Seleipiri Charles, Guillaume Aubry, Han-Ting Chou, Annalise B. Paaby, and Hang Lu, "High-Temporal-Resolution smFISH Method for Gene Expression Studies in Caenorhabditis elegans Embryos", **Analytical Chemistry**, 2021, 93 (3) 1369–1376. doi: 10.1021/acs.analchem.0c02966.
* 123. Dhaval S. Patel, Giovanni Diana, Eugeni V. Entchev, Mei Zhan, Hang Lu, and QueeLim Ch'ng^{+}, "A Multicellular Network Mechanism for Temperature-Robust Food Sensing", **Cell Reports**, 2020, 33(12):108521. https://doi.org/10.1016/j.celrep.2020.108521
* 122. Fobang Liu, Josh Whitley, Nga Lee Ng^{+}, and Hang Lu^{+}, "Time-resolved single-cell assay for measuring intracellular reactive oxygen species upon exposure to ambient particulate matter", **Environmental Science & Technology**, 2020, 54(20):13121-13130. doi: 10.1021/acs.est.0c02889.
* 121. Jason Wan and Hang Lu^{+}, "Enabling high-throughput single-animal gene-expression studies with molecular and micro-scale technologies", **Lab on a Chip**, 2020, 20, 4528-4538. DOI: 10.1039/D0LC00881H
* 120. Emily L. Jackson-Holmes, Amanda W. Schaefer, Todd C. McDevitt, and Hang Lu^{+}, "Microfluidic perfusion modulates growth and motor neuron differentiation of stem cell aggregates", **Analyst**, 2020, 145, 4815-4826. DOI: 10.1039/D0AN00491J

* 119. Kim N. Le*, Mei Zhan*, Yongmin Cho*, Jason Wan, Dhaval S. Patel, and Hang Lu[+], "HeALTH: An Automated Platform for Long-term Longitudinal Studies of Whole Organisms under Precise Environmental Control", **Communications Bio**, 2020; 3 (1), 1-13.
* 118. Yi-Quan Tang, Sol Ah Lee, Mizanur Rahman, Siva A Vanapalli, Hang Lu, William R Schafer[+], "Ankyrin Is An Intracellular Tether for TMC Mechanotransduction Channels", **Neuron**, 107(1), 112-125.e10. https://doi.org/10.1016/j.neuron.2020.03.026
* 117. Nicholas D. Testa, Samiksha Kaul, Mei Zhan, Kim N. Le, Hang Lu, Annalise B. Paaby[+], "A portable, low-cost device for precise control of specimen temperature under stereomicroscopes" , **PLoS One**, 2020 Mar 11;15(3):e0230241. doi: 10.1371/journal.pone.0230241. eCollection 2020.
* 116. Yuehui Zhao, Lijiang Long, Jason Wan, Shweta Biliya, Shannon C. Brady, Daehan Lee, Akinade Ojemakinde, Erik C. Andersen, Fredrik O. Vannberg, Hang Lu, and Patrick T. McGrath[+], "A spontaneous complex structural variant in rcan-1 increases exploratory behavior and laboratory fitness of Caenorhabditis elegans". **PLoS Genet** 16(2): e1008606. https://doi.org/10.1371/journal.pgen.1008606.
* 115. Yongmin Cho, Sol Ah Lee, Yee Lian Chew, Kirby Broderick, William R. Schafer, and Hang Lu, "Multimodal Stimulation in a Microfluidic Device Facilitates Studies of Interneurons in Sensory Integration in C. elegans", **Small,** 16 (10), 1905852, 2020.
* 114. Jason Wan, Gongchen Sun, Jocelyn Dicent, Dhaval S. Patel, and Hang Lu[+], "smFISH in chips: a microfluidic-based pipeline to quantify in situ gene expression in whole organisms", **Lab on a Chip**, 20, 266-273, 2020, DOI: 10.1039/C9LC00896A.
* 113. Gongchen Sun*, Jason Wan*, and Hang Lu[+], "Rapid and Multi-cycle smFISH Enabled by Microfluidic Ion Concentration Polarization for In-situ Profiling of Tissue-specific Gene Expression in Whole C. elegans", **Biomicrofluidics**, 13, 064101 (2019).
* 112. Li Tao, Daniel Porto, Zhaoyu Li, Sylvia Fechner, Sol Ah Lee, Miriam B. Goodman, X.Z. Shawn Xu, Hang Lu, Kang Shen[+], "Parallel processing of two mechanosensory modalities by a single neuron in C. elegans", **Developmental Cell**, 51 (5), 617-, 2019, DOI: 10.1016/j.devcel.2019.10.008,
* 111. Luye He, Hyundoo Hwang, Melissa L. Kemp, and Hang Lu[+], "Dynamic mitochondrial migratory features associated with calcium responses during T-cell antigen recognition", **J. of Immunology**, 2019 Aug 1;203(3):760-768. doi: 10.4049/jimmunol.1800299. Epub 2019 Jun 14.
* 110. Dhaval S. Patel, Nan Xu, Hang Lu[+], "Digging deeper: methodologies for high-content phenotyping in Caenorhabditis elegans", **Lab Animal**, 48 (7), 207-216, 2019.
* 109. Kathleen Bates, Shen Jiang, Shivesh Chaudhary, Emily Jackson-Holmes, Melinda Jue, Erin McCaskey, Daniel Goldman, Hang Lu[+], "Fast, versatile, and quantitative annotation of complex images", **BioTechniques**, 66.6 (2019): 269-275. https://doi.org/10.2144/btn-2019-0010. http://biorxiv.org/cgi/content/short/391169v1.
* 108. Yunfeng Chen, Lining Arnold Ju, Fangyuan Zhou, Jiexi Liao, Lingzhou Xue, Qian Peter Su, Dayong Jin, Yuping Yuan, Hang Lu, Shaun P. Jackson[+], Cheng Zhu[+], "An integrin αIIbβ3 intermediate affinity state mediates biomechanical platelet aggregation", **Nature Materials**, 2019, 18, 760–769. https://doi.org/10.1038/s41563-019-0323-6.
* 107. Daniel A. Porto, John Giblin, Yiran Zhao, Hang Lu[+], "Reverse-Correlation Analysis of Mechanosensation Circuit in C. elegans Reveals Temporal and Spatial Encoding", **Scientific Reports**, 9.1 (2019): 5182. https://doi.org/10.1038/s41598-019-41349-0.
* 106. Gongchen Sun, and Hang Lu[+], "Recent Advances in Microfluidic Techniques for Systems Biology", **Analytical Chemistry**, 2019, 91 (1), 315-329. doi: 10.1021/acs.analchem.8b04757.

* 105. Fangyuan Zhou, Yunfeng Chen, Eric I. Felner, Cheng Zhu, and Hang Lu+, "Microfluidic auto-alignment of protein patterns for dissecting multi-receptor crosstalk in platelets", **Lab on a Chip**, 2018, 18, 2966-2974.

* 104. Ivan de Carlos Cáceres, Daniel A. Porto, Ivan Gallotta, Pamela Santonicola, Josue Rodríguez-Cordero, Elia Di Schiavi, and Hang Lu+, "Automated Screening of C. elegans Neurodegeneration Mutants Enabled by Microfluidics and Image Analysis Algorithms", **Integrative Biology**, 2018, 10 (9), 539-548, DOI: 10.1039/C8IB00091C.

* 103. Yee Lian Chew, Yoshinori Tanizawa, Yongmin Cho, Buyun Zhao, Alex J. Yu, Evan L. Ardiel, Ithai Rabinowitch, Jihong Bai, Catharine H. Rankin, Hang Lu, Isabel Beets, and William R. Schafer+, "An Afferent Neuropeptide System Transmits Mechanosensory Signals Triggering Sensitization and Arousal in C. elegans", **Neuron**, 2018, 99 (6), 1233-1246, DOI: 10.1016/j.neuron.2018.08.003

* 102. **Farhan Kamili**, and Hang Lu+, "Recent advances and trends in microfluidic platforms for C. elegans biological assays", **Annual Review of Analytical Chemistry**, 2018, 11, 245-26.

* 101. **Yongmin Cho**, **David N. Oakland**, **Sol Ah Lee**, William R. Schafer, and Hang Lu+, "On-chip functional neuroimaging to mechanical stimulation in Caenorhabditis elegans larvae for studying functional role of neural circuits", **Lab on a Chip,** 2018, 18, 601-609. DOI: 10.1039/C7LC01201B

*100. **Tel Rouse, Guillaume Aubry, Yongmin Cho**, Manuel Zimmer, and Hang Lu+, "A programmable platform for sub-second multichemical dynamic stimulation and neuronal functional imaging in C. elegans", **Lab on a Chip**, 2018 Jan 30;18(3):505-513. doi: 10.1039/c7lc01116d.

*99. **Guillaume Aubry**, and Hang Lu+, "Droplet array for screening acute behaviour response to chemicals in Caenorhabditis elegans." **Lab on a Chip** 17, no. 24 (2017): 4303-4311.

*98. Paul Villoutreix, Joakim Andén, Bomyi Lim, Hang Lu, Ioannis G Kevrekidis, Amit Singer, Stanislav Y Shvartsman+, "Synthesizing developmental trajectories", **PLoS computational Biology**, 2017, 13, no. 9 (2017): e1005742. https://doi.org/10.1371/journal.pcbi.1005742.

*97. **Dhaval S. Patel**, Giovanni Diana, Eugeni V. Entchev, **Mei Zhan**, Hang Lu, QueeLim Ch'ng+, "Quantification of Information Encoded by Gene Expression Levels During Lifespan Modulation Under Broad-range Dietary Restriction in C. elegans", **JoVE** 126, 2017

*96. **Emily L Jackso**n, Todd C McDevitt, Hang Lu+, "A microfluidic platform for physically isolated culture and multi-modal phenotypic analysis of stem cell aggregates", **Lab on a Chip**, 2017,17, 3634-3642, DOI:10.1039/C7LC00763A.

*95. **Yongmin Cho, Daniel A. Porto, Hyundoo Hwang**, Laura J. Grundy, William R. Schafer, Hang Lu+, "Automated and controlled mechanical stimulation and functional imaging in vivo in C. elegans", **Lab on a Chip**, 2017, 17, 2609-2618, DOI: 10.1039/C7LC00465F.

*94. Yogesh Goyal, **Thomas J. Levario**, Henry Mattingly, Susan Holmes, Stanislav Y. Shvartsman, and Hang Lu, "Parallel imaging of Drosophila embryos for quantitative analysis of genetic perturbations of the Ras pathway", **Disease Models & Mechanisms**, 2017: doi: 10.1242/dmm.030163.

*93. **Weipeng Zhuo**, Hang Lu+, and Patrick T. McGrath+, "Microfluidic Platform with Spatiotemporally Controlled Micro-Environment for Studying Long-term *C. elegans* Developmental Arrests", accepted, **Lab on a Chip**, 2017, 17, 1826-1833. DOI: 10.1039/C6LC01573E. PMCID: 5521175.

*92. Yohei Matsunaga, **Hyundoo Hwang**, Barbara Franke, Rhys Willliams, McKenna Penley, Hiroshi Qadota, Hong Yi, Levi T. Morran, Hang Lu, Olga Mayans, and Guy Benian+, "Twitchin

Kinase Inhibits Muscle Activity", **Molecular Biology of the Cell**, 28, no. 12 (2017): 1591-1600.

*91. **Ariel S. Kniss-James, Catherine A. Rivet, Loice Chingozha,** Hang Lu, and Melissa L. Kemp, "Single-cell resolution of intracellular T cell Ca 2+ dynamics in response to frequency-based H2 O2 stimulation", **Integrative Biology**, 2017, 9 (3), 238-247.

*90. Giovanni Diana, **Dhaval S. Patel**, Eugeni V. Entchev, **Mei Zhan**, Hang Lu, and QueeLim Ch'ng+, "Genetic Control of Encoding Strategy in a Food-sensing Neural Circuit", **eLife**, 2017, 6, e24040.

*89. **Yongmin Cho, Charles L. Zhao**, and Hang Lu+, "Trends in High-throughput and Functional Neuroimaging in *C. elegans*", **WIREs Systems Biology and Medicine**, 2017, 9(3).

*88. **Adriana San Miguel**, Peri Kurshan, **Mathew M. Crane**, Kang Shen, and Hang Lu+, "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.

*87. **Catherine A. Rivet, Ariel S. Kniss-James**, Margaret A. Gran, Anish Potnis, Abby Hill, Hang Lu, Melissa L. Kemp+, "Calcium Dynamics of Ex Vivo Long-Term Cultured CD8+ 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

*86. Shinsuke Niwa, David M Lipton, Manatsu Morikawa, **Charles Zhao**, Nobutaka Hirokawa, Hang Lu, Kang Shen+, "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.

*85. **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]

*84. **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]

*83. **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]

*82. **Thomas J. Levario, Charles Zhao**, Stanislav Y. Shvartsman, and Hang Lu+, "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

*81. Dawn E. Barnes, **Hyundoo Hwang**, Kanako Ono, Hang Lu, and Shoichiro Ono+, "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]

*80. **Hyundoo Hwang**, Dawn E. Barnes, Yohei Matsunaga, Guy M. Benian, Shoichiro Ono, Hang Lu+, "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

*79. **Thomas J. Levario**, Bomyi Lim, Stanislav Y. Shvartsman, Hang Lu+, "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

*78. Md. Abul Hassan Samee, Bomyi Lim, Núria Samper, Hang Lu, Christine A. Rushlow, Gerardo Jiménez, Stanislav Y. Shvartsman, and Saurabh Sinha+, "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

*77. Douglas E. White, Jonathan B. Sylvester, Melissa A. Kinney, **Thomas J. Levario**, Hang Lu, J. Todd Streelman, Todd C. McDevitt, Melissa L. Kemp+, "Quantitative Multivariate Analysis of Dynamic Multicellular Morphogenic Trajectories", **Integrative Biology**, 2015 Jul 6;7(7):825-33. doi: 10.1039/c5ib00072f. PMID: 26095427

*76. Lining Ju, Yunfeng Chen, **Fangyuan Zhou**, Hang Lu, Miguel A. Cruz, and Cheng Zhu+, "Von Villebrand factor-A1 domain binds platelet glycoprotein Ibα 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

*75. Bomyi Lim, Carmeline J. Dsilva, **Thomas J. Levario**, Hang Lu, Trudi Schüpbach, Ioannis G. Kevrekidis, and Stanislav Y. Shvartsman+, "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

*74. 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+, "Pre-T cell receptor ligand binding impacts thymocyte development prior to αβ TCR expression", **PNAS**, 2015 Jul 7;112(27):8373-8. doi: 10.1073/pnas.1504971112. Epub 2015 Jun 8. PMCID: PMC4500245

*73. **Mei Zhan, Matthew M. Crane**, Eugeni Entchev, Antonio Caballero, Diana Andrea Fernandes de Abreu, QueeLim Ch'ng, and Hang Lu+ "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. PMCID: PMC4409145

72. Eugeni V. Entchev, **Dhaval S. Patel*, Mei Zhan***, Andrew J. Steele, Hang Lu+, and QueeLim Ch'ng+, "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. PMCID: PMC4417936

*71. Carmeline J Dsilva, Bomyi Lim, Hang Lu, Amit Singer, Ioannis G Kevrekidis, and Stanislav Y Shvartsman+, "Temporal ordering and registration of images in studies of developmental dynamics", **Development**, 142:1717-1724, 2015. PMCID: PMC4419277

*70. **Guillaume Aubry, Mei Zhan**, and Hang Lu+, "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**. PMCID PMC4348330

*69. **Luye He,* Ariel Kniss,* Adriana San-Miguel, Tel Rouse**, Melissa L. Kemp, Hang Lu+, "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. PMCID: PMC4362087

*68. **Loice Chingozha, Mei Zhan**, Cheng Zhu, Hang Lu+, "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. PMCID: PMC4204904

*67. **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. PMCID: PMC4213302

*66. Peri T. Kurshan, Allan Q. Phan, George J. Wang, **Matthew M. Crane**, Hang Lu, Kang Shen[+], "Regulation of synaptic extracellular matrix composition is critical for proper synapse morphology", **J. Neurosci.** 2014, 34(38): 12678-12689. PMCID: PMC4166155

*65. **Hyundoo Hwang, Jan Krajniak**, Yohei Matsunaga, Guy Benian, and Hang Lu[+], "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. PMCID: PMC4148454

*64. **Xiaoni Ai, Weipeng Zhuo**, Qionglin Liang[+], Patrick T. McGrath[+], and Hang Lu[+], "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. PMCID: PMC4042318.

*63. **Guillaume Aubry** and Hang Lu[+], "A perspective on optical developments in microfluidic platforms for Caenorhabditis elegans research", **Biomicrofluidics**, 2014, 8(1):011301. doi: 10.1063/1.4865167. PMCID: PMC3977797

*62. 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. PMCID: PMC3967928

*61. Devon M. Headen, **Guillaume Aubry**, Hang Lu, and Andres Garcia[+], "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. PMCID: PMC4058833

60. Torri E. Rinker, **Taymour M. Hammoudi***, Melissa L. Kemp, Hang Lu, Johnna S. Temenoff[+], "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. PMCID: PMC3965183

*59. Celine I. Maeder, **Adriana San Miguel**, Hang Lu[+], Kang Shen[+], "In vivo neuron-wide analysis of synaptic vesicle precursor trafficking", **Traffic**, 2014, 15(3), 273-291. doi: 10.1111/tra.12142.

*58. **Jeffrey N. Stirman**, Bethany Harker, Hang Lu, **Matthew Crane**[+], "Animal microsurgery using microfluidics", **Current Opinion in Biotechnology**, 2014, 25: 24-29. doi: 10.1016/j.copbio.2013.08.007. PMCID: PMC3912467

*57. Jenna L. Wilson, **Shalu Suri**, Ankur Singh, **Catherine A. Rivet**, Hang Lu, Todd C. McDevitt[+], "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. PMCID: PMC3945678.

*56. **Emily L. Jackson** and Hang Lu[+], "Advances in microfluidic cell separation and manipulation", **Current Opinions in Chemical Engineering**, 2013, 2(4):398-404. PMCID: PMC3970816

*55. **Shalu Suri**, Ankur Singh, Anh H. Nguyen, Andres M. Bratt-Leal, Todd C. McDevitt and Hang Lu[+] "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. PMCID: PMC3844158

*54. Daniel C. Williams, Rachid El Bejjani, Paula Mugno Ramirez, Sean Coakley, **Shinae Kim, Hyewon Lee,** Quan Wen, Aravi Samuel, Hang Lu[+], Massimo A. Hilliard[+], Marc Hammarlund[+], "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. PMCID: PMC3877846

*53. **Mei Zhan, Loice Chingozha,** and Hang Lu[+], "Enabling Systems Biology Approaches Through Microfabricated Systems" **Analytical Chemistry**, 2013 Oct 1;85(19):8882-94. doi: 10.1021/ac401472y; also a cover article. PMCID: PMC3966076

*52. **Adriana San-Miguel** and Hang Lu[+], 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.

*51. Bomyi Lim, Nuria Samper, Hang Lu, Christine Rushlow, Gerardo Jimenez, and Stanislav Y. Shvartsman[+], "Kinetics of gene derepression by ERK signaling", **PNAS**, 2013 Jun 18;110(25):10330-5. doi: 10.1073/pnas.1303635110. Epub 2013 Jun 3. PMCID: PMC3690897

*50. **Ariel Kniss**, Hang Lu, Dean P. Jones, Melissa L. Kemp[+], "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. PMCID: PMC4085749

*49. 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[+], "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. PMCID: PMC3742324

*48. **Jan Krajniak**, Yan Hao, Ho Yi Mak, Hang Lu[+], "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.

*47. 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[+], "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. PMCID: PMC3641175

*46. **Thomas J Levario, Mei Zhan**, Bomyi Lim, Stanislav Y Shvartsman, and Hang Lu[+], "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.

*45. **Sharon K. Hamilton**, Nathaniel C. Bloodworth, Christopher S. Massad, **Taymour M. Hammoudi**, **Shalu Suri**, Peter J. Yang, Hang Lu, and Johnna S. Temenoff[+], "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. PMCID: PMC3747669.

*44. **Edward S. Park, Michael A. DiFeo, Jacqueline M. Rand, Matthew M. Crane** and Hang Lu[+], "Sequentially-pulsed fluid delivery to establish soluble gradients within a scalable

microfluidic chamber array", **Biomicrofluidics**, 2013, 7: 011804, doi: 10.1063/1.4774313. PMCID: PMC3555978

*43. **Hyundoo Hwang** and Hang Lu[+], "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. PMCID: PMC3918482

*42. **Hyewon Lee, Matthew M. Crane,** Yun Zhang, and Hang Lu[+], "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. PMCID: PMC3618955

*41. **Matthew M. Crane, Jeffrey N. Stirman,** Chan-Yen Ou, Peri T. Kurshan, James M. Rehg, Kang Shen, and Hang Lu[+], "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 phonotypes", Natalie de Souza, Nature Methods, 10, 38(2013), doi:10.1038/nmeth.2299) and The Scientist, Jan 2013 issue. PMCID: PMC3530956

*40. Aharon Helman, Bomyi Lim, María José Andreu, Yoosik Kim, Tatyana Shestkin, Hang Lu, Gerardo Jiménez, Stanislav Y. Shvartsman, and Ze'ev Paroush[+], "RTK signaling modulates the Dorsal gradient", **Development**, 2012, 139(16):3032-9, doi: 10.1242/dev.075812. PMCID: PMC3403108

*39. Kristin M. French, Archana V. Boopathy, Jessica A. DeQuach, **Loice Chingozha**, Hang Lu, Karen L. Christman, Michael E. Davis[+], "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. PMCID: PMC3488121

*38. Steven Husson, Jana Liewald, **Jeffrey Stirman**, Hang Lu, and Alexander Gottschalk[+], "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. PMCID: PMC3397962

*37. Sharon B. Sann, **Matthew M. Crane**, Alicia Arney, Hang Lu, Yishi Jin[+], "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. PMCID: PMC3366993.

*36. **Taymour M. Hammoudi, Catherine A. Rivet**, Melissa L. Kemp, Hang Lu[+], and Johnna S. Temenoff[+], "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. PMCID: PMC3419849

*35. **Ivan de Carlos Cáceres**, Nicholas Valmas, Massimo A. Hilliard, Hang Lu[+], "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. PMCID: PMC3335040.

*34. Steven J Husson, Wagner Steuer Costa, **Jeffrey N Stirman**, Joseph D Watson, W. Clay Spencer; Millet Treinin, David M Miller III, Hang Lu, Alexander Gottschalk[+], "Optogenetic analysis of a nociceptor neuron and network reveals ion channels acting downstream of primary sensors", **Current Biology**, 2012 22 (9): 743-752, doi:10.1016/j.cub.2012.02.066. PMCID: PMC3350619

*33. Jitendra S. Kanodia, Hsiao-Lan Liang, Yoosik Kim, Bomyi Lim, **Mei Zhan**, Hang Lu, Christine A. Rushlow, and Stanislav Y. Shvartsman[+], "Pattern Formation by Graded and Uniform Signals in the Early Drosophila Embryo", **Biophysical Journal**, 2012 102 (3): 427-433. doi:10.1016/j.bpj.2011.12.042. PMCID: PMC3274790.

*32. **John F. Nahabedian**, Hiroshi Qadota, **Jeffrey N. Stirman**, Hang Lu[+], Guy M. Benian[+], "Bending amplitude - A new quantitative assay of *C. elegans* locomotion: Identification of phenotypes for mutants in genes encoding muscle focal adhesion components", **Methods**. 2012 56(1):95-102. Epub 2011 Nov 22, doi:10.1016/j.ymeth.2011.11.005. PMCID: PMC3299906

*31. Jitendra S Kanodia, Yoosik Kim, Raju Tomer, Zia Khan, **Kwanghun Chung**, John D Storey, Hang Lu, Philipp J Keller, and Stanislav Y Shvartsman[+], "A computational statistics approach for estimating the spatial range of morphogen gradients", **Development**, 2011 138, 4867-4874, doi: 10.1242/dev.071571. PMCID: PMC3201657.

*30. **Jeffrey N. Stirman, Matthew M. Crane**, Steven J. Husson, Alexander Gottschalk, and Hang Lu[+], "Assembly of a multispectral optical illumination system with precise spatiotemporal control for the manipulation of optogenetic reagents", **Nature Protocols**, 2012 7(2):207-20, doi: 10.1038/nprot.2011.433.

*29. **Kwanghun Chung*, Mei Zhan***, Jagan Srinivasan, Paul W. Sternberg, **Emily Gong**, Frank Schroeder, and Hang Lu[+], "'Microfluidic chamber arrays for whole-organism behavior-based chemical screening", 2011, 11, 3689-3697, **Lab on a Chip**, DOI:10.1039/C1LC20400A. PMCID: PMC3924777.

*28. **Kwanghun Chung*, Catherine A. Rivet***, Melissa L. Kemp, and Hang Lu, "Imaging single-cell signaling dynamics with a deterministic high-density single-cell trap array", **Analytical Chemistry**, 2011, 83 (18): 7044–7052, published on-line on Aug. 2, 2011, DOI: 10.1021/ac2011153. PMCID: PMC3190639.

*27. Yoosik Kim, Maria Jose Andreu, Bomyi Lim, **Kwanghun Chung**, Mark Terayama, Gerardo Jimenez, Celeste A. Berg, Hang Lu, and Stanislav Y. Shvartsman[+], "Gene Regulation by MAPK Substrate Competition", **Developmental Cell**, 2011, 20 (6): 880-887, doi:10.1016/j.devcel.2011.05.009. PMCID: PMC3580161

*26. Hiroshi Qadota[+], Takayuki Miyauchi, **John F. Nahabedian, Jeffrey N. Stirman,** Hang Lu, Mutsuki Amano, Guy M. Benian, and Kozo Kaibuchi, "PKN-1, a Homologue of Mammalian PKN, Is Involved in the Regulation of Muscle Contraction and Force Transmission in *C. elegans*", **J Mol Biol.** 2011, 407 (2): 222-231, doi:10.1016/j.jmb.2011.01.039. PMCID: PMC3086710

*25. **Jeffrey N. Stirman, Matthew M. Crane**, Steven J. Husson, Christian Schultheis, Alexander Gottschalk[+], and Hang Lu[+], "Real-time multimodal optical control of individual neurons and muscles in freely behaving *Caenorhabditis elegans*", **Nature Methods**, 2011, 8(2):153-8, doi:10.1038/nmeth.1555. **[Also reviewed by a "News and Views" article and featured in "Author Profile" in the Feb 2011 issue of the journal.]** PMCID: PMC3189501

*24. **Catherine A. Rivet**, Abby S. Hill, Hang Lu, Melissa L. Kemp[+], "Predicting cytotoxic T cell age from multivariate analysis of static and dynamic biomarkers", **Molecular and Cellular Proteomics**, 2011, 10 (3): mcp.M110.003921, doi:10.1074/mcp.M110.003921. PMCID: PMC3047154.

*23. **Kwanghun Chung***, Yoosik Kim*, Jitendra S. Kanodia, **Emily Gong**, Stanislav Y. Shvartsman, Hang Lu[+], "Large-scale microfluidic array for ordering, orienting and trapping of embryos", **Nature Methods**, 2011, 8(2):171-6, doi:10.1038/nmeth.1548. **[Also the cover**

image of the Feb 2011 issues, and featured in "Author Profile" in the Feb 2011 issue of the journal; Scientific American, Jan 2012 issue also discusses this work.]

*22. Gary L. Moulder, **Gina H. Cremona**, Janet Duerr, **Jeffrey N. Stirman**, Stephen D. Fields, Wendy Martin, Hiroshi Qadota, Guy M. Benian, Hang Lu, and Robert J. Barstead[+], "α-actinin is Required for Proper Assembly of Z-disk / Focal Adhesion-Like Structures and for Efficient Locomotion in *Caenorhabditis elegans*", **J. Mol. Biol.**, 2010, 403(4):516-28, doi:10.1016/j.jmb.2010.08.055. PMCID: PMC3440862

*21. **Stephen J. Pety**, Hang Lu, Yonathan S. Thio[+], "Microfluidics meets dilute solution viscometry: an undergraduate laboratory to determine polymer molecular weight using a microviscometer", **Chemical Engineering Education**, spring 2011.

*20. **Catherine Rivet, Hyewon Lee, Alison Hirsch, and Sharon Hamilton**, Hang Lu[+], "Microfluidics for Medical Diagnostics and Biosensors", *invited review* in a Special Issue of Authoritative Reviews, **Chemical Engineering Science**, 2011, 66 (7), pp. 1490-1507, doi:10.1016/j.ces.2010.08.015.

*19. **Jeffrey N. Stirman**, Martin Brauner, Alexander Gottschalk, and Hang Lu[+], "High-throughput study of synaptic transmission at the neuromuscular junction enabled by optogenetics and microfluidics", **J. Neurosci. Methods**, 2010, 191 (1), 90-93, doi:10.1016/j.jneumeth.2010.05.019. PMCID: PMC2908193

*18. **Taymour M. Hammoudi**, Hang Lu[+], Johnna S. Temenoff[+], "Long-Term Spatially Defined Co-Culture within Three-Dimensional Photopatterned Hydrogels: A Technical Note", **Tissue Engineering C**, 2010, 16, 1621-1628, doi:10.1089/ten.teb.2008.0575. PMCID: PMC2988625.

*17. **Jan Krajniak** and Hang Lu[+], "Long-term High-Resolution Imaging and Culture of *C. elegans* in Chip-Gel Hybrid Microfluidic Device for Developmental Studies", **Lab on a Chip**, 2010, 10, 1862 – 1868, DOI:10.1039/c001986k.

*16. **Matthew Crane, Kwanghun Chung, Jeffrey Stirman,** Hang Lu[+], "Microfluidics-enabled phenotyping, imaging, and screening of multicellular organisms", *invited review* for **Lab on a Chip**, 2010, 10, 1509 – 1517, DOI:10.1039/B927258E.

*15. **Edward S. Park**, Ashley E. Carson, **Michael A. DiFeo,** Thomas H. Barker, and Hang Lu[+], "Continuously Perfused, Individually Isolated Microfluidic Chamber Array for Studying Cellular Responses to Orthogonal Combinations of Matrix and Soluble Signals", **Lab on a Chip**, 2010, 10: 571-580, DOI: 10.1039/b919294h. **[Also a Cover Article.]**

*14. Adela Ben-Yakar, Nikos Chronis[+], Hang Lu, "Microfluidic tools for the analysis of behavior and neural cell physiology in worms", *invited review* for **Current Opinion in Neurobiology**, 2009, 19:561–567, doi:10.1016/j.conb.2009.10.010.

*13. **Kwanghun Chung*, Hyewon Lee*,** and Hang Lu[+], "Multiplex pressure measurement in microsystems using volume displacement of particle suspensions", **Lab on a Chip**, 2009, 9: 3345 - 3353, DOI: 10.1039/b911480g.

*12. **Kwanghun Chung** and Hang Lu[+], "Automated laser ablation of neurons in microfluidic system", **Lab on a Chip**, 2009, 9, 2764 – 2766, DOI:10.1039/B910703G. (This article was a Hot Article, and selected to be included in Highlights in Chemical Technology, Royal Society of Chemistry.)

*11. **Kwanghun Chung***, Jaekyu Cho*, **Edward Park,** Victor Breedveld, and Hang Lu[+], "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]**

*10. **Matthew M. Crane, Kwanghun Chung,** and Hang Lu[+], "Computer-enhanced high-throughput genetic screens of *C. elegans* in a microfluidic system", **Lab on a Chip**, 2009, 9 (1): 38-40. DOI:10.1039/B813730G.

*9. **Alison M. Hirsch, Catherine A. Rivet, Boyang Zhang,** Melissa L. Kemp, and Hang Lu[+], "Parallel multi-time point cell stimulation and lysis on-chip for studying early signaling events in T-cell activation", **Lab on a Chip**, 2009, 9: 536 – 544. DOI:10.1039/B810896J. **[Selected by the journal as a Hot Article.]**

*8. **Kwanghun Chung*, Matthew M. Crane*,** Hang Lu[+], "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.]**
Kwanghun Chung, Matthew Crane, and Hang Lu[+], "Automated image-based screen for genetic studies in *C. elegans*", **Nature Protocols**, DOI: 10.1038/nprot.2009.105. (This is an on-line companion protocol to Chung *et al.*, Nature Methods, 2008.)

7. Yun Zhang, Hang Lu, Cornelia I. Bargmann[+], "Pathogenic bacteria induce aversive olfactory learning in *Caenorhabditis elegans*", **Nature**, 2005, 438 (7065): 179-184.
6. Jesse M. Gray*, David S. Karow*, Hang Lu, Andy J. Chang, Jennifer S. Chang, Ron Ellis, Michael A. Marletta, and Cornelia I. Bargmann[+], "Oxygen sensation and social feeding mediated by a *C. elegans* guanylate cyclase homologue", **Nature**, 2004, 430 (6997): 317-322.
5. Hang Lu, Martin A. Schmidt, and Klavs F. Jensen[+], "Electroporation Microdevice for Controlled Cell Lysis", **Lab on a Chip**, 2005; 5 (1), 23-29.
4. Hang Lu*, Lily Y. Koo*, W. Maria Wang, Douglas A. Lauffenburger, Linda G. Griffith, Klavs F. Jensen[+], "Microfluidic Shear Devices for Quantitative Analysis of Cell Adhesion", **Analytical Chemistry** 2004; 76 (18), 5257-5264.
3. Hang Lu, Suzanne Gaudet, Martin A. Schmidt, and Klavs F. Jensen[+], "A Microfluidic Device for Subcellular Organelle Sorting", **Analytical Chemistry** 2004; 76 (19), 5705-5712.
2. Joerg Lahann, Mercedes Balcells, Hang Lu, Teresa Rodon, Klavs F. Jensen, and Robert Langer[+], "Reactive Polymer Coatings: A First Step Towards Surface Engineering of Microfluidic Devices", **Analytical Chemistry** 2003; 75 (9): 2117-2122.
1. Hang Lu, Martin A. Schmidt, and Klavs F. Jensen[+], "Photochemical Reactions and On-line UV Detection in Microfabricated Reactors", **Lab on a Chip** 2001; 1 (1): 22-28.

C. Other Publications and Creative Products

C1. Patents

C1.a. Patents Awarded

Kwanghun Chung, Catherine Rivet, Hang Lu, Melissa Kemp, "deterministic high-density single-cell trap array", filed Sept 24, 2012, granted May 2018, US Patent US20130078163A1.

Andres Garcia, Devon Headen, Edward A. Phelps, Guillaume A. Aubry, Hang Lu, Cristina Gonzalez Garcia "Microgels for encapsulation of cells and other biologic agents", US Patent US9381217B2.

C1.b. Provisional Patents, Applications, and Invention Disclosures

Emily Jackson-Holmes, Hang Lu, Gongchen Sun, Guillaume Aubry, "Microfluidic arrays for particle capture and pairing", U.S. Patent Application No. 63/084,245; Filed: September 28, 2020; GTRC Reference No.: 8587

Gongchen Sun, Hang Lu, "Open-surface 2D array device and rapid contact line combing technique for high-throughput screening and selection of biosystems", U.S. Provisional Patent Application No. 62/878,046, GTRC8253PRV, GTRC ID No.: 8704, July 23, 2019.

Emily Jackson-Holmes, Hang Lu, Zhexing Wen, "Mesofluidic Device for Culture of Cell Aggregates", PCT Patent Application 62/574,293, GTRC ID No.: 7720, Oct 19, 2018.

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.

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

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.

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.

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.

Hang Lu, Hyundoo Hwang, Jan Krajniak, Guy Benian, Yohei Matsunaga, "Method for immobilizing biological objects" GTRC ID 6593, filed 1/21/2014

Ankur Singh, Shalu Suri, Todd McDevitt, Hang Lu, Andres Garcia, "Adhesive Signature Based Pluripotent Stem Cell Separation" (GTRC ID 5685), filed 6/21/11.

Loice Chingozha, Alison M. Hirsch, Hang Lu, Cheng Zhu, "microfluidic devices for single cell adhesion measurements", (GTRC ID 5300), filed 5/26/2010.

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.

D. Presentations

D1. Keynote Addresses and Plenary Lectures

20. The 3rd International Conference on Microfluidics and Lab-on-a-Chip, Shenzhen, China, originally planned for June 26-28, 2020, moved to 2021 due to Covid-19.
19. The Microtechnologies in Medicine and Biology Conference (MMB 2020), Bern, Switzerland originally planned for June 15-17, 2020, moved to 2021 due to Covid-19.
18. Keynote, the 23rd annual international conference NanoBioTech, Montreux, Switzerland, November 18-20, 2019
17. Lab on a Chip/Dolomite Pioneers of Miniaturization Lecture, the 23th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS), Basel, Switzerland, Oct 30, 2019.
16. Symposium of Graduate Student Association (GSA) at the MRC-LMB in Cambridge UK, July 11-13, 2018.
15. Distinguished Lecture at IBBME, U. Toronto, Nov 2017.
14. Keynote speaker, Inaugural Australian C. elegans meeting, Brisbane, Oct 2017.

13. Keynote, Symposium Latsis EPFL 2016, “Multicellular organisms in microfluidic systems”, Ecole Polytechnique Fédérale de Lausanne (EPFL), November 14-16 of 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
11. Keynote talk, Princeton's inaugural Bioengineering Day, Princeton U., Oct 2, 2015.
10. Keynote, Nano Engineering for Medicine and Biology (NEMB), April 19-22, 2015 in Minneapolis, MN.
9. Keynote, Stanford Cracking the Neural Code Program Annual Symposium, Stanford U., Palo Alto, CA, August 15, 2014.
8. ACS Young Innovator Award lecture, the 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2013), Freiburg, Germany, Oct 27-31, 2013.
7. Saville Lecture, Department of Chemical and Biological Engineering, Princeton University, March 27, 2013.
6. Keynote talk, Ontario on a Chip, University of Toronto, Toronto, ON, Canada, May 17-18, 2012
5. 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”.)
4. Van Ness Award Lecture 1, Rensselaer Polytechnic Institute, Troy, NY, November 9, 2011.
3. Plenary presentation, the 2011 International Conference on the Systems Biology of Human Disease, June 22-24, 2011, Boston, MA.
2. Keynote talk, Microfluidics for organisms, Mount Desert Island Biological Laboratory, Maine, August 28, 2009.
1. Keynote presentation, Atlanta Area Soft Matter and Complex Systems Symposium, Oct 25, 2008.

D2. Invited Conference and Workshop Presentations

45. LOC Symposium, “using microfluidics to image deep and wide”, London, UK, May 20-23, 2019.
44. Invited speaker, the "Biosensors, Biodiagnosis and Bioprocess Monitoring" technical section of Divisions 15C, AIChE Annual Meeting, Pittsburgh, PA, October 28th - November 2nd, 2018
43. Invited speaker, the 2018 Annual American Electrophoresis Society Meeting at SciX, October 21 - 24 2018, Atlanta, GA.
42. Invited speaker, in “Big data technologies in translational medicine”, Bioengineering & Translational Medicine Conference (Translational 2018), September 27-28, 2018, Boston, MA.
41. Invited speaker, the EMBL Conference Series Microfluidics, Heidelberg, Germany, July 15-18, 2018
40. Invited speaker, microfluidics session, AIChE annual meeting, Minneapolis, MN, Oct 31/Nov 1 2017.
39. Invited, NanoFAN symposium, Georgia Tech, Oct 19, 2017.
38. Invited, Nobel Symposium on Microfluidics, Svartsjö, Sweden, June 5-8 2017.
37. Invited, NSF workshop on neuro chemistry, Oct 2016.

36. Invited speaker, Single-Cell Analysis: Honoring Chemical Instrumentation Awardee Nancy Allbritton, ACS National Meeting, Philadelphia, PA, August 24, 2016.
35. Invited by students, Nanoscale Science and Engineering (NSE) seminar, U. California Berkeley, Sept 2015.
34. Invited, the Ninth Annual q-bio Conference, Blacksburg, VA, August 5-8, 2015.
33. Invited, GRC on Neuromodulatory Signaling Pathways that Modify the Function of Circuits, Hong Kong, June 21-26, 2015.
32. ACS Symposium on Miniaturization in Chemistry- (sub)-nanoscale synthesis, analysis and application, Denver, March 22-26, 2015
31. Symposium on Microfluidics for Flow Biology, Pittcon 2015, New Orleans, March 8-12, 2015.
30. Symposium on microfluidic innovations to advance molecular analysis of disease pathways, PIttcon 2015, New Orleans, March 8-12, 2015.
29. Invited, BioMEMS session, BMES Annual Meeting, San Antonio, TX, October 23, 2014.
28. The 7th World Congress of Biomechanics, Boston, MA, July 9, 2014.
27. Emergent Behaviors of Integrated Cellular Systems retreat, U. Illinois, Urbana-Champagne, invited, June 23, 2014.
26. In Honor of Klavs Jensen's 60th Birthday at the 2013 Annual Meeting of the American Institute of Chemical Engineers, November, 2013, San Francisco.
25. Symposium on “Micro- and Nanofluidics: Fundamentals and Applications”, ACS Annual Meeting, Indianapolis, IN, Sept 8-12, 2013
24. British Society for Research on Ageing Annual Scientific Meeting, Norwich, UK, Sept 3, 2013.
23. Symposium on Neural Circuit Development and Function, Rockefeller University, New York, NY, August 24, 2013.
22. Advances on Microfluidics and Nanofluidics International Conference, invited talk, U. Notre Dame, IN, May 24-25, 2013.
21. Invited talk, Society for Laboratory Automation & Screening Annual Conference (SLAS2013), Orlando, FL, Jan 16, 2013.
20. The Monsanto Fellows Symposium “From Genome to Phenome: Phenomics the Next Bottleneck”, St. Louis, MO, Nov 28-29, 2012
19. Georgia Tech Institute of Bioengineering and Biosciences Bio Industry Symposium, Oct 08, 2012.
18. Microscopy/optogenetics workshop, Yale University School of Medicine, June 26-28, 2012.
17. MRS Spring 2012, Symposium on engineered microenvironments for controlling and understanding stem cell and cancer biology, San Francisco, April 2012.
16. Georgia Tech Biology REU program, July 5, 2011.
15. NanoFANS (Focusing on Advanced Nanobio Systems) Forum at the Nanotechnology Research Center (NRC), Georgia Tech, May 18, 2011.
14. 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.
13. Symposium on ‘Lights, Cells, Action! Tracking Digital Embryos and Dynamic Phenotypes’, the New York Academy of Sciences, New York City, November 19, 2010.
12. American Aging Association 39th Annual Meeting, Transatlantic Symposium, Portland, OR, June 4-7, 2010.
11. Invited, 2010 Stem Cell Bioengineering Conference, Boston, MA, May 2-5, 2010.

10. Microfluidics symposium, International Mechanical Engineering Congress and Exposition (IMECE-2009), Lake Buena Vista, Florida, Nov 13-20, 2009
9. SURE summer program, Georgia Tech, June 2009.
8. Gordon Research Conference on Physics and Chemistry of Microfluidics, Lucca, Italy, June 28-July 3, 2009.
7. American Vacuum Society BioMEMS workshop, sponsored by NIH-NIBIB and DARPA-MTO, Boston, MA, October 21, 2008.
6. Georgia Tech IBB Biosensor Workshop, July 30, 2008.
5. Worm Genomics & Systems Biology meeting, Whitehead Institute, MIT, July 24-25, 2008, Cambridge, MA.
4. DARPA MTO PI meeting, July 25-26, 2007, Long Beach, CA.
3. GA/SC Neuroscience Consortium meeting, April 21 2007, Augusta, GA.
2. Integrated BioSystems Initiative symposium day, Georgia Tech, March 14, 2007, Atlanta, GA.
1. International Symposium for Biologically-inspired Design and Engineering, May 10-12, 2006, Atlanta, GA.

Invited talks with teaching or career mentoring focus:

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

D3. Conference and Workshop Presentations

5. Live imaging of the C. elegans Connectome, Oliver Hobert and Hang Lu, worm meeting on neurobiology, Madison, Wisconsin, 2018.
4. Association of Laboratory Automation meeting, San Diego, January 2010. [Kwanghun Chung gave the talk on behave of Matthew Crane, Jeff Stirman, and Hang Lu.]
3. Association of Laboratory Automation meeting, San Diego, January 2009. [Matthew Crane gave the talk on behave of Kwanghun Chung and Hang Lu.]
2. QB3 MEMS and Biology, University of California - San Francisco, April 2004, San Francisco, CA.
1. American Chemical Society Meeting, March 2004, Anaheim, CA.

D4. Invited Seminar Presentations

72. Boehringer Ingelheim Pharmaceuticals, Inc., 2021 Virtual
71. Seminar, UPenn Chemical Engineering, April 7, 2021.
70. Seminar, Texas Tech Chemical Engineering, April 2, 2021.
69. Seminar, UC Berkeley Chemical Engineering, Jan 22, 2020.
68. Seminar, Northwestern Chemical Engineering, Dec 5, 2019.
67. Seminar, Biology Department, Emory University, Nov 5, 2019.
66. Seminar, Colorado State University, April 9, 2019.
65. Seminar, U. California Irvine, Math and BME, March 12, 2019.
64. Seminar, Analytical Chemistry, U Washington, Feb 5, 2019.
63. Seminar, Mechanical Engineering, U. Minnesota, Nov 28, 2018.

62. Seminar, Ohio State University, Micro and Nanotechnology group, Mechanical and Aerospace Engineering, March 27, 2018
61. Department seminar, Chemical and Biomolecular Engineering, Johns Hopkins University, March 2018.
60. Seminar at Department of Mechanical Engineering and Materials Science, Duke University, Sept 20, 2017
59. Seminar, Developmental Biology Program, Sloan Kettering institute, New York, Sept 14, 2017.
58. Seminar at Department of Biomedical Engineering, Brown University, Providence, RI, April 27, 2017.
57. Seminar at Department of Biomedical Engineering, University of Rochester, Rochester NY, March 7, 2017
56. Seminar at Department of Chemical and Biological Engineering, The University of Alabama, Dec 1, 2016
55. Seminar at the Research Institute of Molecular Pathology, Vienna, Austria, November 17, 2016
54. Joint seminar for Chemical and Biomolecular Engineering (CBE) and the Nanobiotechnology center (NBTC), Cornell U., Oct 24, 2016.
53. Seminar at the Cain Department of Chemical Engineering at Louisiana State University, Baton Rouge, LA, September 30, 2016
52. Department of Bioengineering, UPenn, April 14, 2016.
51. Center for Molecular and Engineering Thermodynamics, U. Delaware, Feb 25, 2016
50. Georgia State University, Department of Chemistry seminar, Feb 12, 2016.
49. U. Oregon Neuroscience Institute seminar, Dec 3, 2015.
48. Department of Mechanical Engineering department seminar, RPI, New York.
47. Division of Life Science seminar, Hong Kong University of Science and Technology, Hong Kong, May 9, 2014.
46. Department of Chemical Engineering, U. of Michigan, Ann Arbor, MI, January 28, 2014.
45. The Scripps Research Institute, Jupiter, FL, November 21, 2013.
44. Computational Science and Engineering seminar, College of Computing, Georgia Institute of Technology, Atlanta, GA, November 15, 2013.
43. Department of Chemical & Biomolecular Engineering, U. of Notre Dame, South Bend, IN, Sept 24, 2013.
42. Department of Chemical Engineering, Imperial College London, London, United Kingdom, July 24, 2013.
41. U. Cambridge, MRC Laboratory of Molecular Biology, Cambridge, United Kingdom, July 19, 2013.
40. King's College London, MRC Centre for Developmental Biology, London, United Kingdom, July 17, 2013.
39. U. Oxford, Department of Biochemistry, Oxford, United Kingdom, July 15, 2013.
38. ScienceTALK series, Department of Biology and Physics, Kennesaw State University, April 25, 2013.
37. Department of Chemistry, U. Memphis, April 12, 2013.
36. Department of Biology, Emory University, Mar 19, 2013
35. Department of Infectious Disease, U. Georgia, Athens, GA, Feb 25, 2013.
34. Department of Chemical Engineering, Texas A&M, College Station, TX, Feb 13, 2013.

33. Neuroscience Program, University of Massachusetts Medical School, Worcester, MA, Jan 24, 2013.
32. Department of Chemical Engineering, MIT, Boston, MA, Dec. 7, 2012.
31. Bioinformatics Research Center, Department of Bioinformatics and Genomics, University of North Carolina at Charlotte, Sept 28, 2012.
30. UNC/NCSU Joint Department of Biomedical Engineering seminar, Sept 21, 2012.
29. Buchmann Institute for Molecular Life Sciences and Institute of Biochemistry, Johann Wolfgang Goethe-Universität, Frankfurt, Germany, June 13, 2012.
28. Biochemistry and Molecular Biophysics/Biomedical Engineering, Columbia University, May 10, 2012.
27. Department of Bioengineering, UC Berkeley, April 10, 2012.
26. Institute for NanoBioTechnologyw, Johns Hopkins University, March 7, 2012.
25. Department of Chemical Engineering, University of Pennsylvania, February 29, 2012.
24. Micro Technology Laboratory, Massachusetts Institute of Technology, February 21, 2012.
23. Stanford University Bio X Seminar, February 16, 2012.
22. Institute of Genomics, U. Georgia, Athens, GA January 27, 2012.
21. The Buck Institute for Age Research, Novato, CA, November 5, 2010.
20. The Institute for Biophysical Dynamics Interdisciplinary Research seminar series, University of Chicago, Oct 19, 2010
19. Computations in Science Seminar, the James Franck Institute, University of Chicago, Oct 20, 2010
18. U. of Illinois, Department of Chemical and Biomolecular Engineering, Urbana-Champaign, IL, Sept. 14, 2010.
17. Department of Biology, Georgia State University, July 30, 2010.
16. U. Michigan, Microfluidics in Biomedical Sciences Series, Ann Arbor, MI, April. 2010.
15. Department of Chemical Engineering, Virginia Tech, Blacksburg, VA, April 9, 2010.
14. Department of Bioengineering, University of Pennsylvania, Feb 18, 2010.
13. Emory University Physics Department Colloquium Series, Oct 30, 2009.
12. Department of Mechanical Engineering, Cornell University, Oct 16, 2009.
11. DuPont Central Research and Development, Wilmington, DE, November 7, 2008
10. IBB Breakfast Seminar, Georgia Institute of Technology, Sept 16, 2008.
9. Stowers Institute for Medical Research, Kansas City, Missouri, Sept 10, 2008.
8. Chemical Engineering Department seminar, Vanderbilt University, September 1, 2008, Nashville, TN.
7. Center for Cancer Systems Biology, Department of Cancer Biology, Dana-Farber Cancer Institute, Harvard University Medical School, June 6, 2008, Boston, MA.
6. Chemical Engineering Department seminar, Northeastern University, June 2, 2008, Boston, MA.
5. Chemical Engineering Department seminar, Princeton University, Oct 24, 2007, Princeton, NJ.
4. National Institute of Standards and Technology, polymer division seminar, March 12, 2007, Gaithersburg, MD.
3. School of Biology, Georgia Institute of Technology, April 21, 2006, Atlanta, GA.
2. Department of Pathology, Emory University, November 15, 2005, Atlanta, GA.
1. BSAC and Department of Electrical Engineering, University of California - Berkeley, October 2003, Berkeley, CA.

E. Grants and Contracts

E1. As Principal Investigator

1. PI (MPI Robles, Wen) NIH R21NS117067, In-line, Non-invasive, Real-time 3D Quantitative Phase Microscopy for Organoids, 8/1/20-7/31/22
2. PI: I-Corps: Generalization Platform for Single Cell Characterization, $50,000, IIP 2011597. 2/3/20-7/1/21.
3. PI (MPI Guillaume Aubry): NIH R21 R21NS117066 Droplet-based platform for functional neuronal imaging of developing nervous. 04/01/2020 – 09/30/2021, $406,627.
4. PI (MPI Yun Zhang, Harvard): NIH R01NS115484, Functional Analysis of Whole-brain Dynamics in Learning, $2.4M total (~$1.14M to Lu lab), 12/1/2019-11/31/2014
5. coPI (with PI Christine Heitsch): NSF-Simons Foundation: Southeast Center for Mathematics and Biology, National Science Foundation DMS1764406 and Simons Foundation/SFARI 594594, $10M total (~300k to Lu lab), 7/1/2018-6/30/2023
6. coPI (with PI Oliver Hobert): NSF Neuronex DBI 1707401: Live imaging of the C. elegans Connectome, $2.1 M total ($938k to Lu lab), 9/1/2017-8/31/2021
7. MPI (with Patrick Phillips): NIH R01, Systems variation underlying the genetics of aging, $2.4M total ($1.2M to Lu lab) R01AG056436, 2017-2022
8. PI (coPI: Zhexing Wen), the Marcus Center for Therapeutic Cell Characterization and Manufacturing Collaborative Grant in Cell Manufacturing, $200k direct ($140k to Lu lab), 2017-2018.
9. PI, NIH R01NS096581: Quantitative Understanding of Mechanosensory Circuit on Chip, $1.7M total, 2016-2021.
10. Investigator, NSF STC Emergent Behavior of Integrated Cellular Systems, 0939511, $800k to Lu lab, 2014-2020.

Completed:

1. PI, National Institutes of Health – NIGMS, R01GM088333 “Quantitative microscopy-based rapid phenotyping and screening,” $2.3M, 2011-2019
2. PI (with coPI William Schafer of MRC LMB, Cambridge, UK), NIH R21DC015652: An Assay to Screen for Drugs Against Transmembrane Proteins Associated with Deafness, $382k total ($244k to Lu lab), 2017-2019
3. PI (coPI: Cheng Zhu, Eric Felner), NIH R21EB020424: Microfluidic assays for hyper-reactive platelets in diabetes, $405k total ($200k to Lu lab), 12/1/15-11/31/17.
4. PI, NIH R21 EB021676: Automated Droplet-based Platform for Combinatorial Screens on Whole Animals, $428,724 total, 9/15/2015-6/30/2017.
5. MPI (with Patrick McGrath), NIH R21 AG050304: Evolving multigenic extensions to lifespan, $391k total ($200k to Lu lab), 4/1/15-3/30/17.
6. PI (subcontract from Harvard U., parent R01 GM108962 PI Yun Zhang), “Functional characterization of an insulin-like peptide network that regulates learning”, ~$2M total ($635,234 to Lu lab), 2014-2019.
7. coPI (with Andres Garcia, Susan Thomas), NIH R21: uSHEAR Technology for Cancer Cell Purificaiton, $594k total ($50k to Lu lab), 2015-2018.
8. 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

9. 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.
10. PI (coPI Patrick McGrath, Biology), “Evolving Synergistic Weak Alleles for Aging Using Quantitative High-throughput Microscopy”, IBB Seed Grant, $100,000, 2014-2016.
11. 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.
12. 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.
13. 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.
14. 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 feed-back regulation of muscle”, ~$1.35M total, ~$280k to Lu lab. 2012-2015
15. 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
16. PI, King’s College London, “ERC NeuroAge Subcontract (PI: Ch’ng): Microfluidics for Quantitative Imaging”, $90k, 2010-2014.
17. PI, National Institutes of Health – NIBIB, R21EB012803 “High-Throughput High-Content Platform for Image-Based Screens”, 2010-2013, $406k
18. PI, Sloan Foundation Research Fellowship in Neuroscience, Alfred P. Sloan Foundation, $50k, 2009-2013
19. PI, National Institutes of Health – NIA, R01AG035317, “Sources, transmission and effects of transcriptional noise in C. elegans aging,” $880k, 2009 – 2013.
20. PI (MPI with Todd Streelman, Biology GT), IBB seed grant, 25k (50k total), 2012-2013.
21. PI, “ARRA: Microfluidic Systems for Assaying Migration of Cancer Cells”, U. Washington (subcontract from RC1CA144825 -PI:Vessella), $230k, 2009- 2012.
22. 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
23. 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
24. PI, National Science Foundation, DBI-0649833, “IDBR: An automated, high-throughput micro system for precision imaging and ablation of cells,” $425k, 2007-2011
25. 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
26. PI (co-PI Cheng Zhu, BME), GT Integrative BioSystems Institute seed grant, “Deciphering Molecular Mechanics with High-throughput Adhesion Microfluidic Assay”, $30k, 2009-2010
27. PI, National Institutes of Health (NIH – NINDS R21NS058465), R21 “Dissecting Neural Circuits by Microfluidics-enabled Microscopy and Laser-ablation,” $349k, 2007-2010

28. 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
29. PI, DuPont foundation, DuPont Young Professor Grant, "A highly integrated micro-electro-mechanical system for parallel sample preparation," $75k, 2006-2009
30. PI, DARPA Young Faculty Award "Hybrid Biometric MEMS for Detecting Environmental Contamination," $150k, 2007-2008
31. PI, Industrial sponsored research from Celtaxsys – Georgia Research Alliance matching, "Predictive software models of chemotactic devices for drug discovery", $31k, 2008
32. 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
33. 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

V. TEACHING

A. Courses Taught

1. ChBE 3210, Transport Phenomena – Mass Transfer, spring 2021.
2. ChBE 6710/4710, Microfluidics and biological applications, fall 2019.
3. ChBE 3210, Transport Phenomena – Mass Transfer, summer 2018.
4. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer (co instructor: Ravi Kane), spring 2018.
5. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, GT Lorraine, summer 2017
6. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2017 (co teaching with Kane)
7. ChBE 6710/4710, Microfluidics and biological applications, fall 2016
8. ChBE 2100, Chemical Process Principles, spring 2016.
9. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, summer 2015.
10. ChBE 4710/6710, Microfluidics and biological applications, fall 2014.
11. ChBE 4505/4525 Senior Design – bio design, spring 2014. 15 students, including wet-lab components.
12. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2014.
13. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2013.
14. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2013.
15. ChBE 4710/6710, Microfluidics and biological applications, fall 2012.
16. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, two sections, fall 2011.
17. ChBE 4710/8803, Microfluidics and biological applications, fall 2010.
18. ChBE 3210, Transport Phenomena – Mass Transfer, spring 2010.
19. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2009.
20. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, spring 2009; also mentoring Mariefel V. Olarte for her teaching practicum.
21. ChBE 8803/4803, Micro/nanofluidics, fall 2008.

22. ChBE 2100, Mass and Energy Balance, fall 2007.
23. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, summer 2007.
24. ChBE 8803/4803, Micro/nanofluidics and bioMEMS, spring 2007.
25. ChBE 3200, Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2006.
26. ChBE 3200 Transport Phenomena – Fluid Mechanics/Heat Transfer, fall 2005.

B. Individual Student Guidance

B1. Ph.D. Students

B.1.a. Graduated

1. 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. **Currently Associate Professor of Chemical Engineering at MIT.**
2. 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.
3. 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. Currently postdoc at U. Washington.
4. Alison M. Paul (ChBE), PhD, 2006 – Aug 2011, thesis title "Design and Optimization of Efficient Microlfuidic Platforms for Particle Manipulation and cell Stimulation in Systems Biology". Award: **Ziegler best thesis proposal award**, 2009. Currently high school teacher in Cobb County system, Georgia.
5. 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. **Currently Director of Imaging at LifeCanvas Technologies.**
6. 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. Currently principal at Boston Consulting Group.
7. 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). Currently resident of pediatric oncology at UCSF.
8. 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. Currently research scientist in Korea.
9. Jan Krajniak (ChBE), "Microfluidic Toolkit for Scalable Live Imaging, Developmental and Lifespan Dynamic Studies of C. elegans with Single Animal Resolution", 2007-2013. Currently at Intel.

10. Ivan Caceres (BioE/BME), “On-Chip Phenotypic Screening & Characterization of C. elegans Enabled by Microfluidics & Image Analysis Methods”, 2007- 2013, **NIH F31 Predoctoral fellowship**. Currently at Northrup Grunman.
11. Mei Zhan (BioE/BME), PhD, 2009-2014; **NSF graduate research fellowship**, 2011-2014. Curently at Northrup Grunman.
12. Loice Chingozha (ChBE), PhD, 2009-2015 (jointly advised with Cheng Zhu, BME). Currently at Intel.
13. Ariel Kniss (BME, jointly with Melissa Kemp), PhD, 2011-2016. Currently in medical school at Vanderbilt.
14. 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.
15. Charles Zhao (BME, computational neuroscience), PhD, 2012- 2016. Currently at Google.
16. Yongmin Cho (ChBE), PhD, 2012-2017. Currently postdoc at HMS.
17. Luye He (ChBE, jointly with Melissa Kemp), 2011-2017. Currently in data analytics.
18. Maria Elena Casas (ChBE), PhD, 2011-2017; **NSF Graduate Fellowship**, 2012-2015. Currently at CDC.
19. Emily Jackson-Holmes (ChBE, jointly with Todd McDevitt), 2012-2018. **NSF Graduate Fellowship**, 2014-2017.
20. Daniel Porto (BioE/ECE), PhD, 2012-2018. Immediate post: Sartorius/Essen Bioscience.
21. Fangyuan Zhou (ME, jointly with Cheng Zhu), PhD, 2012-2019. Immediate post: postdoc.
22. Tel Rouse (BioE/ChBE), PhD, 2012-2019; **NSF Graduate Fellowship**, 2012-2015
23. Kathleen Bates (ChBE/BioE), **NIH F31 fellowship**, PhD, 2013-2020.

B.1.b. In Process

24. Sol Ah Lee (ChBE), PhD candidate, 2015-date, James T. Porter Fellowship (2021).
25. Kim Le (BME), PhD candidate, 2015-date, NSF Graduate Fellowship, 2016-2019
26. Shivesh Chaudhary (ChBE), PhD candidate, 2016-date, Ziegler Best thesis proposal award.
27. Seleipiri Charles (BME/BioE), PhD candidate, 2016-date
28. Alex Calhoun (BME, co-advisor: Rob Butera), PhD candidate
29. Keren Zhang (ChBE), PhD candidate, 2017-date
30. Jimmy Ding (ME/BioE), PhD candidate, 2017-date
31. Jason Wan (BME), PhD candidate, 2017-date, 2018 Scholarships for Research in the Biology of Aging from American Federation for Aging Research.
32. Haejun Han (ECE/BioE), PhD candidate, 2018-date.
33. Lucinda Peng (BME/BioE), PhD candidate, 2018-date.
34. Sihoon Moon (ChBE), PhD candidate, 2019-date.
35. Hyun Jee Lee (ChBE), PhD candidate, 2019-date.

Other:

1. Weipeng Zhuo (ChBE, jointly with Patrick McGrath), MS, 2012-2021.
2. Farhan Kamili (BioE/ECE), PhD candidate, 2015-2019.
3. Zongyi Li (CoC), non-thesis master, 2019.
4. Robin Lawler (ChBE), PhD candidate, 2016-2018.
5. Brian Yi Liu (ChBE), PhD candidate, 2014-2017.
6. Michael Youmans (BME), 2011-2012.
7. Alexander McKinlay III (BME, jointly with Todd McDevitt), PhD candidate, 2012-2014.

B2. M.S. Students

B2.a. Graduated with M.S. Thesis

1. 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".

B2.b. Graduated M.S. Non-thesis

1. Stephanie Reynolds (ChBE), PhD candidate, 2015-2018; NIH T32 Biomaterials trainee
2. Gina H. Cremona (ChBE), MS, 2006 – 2009. Award: Department of Homeland Security Fellowship, 2006

B3. Undergraduate Students

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
14. Sean Bandzar (ChBE), summer 2009 – fall 2009
15. William Chiang (City College of New York), May – August 2009, BRAIN fellow (undergraduate research program in neuroscience supported by NIH-NIGMS)
16. 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**
17. Emily Gong, summer 2009 – summer 2010; Air Product undergraduate researcher, spring 2010; Air Product Undergrad Research Symposium poster, **first prize winner**, spring 2010
18. Iva Franjkic, fall 2009 – spring 2011; Air Product undergraduate researcher, 2010-2011, Air Product Undergrad Research Symposium poster, honorable mention, spring 2011
19. Alice Shen, fall 2009 – spring 2010
20. Che-Ying Charles Kuo, fall 2009 – summer 2010; **PURA**, summer 2010

21. John Nahabedian, summer 2010, Biology REU
22. Dorothy Copeland, summer 2010
23. Varun Charupadi (U. Mass Amherst), SURE, summer 2010
24. Ashley Deason, Tech to Teaching SURE, summer 2010
25. Wissam Charab, fall 2010
26. Nicholas Harris, fall 2010 – spring 2011
27. Jackie Rand, fall 2010 – summer 2011, Air Product Undergrad Research Symposium poster, **second prize winner**, spring 2011
28. Josue A. Rodriguez Cordero (U. Puerto Rico Mayaguez), summer 2011
29. Michael Ryan Warner (Earlham U.), summer 2011 Biology REU
30. Ryan Duvall, spring 2012 – fall 2012; **PURA**, fall 2012
31. Clayton Wilbanks, spring 2012 – Summer 2012 ; **PURA**, summer 2012
32. Enrique Daza, summer 2012
33. Jiyuan Ding, fall 2012 –; Air Products Undergrad Researcher, 2012, 2013; College of Engineering Outstanding Undergraduate Researcher Award, 2014
34. QuocAhn Vu, fall 2012 – Fall 2013; **PURA**, fall 2013
35. Tyrus Xin H. Tai, spring 2012 – Fall 2013
36. 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
37. Max Virgill, Fall 2013
38. Xing Wei, Furman University, Summer 2014
39. Anna Hadsell, Fall 2014.
40. Trent Swords, Spring 2014-spring 2015.
41. Francesco Costantini, Fall 2014-spring 2015.
42. Hamim Nigena, Morehouse College, 2015, Petit Research Undergraduate Scholar.
43. Meagan McDowell, summer 2015, EBICS REU student.
44. Sean Patrick Martin, fall 2015 – spring 2017; **PURA**, spring 2016, third place within the College of Engineering at the Georgia Tech Undergraduate Research Symposium
45. William K Dyer, fall 2015.
46. Noah Oakland, fall 2015 – summer 2017
47. John (Jack) Giblin, fall 2015- spring 2017
48. Stellina Lee, spring 2016 – spring 2017
49. Yiran Zhao, spring 2016 – spring 2017; **PURA**, spring 2017
50. Katie Lanthier, spring 2016 – fall 2016.
51. Josh Gray (UNC), summer 2016, Aquatic Biology REU
52. Shaaron Ochoa-Rios (Feyetteville State University), Summer 2016, SURE EBICS
53. Marija Milisavljevic, summer 2016 – spring 2017; third place in the Air Products Undergrad Research Symposium 2017
54. Alex Carusi, fall 2016-fall 2017
55. Alice Robang, fall 2016-spring 2017
56. Amanda Schafer, **Petite Scholar 2017**, fall 2016-summer 2018; honorable mention in the Air Products Undergrad Research Symposium 2017; first place talk at the AIChE regional conference, Baton Rouge, LA April 2018
57. David Yaroshevsky, fall 2016-summer 2017
58. Kirby Broderick, fall 2016-spring 2019

59. Jenni Yueyi Li, **Petite Scholar 2018**; College of Engineering 1st place poster presentation; summer 2017-2020.
60. Sarah Harris, fall 2017-spring 2018.
61. Lilla Stawara, fall 2017- fall 2018.
62. Seraj Grimes, PURA awardee Spring 2019, fall 2017-spring 2019.
63. Caden Shen Jiang, fall 2017- spring 2019
64. Szu-Hui Yang, spring 2018- fall 2018
65. Travis Gibson, spring 2018-fall 2018
66. Ga Hyun Lee, spring 2018-spring 2019
67. Chidambaram Kadiresan, spring 2018
68. Dakota Lee (The University of North Carolina at Pembroke), EBICS REU, summer 2018
69. Jean-Pierre Amoakon (Georgetown College), summer 2018
70. Tailynn McCarty (U Rhode Island), summer 2018
71. Sofia De Cabanyes, fall 2018-spring 2019
72. Lushuang Zhang, fall 2018 – spring 2020
73. Varun Ramachandran, summer 2018-fall 2018
74. Rebecca Xiao, spring 2019-fall 2019
75. Carys Thompson, spring 2019 –, PURA fall 2020
76. Mimi Luong, EBICS REU, summer 2019
77. Zoe Davis (U. Florida), SURE REU, summer 2019
78. Muhammad Afiq Bin Sam Shol (ChBE), summer 2019
79. Cassidy-Arielle Manning, summer 2019-spring 2020
80. Jocelyn Dicent (Yale), Aquatic Ecology REU, summer 2019
81. Pravin Vikram (BME), summer 2019-fall 2019
82. Elizabeth Wu, fall 2020 –
83. Javier Pratdesaba, spring 2021 -
84. Nina Chong, Aquatic Ecology REU, summer 2021.
85. Nicolas Kelhofer, Summer 2021 –

B4. Service on thesis or dissertation committees

B4.a. Internal

1. Ningquan Wang (Advisor: Fatih Sarioglu, ECE), 2021-
2. Adriana Mulero Russe (Advisor: Andres Garcia, BioE/ME), 2021-
3. Yue Han (Advisor: Mark Styczynski, ChBE), 2021-
4. Fernanda Piorino (Advisor: Mark Styczynski, ChBE), 2019-
5. Hannah Viola (Advisor: Shu Takayama, BioE), 2019-
6. Amir Hejri (Advisor: Mark Prausnitz, ChBE), 2018-
7. Nikhil Raj (Advisor: Dennis Hess and Victor Breedveld, ChBE), 2018-
8. Cameron Yamanishi (Advisor: Shu Takayama, BME), 2018-2019
9. Beatrice Ncho (Advisor: Ajit Yoganathan, BME), 2018-
10. Aaron Pital (Advisor: Amanda Stockton, chemistry), 2017-
11. Amy Su (Advisor: Mark Styczynski, ChBE), 2016-2018
12. Monica McNerney (Advisor: Mark Styczynski, ChBE/BioE), 2016-2019
13. Kirsten Parratt (Advisor: Krish Roy, MSE/BioE), 2015-2018
14. Abhirup Mukherjee (Advisor: Ravi Kane, ChBE), 2015-2019
15. Chad Varner (Advisor: Ravi Kane, ChBE), 2015-2018

16. Wing-Yin Tuet (Advisor: Saly Ng, ChBE), 2015-2018
17. Matt Ballard (Advisor: Alexander Alexeev, ME), 2016-2017
18. Efraín Cermeño Blondet (Advisor: Andres Garcia, ME), 2014-2017
19. Ikechukwu (Ikay) Okafor (Advisor: Ajit Yoganathan, ChBE) 2014-2017
20. Prithiviraj Jothikumar (Advisor: Cheng Zhu, BME) 2013-2016
21. Devon Headen (Advisor: Andres Garcia, ME) 2013-2017
22. Pradnya Samant (Advisor: Mark Prausnitz, ChBE) 2013-2017
23. Drew Owen (Advisor: Peter Hesketh, ME) 2013- 2016
24. Joohyung Lee (Advisor: Sven Behrens, ChBE) 2012-2016
25. Kipp Schoenwald (Advisor: Todd Sulchek, ME) 2012-2016
26. Seonhee Park (Advisor: Mark Prausnitz, ChBE) 2012-2015
27. Elaine Tang (Advisor: Ajit Yoganathan, ChBE) 2011-2015
28. Billy Wang (Advisor: Todd Sulchek, ME) 2013-2014
29. Kyung Hee Oh (Advisor: Victor Breedveld, ChBE) 2011-2014
30. Christopher Phaneuf (Advisor: Craig Forest, ME/BioE) 2011-2014
31. Andac Amutlulu (Advisor: Mark Allen, ChBE) 2011-2014
32. Mauricio Bedoya (Advisor: Jennifer Curtis, Physics) 2010-2015
33. Christopher Edmonds (Advisors: Sankar Nair, Peter Hesketh, BioE/ECE) 2009-2013
34. Shahana Safdar (Advisor: Lakeshia Taite, ChBE) 2009-2012
35. Adriana SanMiguel (Advisor: Sven Behrens, ChBE) 2009-2011
36. Jennifer Munson (Advisor: Ravi Bellamkonda, BioE/ChBE) 2009-2011
37. David Dumbauld (Advisor: Andres Garcia, BioE/ME) 2009-2011
38. Helene Simon (Advisor: Ajit Yoganathan, ChBE) 2009-2009
39. Zhengchun Peng (Advisor: Peter Hesketh, ME) 2009-2010
40. Ryan Maladen (Advisor: Dan Goldman, BioE/Physics) 2009-2010
41. Manoj Agrawal (Advisor: Rachel Chen, ChBE) 2008-2012
42. Fernie Pei Ying Goh (Advisor: Athanassios Sambanis, ChBE) 2008-2011
43. Andria Deaguero (Advisor: Andreas Bommarius, ChBE) 2008-2011
44. Tzu-Hsin Tsao (Advisor: Robert Butera, BioE/BME) 2008-2011
45. James Norman (Advisor: Mark Prausnitz, ChBE) 2008-2010
46. Alison Stucky (Advisor: Athanassios Sambanis, ChBE) 2008-2011
47. Danielle Drury-Stewart (Advisors: Marie Csete and Larry McIntire, BME) 2008-2011
48. Ying Liu (Advisor: Mark Prausnitz, ChBE) 2007-2011
49. Venmathy Rajarathinam (Advisors: Paul Kohl and Sue-Ann Bidstrup-Allen, ChBE) 2007-2010
50. Janna Blum (Advisor: Andreas Bommarius, ChBE) 2007-2011
51. Jae Kyu Chu (Advisor: Victor Breedveld, ChBE) 2006-2009
52. Michelle Kassner (Advisors: Chuck Eckert and Charlie Liotta, ChBE) 2007-2008
53. Prerona Chakravarty (Advisor: Mark Prausnitz, ChBE) 2006-2008
54. Rebecca Shiels (Advisor: Chris Jones, ChBE) 2006-2008
55. Yueming Hua (Advisor: Cliff Henderson, ChBE) 2006-2008
56. Charlene Rincon (Advisor: Carson Meredith, ChBE) 2005-2008
57. Joseph Charest (Advisor: Bill King, ME) 2006-2007
58. Liz Giambra Hill (Advisors: Chuck Eckert and Charlie Liotta, ChBE) 2005-2007

B4.b. External

59. Satya Spandana Boddu (Advisors: Nic Vega, Ilya Nemenman, Emory Physics), 2020-

M.S. Thesis Committees

3. Mythreye Venkatesan (Advisor: Ahmet Coskun, ChBE) 2020-
2. Taylor Hatridge (Advisor: Chris Jones, ChBE), 2020-
1. Souryadeep Bhattacharyya (Advisor: Pamela Peralta-Yahya, ChBE) 2014

B5. Mentorship of postdoctoral fellows or visiting scholars

Current Postdoctoral Fellows/Research Associates:

1. Gongchen Sun (U. Notre Dame, PhD 2017), May 2017 –
2. Guillaume Aubry (U. Paris Sud, PhD 2011), Jan 2012 –
3. Fobang Liu (Max Planck Institute, PhD 2017), Feb 2018 –
4. Chris Pierce (Ohio State U, PhD 2019, jointly with Dan Goldman, Physics), Jan 2019-
5. Matthew Crane (GT, PhD 2012), Jan 2019-

Past Postdoctoral Fellows:

1. Dhaval Patel (UCL, PhD), May 2017 – Feb 2021
2. Emily Jackson-Holmes (GT, PhD 2018), Jan 2019 – Feb 2021
3. Fangyuan Zhou (GT, PhD 2019, jointly with Cheng Zhu), Sept 2019-summer 2020
4. Tel Rouse (GT, PhD 2019), Jan 2020-March 2020
5. Daniel A. Porto (GT, PhD 2018), Jan 2019 – Nov 2019
6. Yongmin Cho (GT, PhD 2017), April 2017 – 2018
7. Nan Xu (Cornell, PhD 2017), July 2017 – August, 2018
8. Adriana San Miguel (GT ChBE, PhD 2011), Aug 2011 – December 2015; NIH K99R00 Pathway to Independence Awardee 2013
9. Hyundoo Hwang (Seoul National U., PhD 2010), August 2012 – June 2015.
10. Mei Zhan (GT BME/BioE, PhD 2014), Nov 2014-March 2015;
11. Shinae Kim (Seoul National U., ECE PhD 2011), May 2011 – Sept 2014
12. Shalu Suri (UT Austin, BME PhD 2010), Feb 2010 – July 2012
13. Venkata Gundabala (GT Physics postdoc), August 2011 – August 2012
14. Matthew Crane (GT BioE PhD 2011), May 2011 – Oct 2011
15. Kwanghun Chung (Georgia Tech ChBE PhD 2009), Aug 2009 – July 2010
16. Sharon Hamilton (Vanderbilt U. Chemistry PhD 2009), Aug 2009 – Aug 2011
17. Yan Xie (Case Western ECE PhD 2008), Sept 2008 – Jan 2009

Visiting students:

Buyun Zhao (MRC/LMB, Cambridge, UK), spring 2016, European Molecualr 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 Molecualr 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 –2017

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

High School teacher mentoring:
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, Meadowcreak High School, summer 2014.

C. Other Teaching Activities

C1. Course Development
Developed ChBE 6710/4710 Microfluidics and applications in biology.

VI. SERVICE

A. Professional Contributions

A1. Editorial Board Memberships
Editorial Activity:
RSC Lab on a Chip associate editor 2017-

Editorial Advisory Board:
Biomicrofluidics (American Institute of Physics) advisory board 2014-2017
ACS Analytical Chemistry Features Panel member 2014-2017
RSC Lab on a Chip advisory board 2016-

A2. Society Offices, Activities, and Membership
Board of Directors, Chemical and Biological Microsystems Society, 2017-2021
ETPC Liaison, 2020, 2021
American Institute of Chemical Engineers (2002-)
Biomedical Engineering Society (2005-)

American Chemical Society (2014-)
Genetic Society of America (2005-)
American Vacuum Society (2008-2009)

A3. Organization and Chairmanship of Technical Sessions, Workshops and Conferences

Co-Chair of the MicroTAS 2020 meeting (the 24th International Conference on Miniaturized Systems for Chemistry and Life Sciences), on-line, Oct 4-9, 2020.

Co-Chair for the Gordon Research Conference on the Physics and Chemistry of Microfluidics, 2019.

Chair of the Promotion Committee for MicroTAS 2017 (the 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences).

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 Antorio, 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 60th 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 19th 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 17th 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 12th 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 9th 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

A4. Technical Journal or Conference Referee Activities

Journal referee:

ACS Chemical Neuroscience
Analytical and Bioanalytical Chemistry
Analytical Chemistry
ASME International Mechanical Engineering Congress & Exposition Proceeding
Biomicrofluidics
Biophysical Journal
Biotechnology and Bioengineering
Biotechnology Progress
Chemical Engineering Education
Chemical Engineering Science
Current Biology
The International Journal of Robust and Nonlinear Control
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

A5. Proposal Panels and Reviews

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
EU ERC grant remote review, 5/2019

NSF Bio-micro-MCB panel review, 04/2020

Study Section / Reviewing Committee Member:

Committee member for BMES / CMBE Shu Chien Achievement 2020-2021

Executive Technical Program Committee member, the Chemical and Biological Microsystems Society MicroTAS (the International Conference on Miniaturized Systems for Chemistry and Life Sciences), 2019-2022

Review panelist for the NRC Research Associateship Programs, the National Academies of Sciences, Engineering, and Medicine (the National Academies), 2019

NIH study section standing member, CMT (Cellular and Molecular Technologies), 2017-2021

NIH study section chair, CMT (Cellular and Molecular Technologies), 2019-2021

NIH Director's New Innovator Award Program stage 1 reviewer, 2017

NIH study section standing member EBIT, 2016-2017

NIH NCI Special Emphasis Panel, Oct 2016

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 2nd - 6th, 2011

A6. Other Involvement

Review Committee:

Chair of External Review Committee, Chemical Engineering Graduate Program, Virginia Tech, Sept-Oct, 2021

International External Review Board:

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

B. Public and Community Service

Outreach activities:
Elite Women of Excellence (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
Morningside Elementary School Family Science Night presentations, Feb 5-7, 2019.
Morningside Elementary School Family Science Night presentations, Feb 11-13, 2020.
Morningside Elementary School Family Science Night presentations, Feb 23, 2021.

C. Institute Contributions

C1. Institute Committee Service

Keck Foundation GT internal review committee, 2020
Institutional Biosafety Committee, 2019-
Sigma Xi Sustained Research Awards committee, 2019
Keck Foundation GT internal review committee, 2018-2019
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

C2. College Committee Service

Member of College of Engineering Search Committee for the Dean, 2020-2021
Mentoring committee member for David Myers (BME), 2019-
COE "Space Action Group" member, 2018
Committee member of 5-year review for David Sholl, 2018
Deputy Director of the Interdisciplinary Bioengineering Program, 2017-
Packard Fellow internal selection committee, 2016

Bioengineering Faculty Advisory Committee, substituting for Julie Champion, 2015-2016
EBB building COE Faculty Shepherd, 2013-
Member of the BME Systems/Modeling Search Committee, 2014-2015
Area Committee Member for a critical review candidate in ME and a critical review candidate in BME, 2011
Dean's search interviewer, 2011
Member of the BioEngineering Faculty Advisory Committee, 2006-2009
Member of the BioEngineering Graduate Studies Committee, 2005-2006

C3. School Committee Service

Area Committee for multiple critical review, tenure/promotion candidates
Faculty Search Committee, 2013-2018
Graduate Studies Committee, 2010-2016 (serving as the Chair, 2012-2016); Major accomplishment: conducted a major change in the PhD qualifying exams
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

C4. Program Development: Research

Associate Director, NSF-Simons Foundation Southeast Center for Math Bio, Georgia Tech.

C5. Program Development: Academic

Director of the Interdisciplinary Bioengineering Program, College of Engineering, Georgia Tech.