

# CV - Laura Anne Lowery

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## Education

Ph.D.	Developmental Biology, Massachusetts Institute of Technology	June 2008
M.S.	Biology, University of California, San Diego	March 2001
B.S.	Biology, <i>cum laude</i> , Revelle College, University of California, San Diego	March 2000

## Academic/Research Positions

Assistant Professor, Biology Department, Boston College	January 2014 – present
Postdoctoral Fellow in lab of Dr. David Van Vactor, Harvard Medical School With Co-mentor Dr. Gaudenz Danuser, Harvard Medical School	July 2008 – December 2013 November 2010 – December 2013
Doctoral thesis in lab of Dr. Hazel Sive, MIT and Whitehead Institute	May 2002 – June 2008
Master's thesis in lab of Dr. William R. Schafer, University of California, San Diego	April 1999 – June 2001

## Honors and Awards

North East Society of Developmental Biology Poster Presentation Award ( <i>to lab member Matthew Evans</i> )	April 2015
North East Society of Developmental Biology Poster Presentation Award ( <i>to lab member Belinda Nwagbara</i> )	April 2014
North East Society of Developmental Biology Poster Presentation Award	April 2013
Growth Cones and Axon Regeneration RegenBase Oral Presentation Award	October 2012
Growth Cones and Axon Regeneration RegenBase Travel Fellowship	October 2012
North East Society of Developmental Biology Best Oral Presentation Award	April 2012
NIH K99 Pathway to Independence Award	February 2012 – January 2017
North East Society of Developmental Biology Best Oral Presentation Award	March 2011
NIH/NINDS Ruth L. Kirschstein NRSA Post-doctoral Fellowship	August 2008 – July 2011
Developmental Biology Gordon Conference Poster Award	June 2005
NIH/NIMH Ruth L. Kirschstein NRSA Pre-doctoral Fellowship	May 2005 – May 2008
Abraham J. Siegel Fellowship, Whitehead Institute	September 2004
North East Society of Developmental Biology Poster Award	April 2004
Revelle College Outstanding Academic and Leadership Excellence Award	June 2000
Porter Beach Foundation Summer Research Grant	June 1999
Outstanding Student of the Year, National Association of College and University Residence Halls	June 1998
Ernest C. Mort Leadership Excellence Award, Revelle College, UCSD	June 1997

## Professional Memberships

New England Society for Microscopy (Board Member, 2016-2018)	2015 - present
Genetics Society of America	2013 - present
Society for Neuroscience	2012 - present
American Society for Cell Biology	2011 - present
Society for Developmental Biology	2003 - present

## Peer-Reviewed Publications

At Boston College \* undergraduate student author

1. McDowell GS, Lemire JM, Pare JF, Cammarata G, **Lowery LA**, Levin M. (2016) Conserved roles for cytoskeletal components in determining laterality. *Integrative Biology, in press*.
2. Erdogan B, Ebbert P\*, **Lowery LA**. (2016) Using *Xenopus laevis* retinal and spinal neurons to study mechanisms of axon guidance in vivo and in vitro. *Seminars in Cell and Developmental Biology, in press*.
3. Cammarata G, Bearce E, **Lowery LA**. (2016) Cytoskeletal social networking in the growth cone: how +TIPs mediate microtubule-actin cross-linking to drive axon outgrowth and guidance. *Cytoskeleton*, doi: 10.1002/cm.21271 [Epub ahead of print].
4. Chen CT, Farrell M, de Leon J, Nwagbara B, Ebbert P\*, Ferguson D, **Lowery LA**, Morrissette N, Gubbels MJ. (2015) EB1 and tubulin acetylation regulate *Toxoplasma gondii* spindle stability. *Molecular Biology of the Cell*, 26:4562-76.
5. Bearce EA, Erdogan B, **Lowery LA**. (2015) TIPsy tour guides: How microtubule plus-end tracking proteins (+TIPs) facilitate axon guidance. *Frontiers in Cellular Neuroscience*, 9:241.
6. Lucaj C\*, Evans M\*, Nwagbara B, Ebbert P\*, Baker C\*, Volk J\*, Francl A\*, Ruvolo S, **Lowery LA**. (2015) *Xenopus* TACC1 is a microtubule plus-end-tracking protein that can regulate microtubule dynamics during embryonic development. *Cytoskeleton*, 72(5):225-34.
7. Nwagbara B, Faris A, Bearce E, Erdogan B, Ebbert P\*, Evans M\*, Rutherford E\*, Enzenbacher T, **Lowery LA**. (2014) TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and also regulates microtubule plus-end dynamics in multiple cell types. *Molecular Biology of the Cell*, 25:3350-62.  
- Image selected for cover of November 15 issue
8. Stout A\*, D'Amico S\*, Enzenbacher T, Ebbert P\*, **Lowery LA**. (2014) Using plusTipTracker open-source software to measure microtubule dynamics in *Xenopus laevis* growth cones. *Journal of Visualized Experiments*, (91) doi: 10.3792/52138.
9. Lemmon V, Ferguson A, Popovich P, Xu X, Snow D, Igarashi M, Beattie C, Bixby J, and the **MIASCI Consortium**. (2014) Minimum information about a spinal cord injury experiment (MIASCI) – a proposed reporting standard for spinal cord injury experiments, *Journal of Neurotrauma* 31:1354-1361. - *Lowery LA is a member of the MIASCI Consortium*

## From Graduate and Postdoctoral Research

10. **Lowery LA**, Faris A, Stout A, Ding L, Baird M, Davidson M, Danuser G, Van Vactor D. (2013) Growth cone-specific functions of XMAP215 in restricting microtubule dynamics and promoting axonal outgrowth, *Neural Development* 8:22.
11. Long JB, Bagonis M, **Lowery LA**, Lee H, Danuser G, Van Vactor D. (2013) Multiparametric analysis of CLASP-interacting protein functions during interphase microtubule dynamics, *Molecular and Cellular Biology* 33(8):1528-45.
12. **Lowery LA**, Faris AE, Stout A, Van Vactor D. (2012) Neural explant cultures from *Xenopus laevis* neurons, *Journal of Visualized Experiments* (68), e4232, DOI: 10.3791/4232.
13. Chang J, **Lowery LA**, Sive H. (2012) Multiple roles for the Na,K-ATPase subunits, Atp1a1 and Fxyd1, during brain ventricle development, *Developmental Biology* 368 (2):312-22.
14. **Lowery LA**, Lee H, Lu C, Murphy R, Obar RA, Zhai B, Schedl M, Van Vactor D, Zhan Y. (2010) Parallel genetic and proteomic screens identify Msps as a CLASP-Abl pathway interactor in *Drosophila*, *Genetics* 185(4):1311-25.
15. **Lowery LA**, Van Vactor D. (2009) The trip of the tip: understanding the growth cone machinery, *Nature Reviews Molecular Cell Biology* 10(5):332-43.
16. **Lowery LA**, Sive H. (2009) Totally tubular: the mystery behind function and origin of the brain ventricular system, *Bioessays* 31(4):446-58.
17. **Lowery LA**, De Rienzo G, Gutzman J, and Sive H. (2009) Characterization and classification of zebrafish brain morphology mutants, *Anatomical Record* 292(1):94-106.
18. Gutzman JH, Graeden E, **Lowery LA**, Holley H, Sive H. (2008) Formation of the midbrain hindbrain boundary constriction requires laminin-dependent basal constriction, *Mechanisms of Development* 125(11-12):975-83.

19. **Lowery LA**, Rubin J, and Sive H. (2007) *wis/sfpq* is required for cell survival and neuronal development in the zebrafish, *Developmental Dynamics* 236(5):1347-57.
20. **Lowery LA** and Sive H. (2005) Initial formation of zebrafish brain ventricles occurs independently of circulation and requires the *nagie oko* and *snakehead/atp1a1a.1* gene products, *Development* 132(9):2057-67. *Figures selected to be included in Gilbert Developmental Biology textbook 7<sup>th</sup> edition onward*
21. **Lowery LA** and Sive H. (2004) Strategies of vertebrate neurulation and a re-evaluation of teleost neural tube formation, *Mechanisms of Development* 121(10):1189-97.
22. **Hardaker LA**, Singer E, Kerr R, Zhou G, Schafer WR. (2001) Serotonin modulates locomotory behavior and coordinates egg-laying and movement in *Caenorhabditis elegans*, *Journal of Neurobiology* 49 (4):303-13.
23. Waggoner LE, **Hardaker LA**, Golik S, and Schafer WR. (2000) Effect of a neuropeptide gene on behavioral states in *Caenorhabditis elegans* egg-laying. *Genetics* 154:1181-1192.

#### **Book Chapters/Reviews (Not Peer-reviewed)**

24. **Lowery LA**. (2014) Axon Guidance: FLRT-ing promotes attraction, *Current Biology* 24(5):R198-200.
25. Jo H, **Lowery LA**, Tropepe V, Sive H. (2005) The zebrafish as a model for analyzing neural tube defects. In "Neural Tube Defects: From Origin to Treatment" (ed. D.F. Wyszynski) Oxford University Press.

#### **Invited Seminars (since 2014)**

1. 01/15/16 – University of Southern California, Center for Craniofacial Molecular Biology Seminar, Host: Dr. Ruchi Bajpai
2. 11/02/15 - McGill University, Department of Biology Molecular Seminar, Host: Dr. Gary Brouhard
3. 10/15/15 - Stony Brook University, Biochemistry and Cell Biology Seminar, Host: Dr. David Matus
4. 09/17/15 - Albert Einstein College of Medicine, Department of Physiology and Biophysics Seminar, Host: Dr. David Sharp
5. 03/10/15 - Tufts University, Integrated Science Program Seminar, Host: Julia Yelick (graduate student)
6. 02/25/15 - Pennsylvania State University, Neuroscience Seminar, Host: Dr. Melissa Rolls
7. 11/13/14 - Yale University, Molecular Biophysics and Biochemistry Informal Seminar, Host: Dr. Anthony Koleske
8. 11/10/14 - University of Vermont, Department of Biology Seminar, Host: Dr. Bryan Ballif
9. 10/10/14 - University of Albany, State University of New York, Department of Biological Sciences Seminar series, Host: Dr. Ben Szaro
10. 09/08/14 - Brandeis University, Molecular Genetics Seminar, Host: Dr. Bruce Goode
11. 05/06/14 - Boston Children's Hospital Informal Seminar, Host: Dr. Elizabeth Engle

#### **Oral Meeting Presentations (since 2014)** (presenter underscored, (\*) invited)

1. (\*) **Lowery LA**. Regulation of microtubule plus-end dynamics during axon outgrowth. *Annual Meeting for the American Society for Cell Biology*, Special Interest Subgroup: Neuronal Cytoskeleton, San Diego, CA, December 12-16, 2015.
2. **Lowery LA**. Using live imaging to investigate the regulation of microtubule plus-end dynamics by TACC family members, *New England Society for Microscopy Fall Symposium*, Whitehead Institute, Cambridge, MA, December 3, 2015.
3. (\*) **Lowery LA**. Regulation of microtubule dynamics in embryonic development by TACC protein family members, *International Xenopus PI Meeting*, Woods Hole, MA, September 28-30, 2015.
4. **Lowery LA**. Regulation of microtubule dynamics during embryonic growth cone motility: a tale of a new tip-tracker, *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 10-12, 2015.
5. (\*) **Lowery LA**. Regulation of microtubule dynamics in growth cone motility, *3<sup>rd</sup> Biennial Emerging Concepts of the Neuronal Cytoskeleton EMBO Workshop*, Puerto Varas, Chile, March 22-26, 2015.
6. Nwagbara B, Faris A, Bearce B, Erdogan B, Evans M, Ebbert P, Rutherford E, Enzenbacher T, **Lowery LA**. TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and MT polymerization in multiple embryonic cell types. *Annual Meeting for the American Society for Cell Biology*, ePoster Talk Session: Microtubules and Microtubule-Related Motors, Philadelphia, PA, December 6-10, 2014.

7. (\*) **Lowery LA**. A tale of two tip-trackers: regulation of microtubule dynamics in axon outgrowth, *Axonal Transport and Neuronal Mechanics Workshop*, Mathematical Bioscience Institute at Ohio State University, November 3-7, 2014.
8. (\*) **Lowery LA**. Regulation of microtubule dynamics in growth cone motility, *15<sup>th</sup> International Xenopus Conference*, Asilomar, CA, August 24-28, 2014.
9. **Lowery LA**. Growth cone-specific functions of XMAP215 in restricting microtubule dynamics and axon outgrowth, *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 11-13, 2014.

**Poster Presentations (since 2014)** (presenter underscored, \*undergrad presenter)

1. Ebbert P\*, Cammarata G, Rutherford E\*, Evans M, Lucaj C, **Lowery LA**. Regulation of microtubule plus-end dynamics by TACC family members. *Annual Meeting for the American Society for Cell Biology*, Philadelphia, PA, December 12-16, 2015.
2. Erdogan B, Cammarata G, Francl A\*, **Lowery LA**. TACC3: a +TIP to guide axons. *Annual Meeting for the American Society for Cell Biology*, Philadelphia, PA, December 12-16, 2015.
3. Bearce E, Rutherford E\*, Francl A\*, Carandang L\*, Stauffer C\*, Evans M\*, **Lowery LA**. TACC3, a microtubule plus-end tracking protein (+TIP) promotes cell motility during embryonic development. *Annual Meeting for the American Society for Cell Biology*, Philadelphia, PA, December 12-16, 2015.
4. Rutherford E\*, Bearce E, Francl A\*, Carandang L\*, **Lowery LA**. TACC3 plays a role in early embryonic development by impacting cell migration events essential to morphogenesis. *Annual Meeting for the American Society for Cell Biology*, Philadelphia, PA, December 12-16, 2015.
5. **Lowery LA**. Regulation of microtubule dynamics in growth cone motility, *Society for Neuroscience*, Chicago, IL October 17-21, 2015.
6. **Lowery LA**. Regulation of microtubule dynamics in growth cone motility. *Gordon Conference on Motile and Contractile Systems*, Colby-Sawyer College, New London, NH, July 19-24, 2015.
7. Erdogan B, Nwagbara B, Evans M, Volk J, Francl A, **Lowery LA**. Microtubule plus end binding protein TACC3 is required for proper axon elongation in vivo. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 10-12, 2015.
8. Bearce E, Rutherford E\*, Francl A, Evans M, Volk J, **Lowery LA**. The plus-end-tracking protein TACC3 is enriched near focal adhesions and regulates embryonic cell motility. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 10-12, 2015.
9. Ebbert P\*, Nwagbara B, Evans M, Lucaj C, Ruvolo S, Baker C, **Lowery LA**. TACC1 and TACC3 regulation of microtubule dynamics at the plus end. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 10-12, 2015.
10. Evans M\*, Nwagbara B, Lucaj C, Volk J, **Lowery LA**. The structure and function of TACC family members in neurodevelopment. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 10-12, 2015.  
- Winner of undergraduate poster award
11. Francl A\*, **Lowery LA**. Developing software for microscopy image quantification. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 10-12, 2015.
12. Nwagbara B, Faris A, Bearce B, Erdogan B, Evans M, Ebbert P, Rutherford E, Enzenbacher T, **Lowery LA**. TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and MT polymerization in multiple embryonic cell types. *Annual Meeting for the American Society for Cell Biology*, Philadelphia, PA, December 6-10, 2014.
13. Erdogan B, Evans M, Nwagbara B, **Lowery LA**. Role of TACC3 in axon elongation and guidance. *Annual Meeting for the American Society for Cell Biology*, Philadelphia, PA, December 6-10, 2014.
14. Nwagbara B, Faris A, Bearce B, Erdogan B, Evans M, Ebbert P, Rutherford E, Enzenbacher T, **Lowery LA**. TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and microtubule polymerization in growth cones. *Society for Neuroscience*, Washington, DC, November 15-19, 2014. (*dynamic poster presentation session*)
15. Nwagbara B, Faris A, Bearce B, Erdogan B, Evans M, Ebbert P, Rutherford E, Enzenbacher T, **Lowery LA**. TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and microtubule polymerization in growth cones. *Society for Neuroscience*, Washington, DC, November 15-19, 2014.

16. Nwagbara B, Faris A, Bearce E, Erdogan B, Evans M, Ebbert P, Rutherford E, Enzenbacher T, **Lowery LA**. TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and microtubule polymerization in growth cones. *Axon Guidance, Synapse Formation and Regeneration Cold Spring Harbor Meeting*, September 16-20, 2014.
17. **Nwagbara B**, Faris A, Bearce E, Evans M, Ebbert P, Baker C, Enzenbacher T, **Lowery LA**. Investigating the role of Maskin in early neuronal development. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 11-13, 2014.  
- Winner of poster award
18. **Erdogan B**, Enzenbacher T, **Lowery LA**. Investigating how guidance cue signaling affects +TIP dynamics in growth cones. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 11-13, 2014.
19. **Bearce E**, Nwagbara B, Faris A, Ebbert P, Evans M, **Lowery LA**. Initial investigations of a role for Maskin, a TACC3 orthologue, in neural crest cell migration. *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 11-13, 2014.
20. **Ebbert P\***, Nwagbara B, Faris A, **Lowery LA**. Characterization of maskin's role in the microtubule dynamics of *Xenopus laevis* growth cones, *Northeast Society of Developmental Biology*, Marine Biological Laboratory, Woods Hole, MA, April 11-13, 2014.

### **Current External Funding**

NSF Graduate Research Fellowship 06/14 – 05/17  
 Role: mentor (PI: Beth Bearce, graduate student)  
 Investigating the role of Maskin and microtubule dynamics in a neural model of cellular migration  
 Total: \$135,000

NIH/NIMH R00 (Role: PI) 02/14 – 01/17  
 Function of microtubule plus-end-tracking proteins in the neuronal growth cone  
 Total: \$746,997

### **Completed External Funding**

NIH/NIMH K99 (Role: PI) 01/12 – 01/14  
 Function of microtubule plus-end-tracking proteins in the neuronal growth cone  
 Total: \$182,088

NIH/NINDS F32 (Role: PI) 08/08 – 07/11  
 Role of *msps* and *tacc* during axon guidance  
 Total: \$146,394.

NIH/NIMH F31 (Role: PI) 06/05 – 06/08  
 Brain ventricle development and mental health  
 Total: \$133,284.

### **Current Pending External Funding**

NIH/NIMH R01 MH109651-01 (Role: PI) 04/16 – 03/21  
 Elucidating mechanistic connections between guidance signaling, microtubule regulation, and growth cone steering  
 Total: \$1,993,028  
**(pending – Impact Score 20; Percentile 3.0)**

NIH/NIDCR R03 DE025824-01 (Role: PI)

04/16 – 03/18

Role of TACC3 in cranial neural crest cell migration: implications for craniofacial disorders

Total: \$234,750

**(pending – Impact Score 21)**

### **Current Collaborations**

Designing new computational algorithms for analyzing cytoskeletal dynamics in living cells (with Dr. Kwonmoo Lee, Worcester Polytechnic Institute) – since 2014

Phosphopeptide mapping of microtubule plus-end tracking proteins (with Dr. Bryan Ballif, University of Vermont) – since 2014

Exploring the use of Raman Microscopy to image growth cone protein concentrations (with Dr. Ken Burch, Physics Dept, Boston College) – since 2015

Investigating microtubule-F-actin cross-talk in *Xenopus* embryonic cell culture (with Dr. Bruce Goode, Brandeis University) – since 2015

Analyzing Arg kinase signaling within the growth cone (with Dr. Anthony Koleske, Yale University) – since 2015

Investigating the cell biological effects of manipulating autism-associated genes (with Dr. Santhosh Girirajan, Pennsylvania State University) – since 2015

Investigating craniofacial defects in TACC3 manipulated embryos (with Dr. Amanda Dickinson, Virginia Commonwealth University, and Ruchi Bajpai, University of Southern California) – since 2015

Examining the role of tubulin mutations on microtubule dynamics (with Dr. Michael Levin, Tufts University) – since 2015

Exploring the regulation of microtubule severing dynamics on neural crest cell migration (with Dr. Jennifer Ross, University of Massachusetts, Amherst) – since 2015

### **Previous Collaborations**

Conservation of EB1 function from *Toxoplasma* to vertebrates (with Dr. Marc-Jan Gubbels, Boston College) – 2014-2015  
– paper published

### **Teaching**

Spring 2016 BIOL3040 Cell Biology (3 credit hour undergraduate class, 105 students)

Spring 2016 BIOL6150 Advanced Cell Biology (2 credit hour graduate class, 6 students)

Spring 2016 BIOL4911 Undergraduate Research I (1 student)

Spring 2016 BIOL4912 Undergraduate Research II (1 student)

Spring 2016 BIOL4953 Biology Honors Research Thesis I (1 student)

Spring 2016 BIOL4954 Undergraduate Research Investigations (1 student)

Spring 2016 BIOL4921 Advanced Independent Research (1 student)

Fall 2015 BIOL4911 Undergraduate Research I (1 student)

Fall 2015 BIOL4912 Undergraduate Research II (1 student)

Fall 2015 BIOL4955 Biology Honors Research Thesis I (1 student)

Fall 2015 BIOL4921 Advanced Independent Research (1 student)

Spring 2015 BIOL615 Advanced Cell Biology (2 credit hour graduate class, 14 students)

Spring 2015 BIOL4912 Undergraduate Research II (4 students)

Spring 2015 BIOL4918 Advanced Undergraduate Research II (1 student)

Spring 2015 BIOL4953 Biology Honors Research Thesis II (1 student)

Spring 2015 BIOL4921 Advanced Independent Research (1 student)

Fall 2014 BIOL4911 Undergraduate Research I (4 students)

Fall 2014 BIOL4921 Advanced Independent Research (1 student)

Fall 2014 BIOL4953 Biology Honors Research Thesis I (1 student)

Spring 2014 BIOL4912 Undergraduate Research II (3 students)

Fall 2013 BIOL8790 Topics in Developmental Neurobiology (2 credit hour graduate class, 5 students)

## Current Lab Personnel

### Research Staff

Aleksandra Ostojic, Research Technician , 8/14 – present

### Postdoctoral Associate

Paula Slater, Postdoctoral associate (beginning 9/16)

### Graduate students

Elizabeth Bearce, PhD student (03/14 – present)

- Recipient of National Science Foundation Graduate Fellowship 2014

Garrett Cammarata, PhD student (03/15 – present)

Burcu Erdogan, PhD student (03/14 – present)

### Undergraduate student researchers \* BC undergraduate research fellowship, # BC research credit

Jackson Bowers (Finance BC 2017), Sp15, Fa15\*, Sp16\*

- BC Presidential Scholar
- Recipient of BC Integrated Sciences Research Fellowship (with co-mentor Ken Burch in Physics, Fa15)

Leslie Carandang (Biology BC 2016), Fa14, Sp15\*, Su15\*, Fa15#, Sp16#

- Selected as Dean's Scholar 2015
- Co-first author on lab publication in preparation

Patrick Ebbert (Biochemistry 2015), Fa13, Sp14#, Su14\*, Fa14#, Sp15# (current: Lowery lab independent consultant)

- Co-author on publications: Stout et al 2014, Nwagbara et al 2014, Lucaj et al 2015, Chen et al 2015, Erdogan et al 2015
- Selected as Dean's Scholar 2014
- Honors Senior Thesis

Andrew Francl (Biology/Computer Science BC 2016), Sp14, Fa14#, Sp15\*, Su15\*, Fa15#, Sp16#

- Co-author on lab publication Lucaj et al 2015
- Recipient of BC Integrated Sciences Research Fellowship (with co-mentor Ken Burch in Physics, Sp15, Su15)
- Selected as Dean's Scholar 2015
- Working towards Scholar of the College

Alexandra Mills (Biology BC 2018), Fa14, Sp15, Fa15\*, Sp16\*

- BC Presidential Scholar
- Recipient of BC Integrated Sciences Research Fellowship (with co-mentor John Christianson in Psychology, Fa15)

Erin Rutherford (Biology BC 2016), Sp14, Su14\*, Fa14#, Sp15#, Su15\*, Fa15#, Sp16#

- Co-author on lab publication Nwagbara et al 2014, and co-first author of 2 publications in preparation
- Working towards Senior Thesis

Eric Lee (Biology BC 2018), Fa15, Sp16

### Undergraduate student lab assistant volunteers

Kelly Hawkins (Biology BC 2018), Fa15, Sp16

Laurie Hayrapetian (Biology BC 2017), Fa15, Sp16

Jessica Tiber (Biology BC 2018), Fa15, Sp16

Quinn Coughlin (Biology BC 2018), Sp16

### Other Lab Affiliates

Emily Parodi, Postdoctoral Researcher, Brandeis University

- Visiting Scholar in the Lowery Lab, 12/14 – present

Gary McDowell, Postdoctoral Researcher, Tufts University

- Co-mentee with Dr. Michael Levin and Visiting Scholar in the Lowery Lab, 12/14 - present

## Lab Alumni

### Research Staff

Anna Faris, Visiting Scholar, 11/13 – 4/14 (current: medical school at the Cleveland Clinic Lerner College of Medicine at Case Western Reserve University)

Belinda Nwagbara, Research Technician, 9/13 – 5/15 (current: medical school at St. George's University)

Tiffany Enzenbacher, Research Technician, 8/13 – 7/14 (current: Supervisor of Plant Production at the Arnold Arboretum of Harvard University)

### Undergraduate student researchers \* BC undergraduate research fellowship, # BC research credit

Joseph Volk (Biology BC 2015), Fa14#, Sp15# (current: Bit9+Carbon Black Cyber Security Firm)

- Co-author on lab publication Lucaj et al 2015

Christopher Lucaj (Biology BC 2015), Sp14, Su14, Fa14#, Sp15# (current: Research Technician at Harvard)

- Co-first author on lab publication Lucaj et al 2015

Matthew Evans (Biology BC 2015), Fa13, Sp14#, Su14, Fa14#, Sp15# (current: medical school at Oxford University)

- Co-first author on lab publication Lucaj et al 2015, co-author on Nwagbara et al 2014
- Winner of Barry M. Goldwater Scholar Award 2014
- Selected as Dean's Scholar 2014
- Awarded Boston College ACC/IAC Advance Study Grant 2014
- Honors Senior Thesis and Scholar of the College
- Winner of NESDB Undergraduate Poster Award, April 2015
- Winner of the Boston College McCarthy Prize for best thesis in Natural Sciences, May 2015

Charlie Baker (Biology BC 2015), Fa13, Sp14#, Su14\*, Fa14, Sp15# (current: Clinical Research Coordinator at Icahn Med)

- Co-author on lab publication Lucaj et al 2015

Patrick Ebbert (Biochemistry 2015), Fa13, Sp14#, Su14\*, Fa14#, Sp15# (current: Lowery lab technician)

- Co-author on publications: Stout et al 2014, Nwagbara et al 2014, Lucaj et al 2015, Chen et al 2015, Erdogan et al 2015
- Selected as Dean's Scholar 2014
- Honors Senior Thesis

Claire Stauffer (Biology BC 2016), Fa14, Sp15#, Su15\*, Fa15#

### Undergraduate student lab assistant volunteers

Paul Paris (Biology BC 2017), Fa14, Sp15

Xiaolin Chen (Biology BC 2016), Sp14

Taylor Nagel (Biology BC 2016), Sp14

Jonathan Boudreau (Biology BC 2016), Sp14

Salvatore D'Amico (Biology BC 2015), Fa13, Sp14

### Non-BC Undergraduate students

Abigail Antoine, Smith College, through Praxis Program, 5/14 – 6/14 (current: PhD graduate student at UVA)

Alina Stout, Northeastern University, 8/13 – 12/13 (current: research technician Tufts University)

### Graduate student rotations

AY 2014/15 Torrey Mandigo

AY 2014/15 Alison Earley, Garrett Cammarata, Sean Ruvolo

AY 2013/14 Elizabeth Bearce, Burcu Erdogan, Amy Valera



## Service

### Reviewing

2016 *Ad hoc reviewer:*

Book Chapter – 11<sup>th</sup> edition of Developmental Biology by Scott Gilbert and Michael Barresi – Sinauer Associates (Chapter 15: Neural Crest Cells and Axonal Specificity)

2015 *Ad hoc reviewer:*

Journals - International Journal of Developmental Biology (1 paper); Frontiers in Cellular Neuroscience (2 papers); Cell Reports (2 papers); Journal of Cell Biology (2 papers); Molecular Biology of the Cell (1 paper); Journal of Visualized Experiments (1 paper); Developmental Biology (2 papers)

Grants - French National Research Agency (ANR) (1 grant)

*Guest Editor:* Seminars in Cell and Developmental Biology (1 special issue)

2014 *Ad hoc reviewer:*

Journals - PLOS Pathogens (1 paper); Molecular Biology of the Cell (2 papers);

Grants - Medical Research Council (1 grant); The Wellcome Trust (1 grant)

### Service to Research Community

Co-Organizer, Northeast Society for Developmental Biology Meeting, Woods Hole, MA (est 170 attendees) April 2016

Co-Host, New England Society for Microscopy Spring Meeting, Boston College, MA (est 40 attendees) February 2016

Table Leader, Career Discussion and Mentoring Roundtables, ASCB Annual Meeting, San Diego, CA December 2015

“Applying for an Academic Faculty Position”

Co-Organizer, American Society for Cell Biology Annual Meeting Special Interest Subgroup December 2015

“Neuronal Cytoskeleton: Cytoarchitecture and Dynamics” (~120 attendees)

Guest Editor, Seminars in Cell and Developmental Biology October 2015

“Xenopus as a model system for vertebrate development” Special Issue

Co-Organizer, International Xenopus Principal Investigator’s meeting, Woods Hole, MA (70 attendees) September 2015

Panelist, “Academic Research Careers” Development Session, Brandeis University April 2015

Judge for Poster Presentation Award April 2015

Northeast Society for Developmental Biology Meeting, Woods Hole, MA

Provided Letter of Support for National *Xenopus* Resource R01 Proposal for genome editing tools September 2014

Application received impact score 15/2% and awarded

Table mentor, Applying for faculty positions, Cold Spring Harbor meeting on Axon Guidance September 2014

Provided Letters of Support for Xenbase (NIH-funded Xenopus resource website) August 2014

Judge for Poster Presentation Award, International Xenopus Conference, Asilomar, CA August 2014

### Service to Boston College – Committee Work

Boston College Institutional Animal Care and Use Committee (IACUC) (member) June 2015 – current

Boston College Strategic Science Planning Committee (member; chair Dr. Tom Chiles) January 2014 – current

Boston College Core Imaging Facility Committee (member; chair Dr. David Burgess) January 2014 – current

### Boston College Community Involvement

Eagle Admit Day Biology Presentation April 2016

Led Session on Mentoring Relationships, Research and Scholarship Integrity Day at Boston College March 2016

Speaker on panel discussion “Research Opportunities for Undergraduates” – for BC Scholar candidates February 2016

Speaker in “Junior Scholars in Conversation” colloquium luncheons (chair: Fr. Charles Gallagher, SJ) January 2016

Hosted filming of lab for Boston College Promotional Video: “Ever to Excel: The Power of Resilience” Nov 2015

Hosted meeting and tour of lab for Shea family (of Shea Center for Entrepreneurship at the Carroll School) Nov 2015

Lab highlighted in Boston College Magazine on undergraduate opportunities in research (with photo spread)	Nov 2015
Participant in "Junior Scholars in Conversation" colloquium luncheons (chair: Fr. Charles Gallagher, SJ)	Oct 2015 - current
Attended Pops on the Heights with BC Board of Trustees member Janice Gipson to discuss Integrated Science	Sept 2015
Speaker at Boston College Parents' Weekend College of Arts and Sciences Dean's Luncheon	Sept 2015
Met with prospective Boston College undergrads and their parents	June, July 2015
Hosted presentation/tour of lab for Boston College University Advancement officers	June 2015
Attended Boston Consortium Lab Supplier Meeting for Boston College (organized by Paul McGowan)	June 2015
Hosted tour of lab for Boston College Board of Trustee Pat Stokes	June 2015
Speaker at Boston College Arts and Sciences Alumni Reunion Weekend (re: Future of Science at BC)	May 2015
Biology Faculty Representative, Lunch with Boston College Admitted Transfer Students	May 2015
Participated as "Sweep", Boston College Halftime Retreat, Center for Student Formation	Feb 2015
Mentored Boston College Presidential Scholars in lab (Jackson Bowers, Aleksandra Mills)	Oct 2014 - current
Represented Boston College Faculty at the Boston Consortium Lab Supplier Presentations, Babson College	Oct 2014
Panelist, Preparing Future Faculty Event, Sponsored by Graduate School of Arts and Sciences	June 2014

#### Service to the Biology Department

Biology Graduate Program Committee (member; chair Dr. Charles Hoffman)	January 2014 – current
Faculty Search Committee (member, chair Dr. Ken Williams; hired Celia Shiau)	January 2014 – March 2014
Updated Boston College Biology Department Website	Spring 2014
Balkema Prize Committee (member)	Spring 2014

#### Boston College Comprehensive Exam Committees

Alexander Auld	May 2015
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#### Boston College Thesis Defense Committees

Patrick Grady (PhD, Cam lab)	November 2015
Josh Meidenbauer (PhD, Seyfried lab)	October 2014
Karie Heinecke (MS, Seyfried lab)	April 2014

#### Boston College Thesis Committees

Alexander Auld (PhD program, Folker lab)	2016 - current
Sudeshna Saha (PhD program, Gubbels lab, Chair of committee)	2014 - current
Nicholas Worley (PhD program, Veenema lab, Psychology Dept)	2014 - current

#### Non-Boston College Thesis Defense Committees

Alicia Nugent (PhD, Program in Neuroscience, Harvard Medical School, lab of Dr. Elizabeth Engle)	March 2016
Zach Feiger (PhD, Brandeis University, lab of Dr. Avital Rodal)	February 2016
Jie Quan (PhD, Harvard Medical School, lab of Dr. John Flanagan)	November 2013