

# ANKUR SAXENA

Dept. of Cell, Developmental, & Integrative Biology  
UAB Heersink School of Medicine  
1918 University Blvd  
Birmingham, AL 35233

[asaxena1@uab.edu](mailto:asaxena1@uab.edu)  
[www.saxenablab.com](http://www.saxenablab.com)  
[ORCID Profile](#)  
[Google Scholar](#)

## **Experience**

2023-present Associate Professor, UAB Heersink School of Medicine  
Department of Cell, Developmental, & Integrative Biology  
O'Neal Comprehensive Cancer Center  
Additional Affiliations: Department of Neurobiology  
Comprehensive Neuroscience Center  
Integrative Center for Aging Research  
Civitan International Research Center  
Center for Clinical and Translational Science  
Children's Oncology Group

### Research Goals:

- Determine how two populations of stem cells cooperatively migrate and differentiate into olfactory sensory neurons *in vivo*.
- Understand how olfactory neuroregeneration is maintained throughout adulthood and why it is disrupted in neurodegenerative disorders.
- Quantitatively compare neural crest and neural crest-derived cancer cell behavior *in vivo* to uncover druggable targets that modulate cancer survival or metastasis.

2015-2023 Assistant Professor, University of Illinois Chicago  
Department of Biological Sciences

2014-2015 Senior Research Fellow, California Institute of Technology  
Mentor: Marianne E. Bronner, Professor, Division of Biology & Biological Engineering  
Focus: Stem Cell Migration & Neurogenesis

2008-2014 Postdoctoral Fellow, California Institute of Technology  
Mentor: Marianne E. Bronner, Professor, Division of Biology & Biological Engineering  
Focus: Stem Cell Migration & Neurogenesis

2006-2007 Postdoctoral Fellow, Harvard Medical School  
Mentor: Clifford J. Tabin, Chairman, Department of Genetics  
Focus: Cardiac Development

## **Education**

1999-2005 Ph.D., Genetics & Development, University of Texas Southwestern Medical Center  
"Cell Migration and Survival Pathways in Cardiac Development and Disease"  
Mentor: Deepak Srivastava, President, Gladstone Institutes, UCSF

1996-1999 B.S., Molecular Biology; minor in Spanish, University of Texas at Austin  
Research Mentor: George Georgiou, Professor, Dept. of Chemical Engineering

## Publications

**Citations: 2,390; h-index: 15** ([Google Scholar](#), 03/2024)

[www.saxenalab.com/publications](http://www.saxenalab.com/publications)

### Peer-Reviewed

1. Rajan SG, **Saxena A**<sup>†</sup>. Scents from the past: Lineage history and terminal identity in the olfactory system. *Natural Sciences* (Invited Highlight), e20220037 (2022). <https://doi.org/10.1002/ntls.20220037>
2. Ibarra BA\*, Jiang X\*, Treffy RW, **Saxena A**<sup>†</sup>. Injection of human neuroblastoma cells into neural crest streams in live zebrafish embryos. *STAR Protocols*, 3(2), 101380 (2022). <https://doi.org/10.1016/j.xpro.2022.101380>
3. Treffy RW, Rajan SG\*, Jiang X\*, Nacke LM, Malkana UA, Naiche LA, Bergey DE, Santana D, Rajagopalan V, Kitajewski JK, O'Bryan JP, **Saxena A**<sup>†</sup>. Neuroblastoma differentiation *in vivo* excludes cranial tumors. *Developmental Cell*, 56(19), 2752-2764.e6 (2021). <https://doi.org/10.1016/j.devcel.2021.09.014>  
<https://cancer.uillinois.edu/researchers-find-location-matters-in-the-battle-against-neuroblastoma/>
4. Rajan SG, Nacke LM, Dhingra JS, **Saxena A**<sup>†</sup>. Notch signaling mediates olfactory multiciliated cell specification. *Cells & Development* (Special Issue: Quantitative Cell and Developmental Biology), Jul 2:203715 (2021). <https://doi.org/10.1016/j.cdev.2021.203715>.
5. Condren AR, Costa MS, Sanchez NR, Konkakapa S, Gallik KL, **Saxena A**, Murphy BT, Sanchez LM. Addition of insoluble fiber to isolation media allows for increased metabolite diversity of lab-cultivable microbes derived from zebrafish gut samples. *Gut Microbes*, 11(4), 1064-1076 (2020). <https://doi.org/10.1080/19490976.2020.1740073>
6. Rajan SG\*, Gallik KL\*, Monaghan JR, Uribe RA, Bronner ME, **Saxena A**<sup>†</sup>. Tracking neural crest cell cycle progression *in vivo*. *genesis* (Special Issue: 150 Years of Neural Crest Research), 56:e23214 (2018). <https://doi.org/10.1002/dvg.23214>
7. Suarez-Bregua P, **Saxena A**, Bronner ME, Moran P, Rotllant J. Targeted Pth4-expressing cell ablation impairs skeletal mineralization in zebrafish. *PLOS ONE*, 12(10), e0186444 (2017). <https://doi.org/10.1371/journal.pone.0186444>
8. Gallik KL\*, Treffy R\*, Nacke L, Ahsan K, Rocha M, Green-Saxena A, **Saxena A**<sup>†</sup>. Neural crest and cancer: Divergent travelers on similar paths. *Mechanisms of Development* (Special Issue: Collective Cell Migration: Biomechanics to Organogenesis; Invited Review), 148, 89-99 (2017). <https://doi.org/10.1016/j.mod.2017.08.002>
9. Suarez-Bregua P, Torres-Nuñez E, **Saxena A**, Guerreiro P, Braasch I, Prober D, Moran P, Cerda-Reverter JM, Du SJ, Adrio F, Power DM, Canario AVM, Bronner ME, Postlethwait J, Cañestro C, Rotllant J. Pth4, an ancient parathyroid hormone lost in eutherian mammals, reveals a new brain-to-bone signaling pathway. *FASEB J.*, 31(2), 569-83 (2017). <https://doi.org/10.1096/fj.201600815R>
10. **Saxena A**<sup>†</sup> & Bronner ME. A novel HoxB cluster protein expressed in the hindbrain and pharyngeal arches. *genesis* (Cover Image), 52(10), 858-63 (2014). <https://doi.org/10.1002/dvg.22806>
11. Wang K, Milkie D, **Saxena A**, Engerer P, Misgeld T, Bronner ME, Mumm J, Betzig E. Rapid adaptive optical recovery of optimal resolution over large multicellular volumes. *Nature Methods*, 11(6), 625-8 (2014). <https://doi.org/10.1038/nmeth.2925>
12. Maier EC, **Saxena A**, Alsina B, Bronner ME, Whitfield TT. Sensational placodes: Neurogenesis in the otic and olfactory systems. *Developmental Biology* (Invited Review; Cover Image), 389(1), 50-67 (2014). <https://doi.org/10.1016/j.ydbio.2014.01.023>
13. Rogers CD, **Saxena A**, Bronner ME. Sip1 mediates an E-cadherin-to-N-cadherin switch during cranial neural crest EMT. *Journal of Cell Biology* (Cover Image; Highlighted), 203(5), 835-47 (2013). <https://doi.org/10.1083/jcb.201305050>

14. **Saxena A**, Peng BN, Bronner ME. Sox10-dependent neural crest origin of olfactory microvillous neurons in zebrafish. *eLife* (Editor's Choice; Highlighted), 2:e00336 (2013).  
<https://doi.org/10.7554/eLife.00336>  
 ScienceDaily: <http://tinyurl.com/m7fcx4s> Insight: <dx.doi.org/10.7554/eLife.00648>
15. Trinh LA, Hochgreb T, Graham M, Wu D, Ruf-Zamojski F, Jayasena CS, **Saxena A**, Hawk R, Gonzalez-Serricchio A, Dixon A, Chow E, Gonzales C, Leung HY, Solomon I, Bronner-Fraser M, Megason SG, Fraser SE. A versatile gene trap to visualize and interrogate the function of the vertebrate proteome. *Genes & Development* (Cover Image), 25(21), 2306-20 (2011).  
<https://doi.org/10.1101/gad.174037.111>
16. **Saxena A** & Tabin CJ. The miRNA-processing enzyme Dicer is necessary for cardiac outflow tract alignment and chamber septation. *Proc. Natl. Acad. Sci. USA*, 107(1), 87-91 (2010).  
<https://doi.org/10.1073/pnas.0912870107>
17. **Saxena A**, Fish JE, White MD, Yu S, Smyth JWP, Shaw RM, DiMaio JM, Srivastava D. Stromal cell-derived factor-1 alpha is cardioprotective during myocardial infarction. *Circulation*, 117(17), 2224-31 (2008). <https://doi.org/10.1161/CIRCULATIONAHA.107.694992>
18. Srivastava D, **Saxena A**, DiMaio JM, Bock-Marquette I. Thymosin  $\beta$ 4 is cardioprotective after myocardial infarction. *Ann. N.Y. Acad. Sci.*, 1112, 161-170 (2007).  
<https://doi.org/10.1196/annals.1415.048>
19. Gao J\*, Lee K\*, Zhao M, Qiu J, Zhan X, **Saxena A**, Moore CJ, Cohen SN, Georgiou G. Differential modulation of *E. coli* mRNA abundance by inhibitory proteins that alter the composition of the degradosome. *Molecular Microbiology*, 61(2), 394-406 (2006).  
<https://doi.org/10.1111/j.1365-2958.2006.05246.x>
20. Bock-Marquette I\*, **Saxena A\***, White MD, DiMaio JM, Srivastava D. Thymosin  $\beta$ 4 activates integrin-linked kinase and promotes cardiac cell migration, survival and cardiac repair. *Nature* (Article; Highlighted), 432(7016), 466-72 (2004). <https://doi.org/10.1038/nature03000>
21. Cowan CA\*, Yokoyama N\*, **Saxena A**, Chumley MJ, Silvany RE, Baker LA, Srivastava D, Henkemeyer M. Ephrin-B2 reverse signaling is required for axon pathfinding and cardiac valve formation but not early vascular development. *Developmental Biology*, 271(2), 263-71 (2004).  
<https://doi.org/10.1016/j.ydbio.2004.03.026>

### **Preprints**

1. Rajan SG, Lombardo JN, Nacke LM, Manuchehrfar F, Wong K, Garcia J, Liang J, **Saxena A<sup>†</sup>**. Self-assembly of cellular neighborhoods converts stochastic signaling into sustained olfactory neurogenesis. bioRxiv, 2022.09.05.506659 (2022). <https://doi.org/10.1101/2022.09.05.506659>; *Under review*.
2. Warriar V, Cluzeau CV, Chen B-C, Green-Saxena A, Bergey DE, Betzig E, **Saxena A<sup>†</sup>**. Rule-governed dynamic stochastic equilibration of multicellular motion *in vivo* during olfactory neurogenesis. bioRxiv, 591479 (2019). <https://doi.org/10.1101/591479>

\* Equal Contribution † Corresponding Author

### **Patents**

1. Srivastava D, **Saxena A**, inventors; Board of Regents, The University of Texas System, assignee. Preserving hypoxic tissue. United States patent US 7,776,816. 2010 Aug 17.
2. Srivastava D, Bock-Marquette I, **Saxena A**, inventors; Board of Regents, The University of Texas System, assignee. Screening of agents for activity against ischemic myocardial insults. World Intellectual Property Organization patent WO 2006/023879. 2006 Mar 2. United States patent US 7,531,318. 2009 May 12.

## **Funding**

### **Active**

- 2023-2026 Alzheimer's Association Research Grant-D Role: PI  
A $\beta$ 42's Cell Autonomous Effects on Adult Olfactory Neurogenesis  
Goals: Determine how signaling pathways driving embryonic neurogenesis are altered by Alzheimer's disease-associated A $\beta$ 42 peptide in adult organ systems, impacting both stem cells and neurons.  
Direct Costs: \$181,818
- 2024-2026 Alex's Lemonade Stand Foundation Innovation Grant 22-26834 Role: PI  
Inducing Neuroblastoma Differentiation *In Vivo*  
Goals: Identify and validate new druggable targets that modulate the differentiation of human neuroblastoma cells, including PDX samples, into neurons.  
Direct Costs: \$250,000
- 2020-2025 NIH (NICHD) R01HD100023 Role: PI  
Resolving Spatiotemporally-Specific Multicellular Dynamics *In Vivo* During Olfactory Neurogenesis  
Goals: Resolve the effects of key signaling pathways on system-wide stem cell behavior and neuronal differentiation in the developing vertebrate olfactory epithelium. Determine how two progenitor cell types interact with each other *in vivo* to coordinate the assembly of a diverse neuronal population.  
Direct Costs: \$1,057,800

### **Completed**

- 2023 U. of Illinois Cancer Center Community Outreach & Engagement Fellowship Role: PI  
Making and Breaking Neuroblastoma *In Vivo*  
Goals: Identify signaling factors that modulate stem cell transformation into neuroblastoma and/or neuroblastoma differentiation into neurons, halting malignancy. Increase scientific awareness in underserved neighborhoods and strengthen university-to-community connections.  
Direct Costs: \$30,000
- 2021-2023 NIH (NIA/NICHD) 3R01HD100023-02S1 Role: PI  
Modulating Neurogenesis to Counteract A $\beta$ 42-Induced Neurodegeneration  
Goals: Determine if signaling pathways that drive embryonic neurogenesis in the olfactory epithelium are altered by Alzheimer's disease-associated A $\beta$ 42 during adult neurogenesis, affecting olfactory stem cell differentiation into sensory neurons.  
Direct Costs: \$250,000
- 2017-2022 NIH (NHLBI) R01HL138737 (PI: Dawood Darbar) Role: Co-I  
Deciphering the Genetic Mechanisms of Atrial Fibrillation  
Goals: Determine the phenotypic effects of genetic mutations identified in patients with early-onset atrial fibrillation (EOAF). Our subproject (2018-2022) is focused on structural protein mutations that yield subtle defects in cardiac development which, in turn, may lead to atrial fibrillation in adults.  
Total Direct Costs: \$1,862,400; To Saxena Lab: \$390,200 (2018-2022)
- 2019-2021 NSF-Simons Center for Quantitative Biology Pilot Project Award Role: PI  
Quantitative Pattern Recognition and Behavior Prediction of Olfactory Neurogenesis  
Goals: Implement systems logic-based models of cell-cell interactions between tracked, segmented, and cointegrated progenitor cells in the developing olfactory epithelium.  
Direct Costs: \$40,000
- 2016-2018 Chicago Biomedical Consortium Catalyst Award (w/ Co-PI Vicky Prince) Role: PI  
*In Vivo* Multicellular Dynamics of Neural Crest Stem Cell Migration  
Goals: Investigate the spatiotemporally-sensitive roles of both canonical and non-canonical Wnt signaling in vertebrate neural crest migration and differentiation into sensory neurons.  
Total Direct Costs: \$250,000; To Saxena Lab: \$125,000
- As Trainee:
- 2013 HHMI Janelia Visiting Scientist Program Research Support Award Role: PI  
2009-2012 National Institutes of Health NRSA T32 Fellowship Role: Trainee  
2008-2009 Gordon Ross Foundation Fellowship (terminated early to accept NIH T32) Role: PI

## **Awards & Honors**

2020 Young Investigator Award, Midwest Tumor Microenvironment Meeting  
2020 University of Illinois Cancer Center Mini-Grant  
2009-2019 Twelve Travel Funding Awards, Various Conferences  
2014 Selected for Global Young Scientists Summit 2015, Singapore (NRF Singapore Funding)  
2013 Best Postdoc Presentation Award, Midwest Society for Developmental Biology  
2008 Selected for 'Frontiers in Developmental Biology' Course, Argentina (NSF Funding)  
2002-2004 Five First Prize & Finalist Awards, Various Poster Competitions

## **Invited Seminars**

2024 UAB O'Neal Comprehensive Cancer Center  
2024 UAB Heersink School of Medicine, Dept. of Genetics  
2023 University of Illinois Urbana-Champaign, Dept. of Cell & Developmental Biology  
2023 University of North Carolina at Chapel Hill, Shiao Lab (Informal)  
2023 UTHHealth McGovern Medical School, Dept. of Neurology  
2023 UAB Heersink School of Medicine, Dept. of Cell, Developmental, and Integrative Biology  
2023 Neural Crest & Cranial Placodes Gordon Research Conference  
2023 EMBL Barcelona  
2022 University of St. Francis, College of Arts & Sciences  
2022 Chicago Cytoskeleton Meeting, Northwestern University Feinberg School of Medicine  
2021 MD Anderson Cancer Center, Dept of Genetics  
2021 Baylor College of Medicine, Dept. of Molecular Physiology and Biophysics  
2021 Case Western Reserve University, Dept. of Biology  
2020 NSF-Simons Center for Quantitative Biology Conference  
2020 Neural Crest Research Colloquia Series  
2019 Medical University of South Carolina, Dept. of Cell and Molecular Pharmacology & Experimental Therapeutics  
  
2019 University of Missouri-Kansas City, School of Biological Sciences  
2019 Stowers Institute for Medical Research, Kulesa Lab (Informal)  
2018 Chicago Cytoskeleton Meeting, Northwestern University Feinberg School of Medicine  
2018 Midwest Society for Developmental Biology Conference (Two Seminars)  
2018 Morgridge Institute, University of Wisconsin-Madison, Skala Lab (Informal)  
2018 University of Illinois Cancer Center Seminar Series  
2017 Purdue University Northwest, Dept. of Biological Sciences  
2017 University of Illinois Chicago, 'MBRB Research Day' Symposium  
2017 University of Texas at Austin, Eberhart Lab (Informal)  
2017 University of Illinois Chicago, Center for Cardiovascular Research  
2017 University of Chicago, Institute for Mind and Biology (Invited by Postdoctoral Trainees)  
2016 SUNY Albany, Dept. of Biological Sciences  
2016 University of California San Francisco, Gladstone Institutes, 'Hands That Make a Heart: A Cardiovascular Development and Regeneration Symposium'  
  
2016 Northwestern University, 'Innovative Biological Microscopy' Symposium  
2016 Loyola University, Neuroscience Seminar Series  
2016 California Institute of Technology, 'Stem Cells, Gene Regulatory Networks, and the Evolution of Vertebrates' Symposium  
  
2015 Harvard Medical School, Reproductive Endocrine Sciences, Shoolman Seminar Series  
2015 University of Illinois Chicago, Dept. of Biochemistry & Molecular Genetics  
2015 University of Illinois Chicago, Dept. of Biological Sciences  
2015 University of Kansas Medical Center, Dept. of Anatomy and Cell Biology  
2015 Duke-NUS Graduate Medical School Singapore, Cancer & Stem Cell Biology Program  
2015 NTU LKC School of Medicine, Singapore Developmental Biology Club  
2015 New York University, Center for Genomics & Systems Biology  
2014 Academia Sinica, Institute of Cellular & Organismic Biology  
2014 Hong Kong University of Science & Technology, Division of Life Science

2014 University of California San Francisco, Center for Craniofacial Anomalies  
2013 HHMI Janelia Research Campus

### **Selected Talks** (from submitted abstracts)

2020 Midwest Tumor Microenvironment Meeting  
2019 Strategic Conference of Zebrafish Investigators  
2018 NSF Workshop: Finding Your Inner Modeler, Year Two  
2017 Midwest Zebrafish Meeting  
2016 Chicago Cancer Biology Conference  
2014 Society for Developmental Biology Conference  
2013 Midwest Society for Developmental Biology Conference  
2013 Neural Crest/Placodes Gordon Research Conference  
2013 Society for Developmental Biology Conference  
2012 American Society for Cell Biology Conference  
2012 Society for Developmental Biology Conference  
2004 Weinstein Cardiovascular Development Conference

### **Teaching & Mentoring**

#### Trainees & Staff (Cumulative, 2015-Present):

Visiting Professor (Sabbatical): 1

Postdoctoral Fellows: 6

Staff Scientists/Technicians: 2

Graduate Students (MS-, PhD-, or MD-Track): 9

Graduate Research Assistants (MS, Biomed Visualization-Track): 5

Postbac Research Fellows, Undergraduates, & High School Students: 37

Trainee Awards/Grants/Selected Talks (Cumulative, 2015-Present): 77 Highlights Include:

- External:
- Selected Talk, Zebrafish Disease Models Conference (X. Jiang, 2023)
  - Selected Short Talk, Zebrafish Disease Models Conference (D. Chakravorty, 2023)
  - Selected Talk, American Society for Cell Biology Conference (S.G. Rajan, 2022)
  - Selected 'Micro-Talk', American Society for Cell Biology Conference (X. Jiang, 2022)
  - Selected Talk, Midwest Zebrafish Conference (S.G. Rajan, 2022)
  - 2<sup>nd</sup> Place, FASEB BioArt Competition; Highlighted in *Science's* 'News In Brief': <https://bit.ly/3cUae0U> (L. Nacke, 2021)
  - Selected Talk, Society for Developmental Biology Conference (S.G. Rajan, 2021)
  - Semifinalists in the Society for Developmental Biology Best Student Poster Competition (X. Jiang, J. Lombardo, V. Warriar, 2020)
  - Finalist (Nationally) in the NSF-Simons Center for Quantitative Biology's Undergraduate Research Competition (N. Burg, 2019)
  - 1<sup>st</sup> Prize (Nationally) in the NSF-Simons Center for Quantitative Biology's Undergraduate Research Competition (J. Garcia, 2018)
  - Marine Biological Laboratory (MBL) Scholarship & Selection for Zebrafish Development and Genetics course at Woods Hole (S.G. Rajan, 2018; K. Gallik, 2016)
- Internal:
- Best Postdoc Poster, O'Neal Comprehensive Cancer Center Neuro-Oncology Program Retreat (X. Jiang, 2024)
  - NIGMS K12 IRACDA Fellowship, 5K12GM139186 (B. Ibarra, 2023)
  - NHLBI T32 Fellowship, 5T32HL139439, Training Program in Personalized Cardiovascular Medicine (B. Ibarra, 2022)
  - Univ. Award for Graduate Research (X. Jiang, 2023; S.G. Rajan, 2021; Gallik, 2016)
  - Departmental Award for Excellence in Research (Graduate: X. Jiang, 2022; S.G. Rajan, 2019, 2022, 2023; K. Gallik, 2018; Undergraduate: K. Wong, 2020)
  - University Fellowship (J. Lombardo, 2020-2021)
  - Chancellor's Undergraduate Research Award (A. Cardine, 2021-2023 (4x); A. Patel, 2021-2023 (3x); R. Tharakan, 2023 (2x); D. Price, 2021-2022; A. Swick, 2021-2022; K.

Wong, 2019-2020; K. Oye, 2019-2020; J. Dhingra, 2018-2020; A. Suleiman, 2019; B. Casper-Strauss, 2018-2019; J. Garcia, 2017-2018)

- Liberal Arts and Sciences Undergraduate Research Initiative Award (J. Sundaram, 2023; A. Swick, 2021; U. Malkana, 2017; D. Koshy, 2016)

- 1<sup>st</sup> Prize in UIC Student Research Forum Poster Competition (U. Malkana, 2018)

### Other Teaching & Mentoring:

2022-2023 Mentor, NIGMS K12 IRACDA Program, UIC Pharmacy/Medicine (5K12GM139186)  
2016-2023 Honors Fellow, Mentor for Multiple Honors College Students, UIC  
2016-2023 Instructor/Mentor, Bios 391 & 399: Independent Research, Multiple Students, UIC  
Spring 2023 Instructor, Bios 222: Cell Biology (~130 students)  
2022 Mentor, NHLBI T32, UIC Cardiology (5T32HL139439)  
Fall 2022 Co-Instructor, Bios 526: Molecular and Genetic Analysis of Development (11 students)  
Spring 2022 Instructor, Bios 222: Cell Biology (~180 students)  
Fall 2021 Instructor, Bios 391: How to Read and Write Scientific Papers (8 students)  
Fall 2021 Guest Instructor (2 Lectures), Bios 196: Biology Colloquium (42 students)  
Fall 2020 Co-Instructor, Bios 526: Molecular and Genetic Analysis of Development (9 students)  
Fall 2020 Lead Instructor, Bios 222: Cell Biology (~360 students)  
Spring 2020 Lead Instructor, Bios 222: Cell Biology (~230 students)  
Fall 2019 Lead Instructor, Bios 222: Cell Biology (~170 students)  
Spring 2019 Lead Instructor, Bios 222: Cell Biology (~270 students)  
2017-2018 Content Advisor/Mentor, Biomedical Visualization Graduate Student  
Fall 2018 Lead Instructor, Bios 222: Cell Biology (~170 students)  
Spring 2018 Co-Instructor, Bios 222: Cell Biology (~350 students)  
Spring 2018 Co-Instructor, GEMS 510: Integrative Biology (~25 students)  
Fall 2017 Co-Instructor, Bios 526: Molecular and Genetic Analysis of Development (8 students)  
Fall 2017 Co-Instructor, Bios 286: Biology of the Brain (~150 students)  
Fall 2017 Co-Instructor, Bios 222: Cell Biology (~300 students)  
Spring 2017 Co-Instructor, Bios 222: Cell Biology (~340 students)  
Fall 2016 Co-Instructor, Bios 526: Molecular and Genetic Analysis of Development (12 students)  
Fall 2016 Co-Instructor, Bios 222: Cell Biology (~170 students)  
2014-2015 Mentor, One Caltech Postdoctoral Fellow & One Visiting Graduate Student  
2009-2014 Annual Guest Lecturer, Caltech Developmental Biology Course BI 117  
2009-2014 Mentor, Five SURF/Caltech Undergraduates & Two High School Students, Including:  
- Vikas Trivedi, Winner of Summer Research Award (IIT-Kanpur) & Caltech graduate student  
- Brian Peng, Caltech SURF Competition Finalist (Top 5 out of >300 Caltech students)  
2011 Leader, Developmental Biology Summer Journal Club  
2003-2009 Mentor, Two Graduate Rotation Students & Two SURF Students

### Service/Outreach/Media

2020-present Founder & Organizer, 'Science on the Move' STEM Outreach in Underserved Communities  
2017-present Periodic 'Lab Tours' Community Outreach & Science Education, Including for UIC's Honors College, Bios 100, Bios 222, President's Award Program Honors, Biology Colloquium (Bios 196) Students, and for Local K-12 Students  
2013-present Ad Hoc Reviewer: *Cells & Development*, *Developmental Biology*, *Developmental Cell*, *Developmental Dynamics*, *eLife*, *EvoDevo*, *genesis*, *Molecular Biology of the Cell*, *Nature Communications*, *STAR Protocols*; Alzheimer's Association, National Science Foundation, Wellcome Trust  
2015-2023 Hosted 22 Faculty as Invited Speakers (MCDB Seminar Series + 2017 Symposium)  
2015-2023 Prelim and/or Thesis Committee Member, 17 (Total) Graduate Students at UIC and University of Chicago  
2023 Invited Guest, WVON Radio Show 'Dr. in the House with Dr. Terry Mason':  
<https://cancer.uillinois.edu/pediatric-cancer-on-wvon-dr-in-the-house/>  
2022-2023 Local Organizer (Chicago), 2023 Society for Developmental Biology Conference & Local Host and 'Finance 101' Module Presenter, SDB New Faculty 'Boot Camp'

2022 Posters Judge, Southwest Society for Developmental Biology Meeting  
2022 Posters Judge, Society for Developmental Biology Conference  
2022 Talks & Posters Judge, Midwest Zebrafish Conference  
2021 University of Illinois Cancer Center Interview:  
<https://www.youtube.com/watch?v=RERkFzplstY>  
2018-2021 Invited Participant, Howard Hughes Medical Institute Inclusive Excellence Program  
2021 Reviewer, Honors College Research Grant Proposals  
2020, 2021 Panelist, UIC Undergraduate Research STEM Initiatives Program  
2020 Search Committee Member, UIC Biological Sciences Visiting Research Specialist  
2019 Founder & Organizer, UIC 'Cookies & Conversation' Outreach to Undergrads  
2017, 2019 Saxena Lab Team Fundraising for St. Jude Walk/Run to End Childhood Cancer  
2019 Undergraduate Students-Invited Speaker, UIC ARC Faculty Program  
2019 Successful Nomination, Staff Member Suzanne Harrison for UIC Merit Award  
2019 Founder, UIC Biological Sciences MCDBN Research Seminar Series Committee  
2019 Undergraduate Students-Invited Speaker, American Cancer Society Colleges Against Cancer's Relay for Life Event  
2019 Undergraduate Students-Invited Speaker, UIC James Stukel Towers Faculty Program  
2017-2019 Candidate Interviewer, UIC Graduate Program in Neuroscience  
2018 Invited Speaker, UIC Open House Undergraduate Research Panel  
2018 Session Chair/Organizer, Midwest Society for Developmental Biology Conference  
2018 Emerging Technologies in Developmental Biology Workshop Speaker & Hands-On Instructor, Midwest Society for Developmental Biology Conference  
2018 Undergraduate-Invited Speaker, UIC James Stukel Towers Faculty Program  
2018 Posters Judge, UIC College of Pharmacy Research Day  
2017-2018 Mentor, L@S GANAS Research Program (Underrepresented Minority Students)  
2015-2018 Candidate Interviewer, UIC MSTP Program  
2017 Host, Childhood Cancer Awareness Event for G9 Nonprofit Organization  
2017 Mentor, UIC Behavioral and Biomedical Sciences Bridges to Baccalaureate Program (Underrepresented Minority Students from Community Colleges)  
2017 Organizer & Host, "Sense'ational Neuroscience: Peripheral to Central and Back" Symposium at UIC  
2017 Search Committee Member, UIC Biological Sciences Clinical Assistant Professor  
2016 Posters Judge, Chicago Cancer Biology Conference  
2016 Posters Judge, UIC Neuroscience Day  
2016 Posters Judge, Society for Developmental Biology Meeting  
2016 Invited Panelist, National Science Foundation Study Panel  
2016 Member, UIC Biological Sciences Graduate Students Admissions Committee  
2016 Organizer, UIC Biological Sciences Graduate Students Recruitment Visits  
2015 Reviewer, UIC Chancellor's Graduate Research Award Program  
2015 Posters Judge, UIC Neuroscience Day  
2015 UIC Biological Sciences, MCDB Group Open House Presentation  
2015 UIC Open House Presentation  
2008-2014 Periodic 'Lab Tours' Community Outreach & Science Education at Caltech  
2014 Event Volunteer, L.A. Centro Latino for Literacy  
2013 Proposal Reviewer & Session Chair, Caltech SURF Program  
2012-2013 Founding Board of Directors, Angie's Army (services for adults w/ Down syndrome)  
2008-2012 Annual Counselor, Camp del Corazon (children w/ congenital heart disease)  
2000-2004 Annual Counselor, Camp John Marc (children w/ congenital heart disease)  
2000-2001 UT Southwestern Graduate School Representative to UT System Board of Regents

## **Memberships**

2023-present Zebrafish Disease Models Society  
2021-present International Society for Stem Cell Research  
2020-present American Association for Cancer Research  
2019-present Children's Oncology Group  
2018-present American Society for Cell Biology



2009-present Society for Developmental Biology  
2016-2022 International Zebrafish Society  
2020-2021 Zebrafish Disease Models Society  
2015-2016 Society for Neuroscience  
2012-2014 American Society for Cell Biology  
2008-2009 Latin American Society for Developmental Biology

## **Conferences/Symposia**

2023 Zebrafish Disease Models Conference  
2023 NSF Workshop: Finding Your Inner Modeler, Year 6, Birmingham, AL  
2023 Society for Developmental Biology, Chicago, IL  
2023 Chicago Cytoskeleton Meeting, Chicago, IL  
2023 NSF-Simons MathBioSys Annual Meeting, Virtual Attendance  
2023 Neural Crest & Cranial Placodes Gordon Research Conference, Lucca, Italy  
2022 American Society for Cell Biology, Washington, D.C.  
2022 Southwest Society for Developmental Biology, Austin, TX  
2022 Chicago Cytoskeleton Meeting (2x), Chicago, IL  
2022 NSF Workshop: Finding Your Inner Modeler, Year 5, Chicago, IL  
2022 Society for Developmental Biology, Vancouver, Canada  
2022 Midwest Zebrafish Conference, Columbus, OH  
2022 NSF-Simons MathBioSys Annual Meeting, Virtual Attendance  
2022 NSF-Simons Center for Quantitative Biology Conference, Chicago, IL  
2021 American Society for Cell Biology, Virtual Meeting  
2021 NSF Workshop: Finding Your Inner Modeler, Year 4, Virtual Meeting  
2021 Society for Developmental Biology, Virtual Meeting  
2021 International Zebrafish Conference, Virtual Meeting  
2020 American Society for Cell Biology, Virtual Meeting  
2020 NSF-Simons Center for Quantitative Biology Virtual Conference  
2020 Midwest Tumor Microenvironment, Virtual Meeting  
2020 Society for Developmental Biology, Virtual Meeting  
2019 American Society for Cell Biology, Washington, D.C.  
2019 NSF-Simons Center for Quantitative Biology Conference, Chicago, IL  
2019 Society for Developmental Biology, Boston, MA  
2019 Strategic Conference of Zebrafish Investigators, Pacific Grove, CA  
2018 NSF-Simons Center for Quantitative Biology Conference, Chicago, IL  
2018 Chicago Cytoskeleton Meeting, Chicago, IL  
2018 Chicago Cancer Biology Retreat, Chicago, IL  
2018 Midwest Society for Developmental Biology, Cleveland, OH  
2018 NSF Workshop: Finding Your Inner Modeler, Year 2, Chicago, IL  
2018 International Zebrafish Conference, Madison, WI  
2018 ASCB/NCI Subcellular to Cellular Cancer Imaging Workshop, Bethesda, MD  
2017 Chicago Mass Spec Day, Chicago, IL  
2017 NSF Workshop: Finding Your Inner Modeler, Chicago, IL  
2017 Midwest Zebrafish Conference, Cincinnati, OH  
2017 MBRB Research Day, Chicago, IL  
2017 'Sense'ational Neuroscience: Peripheral to Central and Back, Chicago, IL (Organizer)  
2017 Strategic Conference of Zebrafish Investigators, Pacific Grove, CA  
2016 Chicago Cancer Biology Retreat, Chicago, IL  
2016 Society for Developmental Biology, Boston, MA  
2016 Chicago Mass Spec Day, Chicago, IL  
2016 Cardiovascular Development and Regeneration Symposium, San Francisco, CA  
2016 Innovative Biological Microscopy Symposium, Chicago, IL  
2016 Stem Cells, GRNs, and the Evolution of Vertebrates Symposium, Pasadena, CA  
2015 Society for Neuroscience, Chicago, IL  
2015 Directed Cell Migration Gordon Research, Galveston, TX  
2015 Global Young Scientists Summit, Singapore

2014 Santa Cruz Developmental Biology, Santa Cruz, CA  
2014 Society for Developmental Biology, Seattle, WA  
2013 Midwest Society for Developmental Biology, St. Louis, MO  
2013 Neural Crest/Cranial Placodes Gordon Research Conference, Easton, MA  
2013 Society for Developmental Biology, Cancun, Mexico  
2012 American Society for Cell Biology, San Francisco, CA  
2012 Caltech Biology Division Retreat, Lake Arrowhead, CA  
2012 Society for Developmental Biology, Montreal, Canada  
2009 Centers of Excellence in Genomic Science, Pasadena, CA  
2009 Society for Developmental Biology, San Francisco, CA  
2008 Latin American Society for Developmental Biology, Buenos Aires, Argentina  
2008 Centers of Excellence in Genomic Science, Pasadena, CA  
2008 Southern California Zebrafish, Los Angeles, CA  
2004 Weinstein Cardiovascular Development, Leiden, Netherlands  
2001-2004 Annual Cardiovascular Symposium, Dallas, TX  
2002 Keystone Symposium: Molecular Biology of the Heart, Keystone, CO  
2001 Weinstein Cardiovascular Development, Dallas, TX