**1) PERSONAL INFORMATION:**

Stephanie L. Gupton, Ph.D.

8814 Drew Lane, Chapel Hill NC 27516

(919)-360-0868

**2) EDUCATION:**

* Ph.D., The Scripps Research Institute, La Jolla, CA, 2006, Macromolecular, Cellular, and Structural Biology under Clare Waterman, Ph.D.
* Physiology Course, Marine Biological Laboratories, Woods Hole, MA, 2004, directed by Timothy Mitchison, Ph.D. and Ronald Vale, Ph.D.
* B.S., North Carolina State University, Raleigh, NC, 2001, Biological Sciences, research with Nina Strömgren Allen, Ph.D.
* B.S., North Carolina State University, Raleigh, NC, 2001, Botany
* Marine Models in Biological Research, Marine Biological Laboratories, Woods Hole, MA, 2000, directed by Michael Tytell, Ph.D. and Carole Browne, Ph.D.

**3) PROFESSIONAL EXPERIENCE:**

* Associate Professor, Department of Cell Biology and Physiology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC. April 2017-present
* Assistant Professor, Department of Cell Biology and Physiology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC. April 2011-2017 (previously known as the Department of Cell and Developmental Biology)
* Visiting Assistant Professor, Department of Cell and Developmental Biology, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC. March 2011-April 2011
* Postdoctoral Training at Massachusetts Institute of Technology, September 2006- March 2011, Cellular and Molecular Neuroscience under Frank B. Gertler, Ph.D.
* Graduate Training at Scripps Research Institute, August 2001-August 2006, Macromolecular, Structural and Cellular Biology under Clare M. Waterman, Ph.D.
* Undergraduate training at North Carolina State University in Botany under Nina S. Allen, Ph.D.

**AFFILIATIONS:**

* Faculty 1000, 2018-present
* Society for Neuroscience, 2013-present
* UNC Neuroscience Center, 2011-present
* UNC Lineberger Comprehensive Cancer Center, 2011-present
* American Society of Cell Biology, 2000-present

**4) HONORS AND AWARDS:**

* Jefferson-Pilot Fellowship Award in Academic Medicine (2016)
* North Carolina State University, College of Agriculture and Life Sciences Outstanding Young Alumnus (2016)
* ASCB/Gibco Emerging Leader Finalist (2016)
* UNC Outstanding Postdoc Mentor Award (2016)
* Pierre Morell UNC Neurobiology Curriculum Mentor of the Year (2016)
* UNC Jr. Faculty Development Award (2016)
* ASCB/Gibco Emerging Leader Semifinalist (2015)
* MIT Koch Institute Image Award (2011)
* Merck/MIT senior postdoctoral fellowship (2010-2011)
* Postdoctoral travel award for the Annual Meeting of the American Society for Cell Biology (2009)
* Fellow, Jane Coffin Childs Memorial Fund for Medical Research (2006-2009)
* Howard Hughes Medical Institute Predoctoral Fellowship (2001-2006)
* Merton R. Bernfield Memorial Award from the American Society for Cell Biology (2005)
* Keystone Symposia award to attend Symposia on Cell Migration and Invasion (2003)
* Predoctoral travel award for the Annual Meeting of the American Society for Cell Biology (2003)
* Bachelor of Science, *Magna cum laude*, Valedictorian, North Carolina State University (2001)
* Outstanding Plant Biology Major, North Carolina State University (2001)
* Phi Beta Kappa Honorary Society (2001)
* Phi Kappa Phi Honorary Society (2000)
* Sigma Xi Grant-in-Aid for Research (2000)
* Larry A. Whitford Award for Outstanding Botany Undergraduate, North Carolina State University (1999)
* Dean’s List, North Carolina State University (1997-2001)

**5) BIBLIOGRAPHY and Products of Scholarship:**

**Book Chapters (4)**

**\*Corresponding author**

1. Menon, S. and **Gupton, S. L.\*** (**2016**) The Building Blocks of a Functioning Brain: Cytoskeletal Dynamics in Neuronal Development. *International Review of Cell and Molecular Biology.* Elsevier Academic Press. Vol. 322. Chapter 3:183-246.
2. Winkle, C. C. and **Gupton, S. L.\*** (**2016**) The Ins and Outs of Neural Connectivity Membrane Trafficking in Neuronal Development. *International Review of Cell and Molecular Biology.* Elsevier Academic Press. Vol. 322. Chapter 4:247-280.
3. Dent, E. W., **Gupton, S. L.** & Gertler, F. B. (**2011**) The Growth Cone Cytoskeleton in Axon Outgrowth and Guidance. *Cold Spring Harbor Perspectives on Biology* 3,a001800–a001800.
4. **Gupton, S. L.** and Waterman, C.M. (**2006)** “Live-Cell Fluorescent Speckle Microscopy of Actin Cytoskeleton Dynamics and Their Perturbation by Drug Perfusion.” *Cell Biology, a Laboratory Handbook*. Julio E. Celis. 4th Ed. San Diego, CA. 137-151.

**Refereed Papers/Articles (25)**

**\*Corresponding author**

1. **Gupton. S. L.\*** and K. G. Campellone\*. (**2018**) Actin dynamics and function. *Mol Biol Cell.* 29(6):696–697.
2. Urbina, F.L., Gomez, M. S., and **S.L. Gupton\***. (**2018**) Spatiotemporal Organization of Exocytosis Emerges During Neuronal Shape Change. *J Cell Biol*. 217(3):1113-1128.

**(Faculty 1000)**

1. Plooster, M., Winkle, C. C., Menon, S. Urbina F., Phend, K., Hanlin, C., Monkiewicz, C., Weinberg, R. and **Gupton. S. L.\*** (**2017**) TRIM9-dependent ubiquitination of DCC constrains kinase signaling events during axon branching. *Mol Biol Cell.* 28(18):2374-2385.

**(featured article, Cover Image)**

1. Winkle, C.C., Taylor, K.L. Dent, E.W., Gallo, G., Greif, K. and **Gupton. S. L.\*** (**2016)** The Emerging Role of Membrane Turnover and Organelles in the Regulation of Axon Collateral Branches. *Developmental Neurobiology.* 76(12): 1293-1307.
2. Winkle, C.C., Olsen, R.H.J., Kim, H. Moy S.S., Song J.\*, and **Gupton. S.L.\*** (**2016**) *Trim9* deletion alters the morphogenesis of developing and adult-born hippocampal neurons and impairs spatial learning and memory. *Journal of Neuroscience*. 36(18):4940-4958.

(**Cover Image, featured Journal Club article**)

1. Winkle, C. C., Hanlin, C. C., **Gupton, S. L.\*** (**2016**) Utilizing Combined Methodologies to Define the Role of Plasma Membrane Delivery During Axon Branching and Neuronal Morphogenesis. *J. Vis. Exp.* (109), e53743.
2. Menon S., Boyer N. Winkle C., McClain L., Hanlin C., Dharmendran, P., RothenfußerS., Taylor, A.M., **Gupton, S. L.\*** **2015** TRIM9 is a filopodia off switch during netrin-dependent axon guidance. *Dev Cell*. 35:698–712. **(featured article, Cover Image)**
3. **Gupton, S. L.\*** and Barzik M**.** (**2015**) Seeing past cellular adaptation. *Cell Systems*. 1:16-17.
4. Taylor, A.M.\*, S. Menon, and **Gupton, S. L.\*** (**2015**) Passive microfluidic chamber for long-term imaging of axon guidance in response to soluble gradients. *Lab on a chip*. 15:2781–2789.
5. Barzik, M., L.M. McClain, **Gupton, S. L.**, and F.B. Gertler. (**2014**) Ena/VASP regulates mDia2-initiated filopodial length, dynamics, and function. *Mol Biol Cell*. 25:2604-2619. (**Cover Image**)
6. Winkle, C. C. McClain, L.M. Valtschanoff, J.G., Park C.S., Maglione, C. and **Gupton, S. L.\*** (**2014**)A novel Netrin-1-sensitive mechanism promotes local SNARE-mediated exocytosis during axon branching. *J Cell Biol* 205**:**217–232. **(featured article, Faculty 1000)**
7. **Gupton, S. L.\***, D. Riquelme, S.K. Hughes-Alford, J. Tadros, S.S. Rudina, R.O. Hynes, D. Lauffenburger, and Gertler, F.B.**\*** (**2012**) Mena binds α5 integrin directly and modulates α5β1 function. *J Cell Biol*. 198:657–676.
8. **Gupton, S. L.**, and Gertler, F.B. (**2010**) Integrin signaling switches the cytoskeletal and exocytic machinery that drives neuritogenesis. *Developmental Cell*. 18:725–736. **(Faculty 1000)**
9. Dent, E.W., Kwiatkowski, A.V., Mebane, L.M., Philippar, U., Barzik, M., Rubinson, D.A., **Gupton, S.**, Van Veen, J.E., Furman, C., Zhang, J., Alberts, A.S., Mori, S., and Gertler, F.B. (**2007**) Filopodia are required for cortical neurite initiation. *Nature Cell Biology*. 9:1347-1359.
10. **Gupton, S. L.** and Gertler, F.B. (**2007**) Filopodia: the fingers that do the walking. *Science STKE 2007*, 400.
11. **Gupton, S. L.**, Eisenmann, K., Alberts, A.S., and Waterman, C.M. (**2007**) mDia2 regulates actin and focal adhesion dynamics and organization in the lamella for efficient epithelial cell migration. *Journal of Cell Science*. 120:3475-3487.
12. **Gupton, S. L.**, and Waterman, C.M. (**2006**) Spatiotemporal feedback between actomyosin and focal-adhesion systems optimizes rapid cell migration. *Cell* 125:1361-1374.

**(featured article, Faculty 1000)**

1. **Gupton, S. L.**, Collings, D.A., and Allen, N.S. (**2006**) Endoplasmic reticulum targeted GFP reveals ER organization in tobacco NT-1 cells during cell division. *Plant Physiology and Biochemistry.* 44:95-105.
2. Ponti, A., Matov, A., Adams, M., **Gupton, S.**, Waterman, C.M., and Danuser, G. (**2005**) Periodic patterns of actin turnover in lamellipodia and lamellae of migrating epithelial cells analyzed by Quantitative Fluorescent Speckle Microscopy. *Biophysics Journal*. 89:3456-3469.
3. **Gupton, S. L.**, Anderson, K. L., Kole, T. P., Fischer, R. S., Ponti, A., Hitchcock-DeGregori, S. E., Danuser, G., Fowler, V. M., Wirtz, D., Hanein, D., and Waterman, C. M. (**2005**) Cell migration without a lamellipodium: translation of actin dynamics into cell movement mediated by tropomyosin. *Journal of Cell Biology.* 168:619-631. **(featured article, Faculty 1000)**
4. Adams, M.C., Matov, A., D. Yarar, **Gupton, S. L.**, Danuser, G., and Waterman, C.M. (**2004**) Signal analysis of total internal reflection fluorescent speckle microscopy (TIR-FSM) and wide-field epi-fluorescence FSM of the actin cytoskeleton and focal adhesions in living cells. *Journal of Microscopy*. 216:138-152.
5. Ponti, A., Machacek, M., **Gupton, S. L.**, Waterman, C.M., and Danuser, G. (**2004**) Two distinct actin networks drive the protrusion of migrating cells. *Science*. 305:1782-1786. **(Faculty 1000)**
6. Vallotton, P., **Gupton, S. L.**, Waterman, C.M., and Danuser, G. (**2004**) Simultaneous mapping of filamentous actin flow and turnover in migrating cells by quantitative fluorescent speckle microscopy. *Proceedings of the National Academy of Science U S A*. 101:9660-9665.
7. Adams, M.C., Salmon, W.C., **Gupton, S. L.**, Cohan, C.S., Wittmann, T., Prigozhina, N., and Waterman, C.M. (**2003**) A high-speed multispectral spinning-disk confocal microscope system for fluorescent speckle microscopy of living cells. *Methods*. 29:29-41.
8. **Gupton, S. L.**, Salmon, W.C., and Waterman, C.M. (**2002**) Converging populations of f-actin promote breakage of associated microtubules to spatially regulate microtubule turnover in migrating cells. *Current Biology*. 12:891-899.

**Submitted Papers (2)**

1. Boyer, N.P., Monkiewicz, C., Moy, S.L., and **S.L. Gupton**. The Class I E3 Ubiquitin Ligase TRIM67 Modulates Brain Development and Behavior. (**in Revision**).
2. Zeng, J., Wang, Y., Luo, Z., Xie, X., Duan, S., Wang, Q., Deverman, B.E., Gradinaur, V., **Gupton, S.L.**, Zlokovic, B., Zhao, Z., Jung, J.U. TRIM9-mediated resolution of neuroinflammation confers neuroprotection against ischemic stroke in mice. (**in Review**).

**BioRxiv Preprints (3)**

1. Boyer, N.P., Monkiewicz, C., Moy, S.L., and **S.L. Gupton**. The Class I E3 Ubiquitin Ligase TRIM67 Modulates Brain Development and Behavior. (**2017).** *BioRxiv* doi: 10.1101/241331
2. Urbina, F., Gomez, S. and **Gupton. S. L.\*** (**2017**) Dynamic spatiotemporal organization of exocytosis during cellular shape change. *BioRxiv* doi: 10.1101/185249
3. Plooster, M., Winkle, C. C., Menon, S. Urbina F., Phend, K., Hanlin, C., Monkiewicz, C., Weinberg, R. and **Gupton. S. L.\*** (**2017**) TRIM9-dependent ubiquitination of DCC constrains kinase signaling events during axon branching. *BioRxiv* doi: 10.1101/154666

**Digital and Other Novel Forms of Scholarship (1)**

1. **Gupton, S. L.** and Waterman C.M. (**2004**) “Fluorescent speckle microscopy of the cytoskeleton.” *Virtual Text Special Series: Techniques.* Ergito <<http://www.ergito.com/main.jsp?bcs=TECH.5>>.

**Patents (1)**

1. Gertler, F.B., **S. Gupton,** D. Riquelme, S.K. Hughes-Alford, and M.J. Oudin. 2015. Mena and alpha5 integrin interaction. US Patent App. 14/395,617

**Unpublished Oral Presentations (40)**

**To be delivered (4)**

1. Student Invited Seminar Speaker, Molecular and Cellular Biology, University of Florida, April, 2018
2. Invited Symposium Speaker, Department of Mechanical Engineering, at John Hopkins University, September 2018
3. Invited Speaker, Gordon Research Conference: *Directed Cell Migration*, January 2019
4. Invited Speaker, Thematic meeting of the Biophysical Society: *Quantitative aspects of membrane fusion and fission*, May 2019

**Delivered (39)**

1. Invited Symposium Speaker, Department of Pharmacology and Physiology and Neurosciences, at University of Montreal, April 2018
2. Invited Symposium Speaker, American Society for Cell Biology Annual Meeting, December 2017, Actin Dynamics and Function. **Co-chair**
3. Invited Seminar Speaker, Department of Biology at Drexel University, December 2017
4. Invited Symposium Speaker, American Society for Cell Biology Local Meeting, Triangle Cytoskeleton Club, September 2017
5. Invited Seminar Speaker, Departments of Biology and Neuroscience at University Madison Wisconsin, September 2017
6. Invited Killam Seminar Speaker, Montreal Neurological Institute at McGill University, May 2017
7. Invited Symposium Speaker and Session chair, Emerging Concepts in the Neuronal Cytoskeleton, Puerto Varas, Chile, April 2017
8. Invited Seminar Speaker, Department of Biology at John Hopkins University, March 2017
9. Invited Seminar Speaker, Cell Biology and Physiology Center, National Heart, Lung, and Blood Institute, National Institutes of Health, November 2016
10. Invited Seminar Speaker, Cell Biology and Physiology Center, Toledo University, Department of Biological Sciences November 2016
11. Invited Seminar Speaker, Departments of Cell Biology and Neuroscience, University of Virginia, September 2016
12. Invited Seminar Speaker, Center for Neural Repair and Rehabilitation, Temple University School of Medicine, April 2016
13. Invited Seminar Speaker, Department of Cell Biology, Boston College, March 2016
14. Invited Seminar Speaker, Department of Cell Biology and Physiology, UNC School of Medicine, March 2016
15. Invited Seminar Speaker, Department of Pathology & Cell Biology, Columbia, Feb 2016
16. Invited Seminar Speaker, Department of Biology, UCSD, December 2015
17. Speaker, American Society for Cell Biology Annual Meeting, Subgroup Meeting: *Neuronal Cytoskeleton 2.0*, December 2015, **co-chair**
18. Invited Seminar Speaker, Department of Cell Biology, Yale, November 2015
19. Invited Seminar Speaker at the Neuroscience Center, University of North Carolina at Chapel Hill, October 2015
20. Invited Alumnus Speaker at the Scripps Research Graduate Student Retreat, September 2015
21. Invited Speaker, Gordon Research Conference: *Motile and Contractile Systems*, July 2015
22. Invited Seminar Speaker, Duke University Developmental Biology Colloquium, March 2015
23. Invited Seminar Speaker, University of Minnesota, Department of Cell Biology, November 2014
24. Invited Speaker, Workshop on Axonal Transport and Neuronal Mechanics at the Mathematics Bioscience Institute at Ohio State University, October 2014
25. Invited Seminar Speaker in the Allen Distinguished Microscopy Seminar Series, North Carolina State University, May 2014
26. Invited Seminar Speaker, School of Medicine University of Pittsburgh, Department of Cell Biology, October 2013
27. Invited Symposium Speaker, American Society for Cell Biology Annual Meeting, Minisymposium: *Lipid Dynamics and Membrane Organization*, December 2012
28. Invited Seminar Speaker, East Carolina University, Department of Cell Biology and Anatomy, December 2012
29. Invited Speaker, Cold Spring Harbor Conference: *Axon Guidance, Synapse Formation and Regeneration*, September 2012
30. Invited Seminar Speaker at the Neuroscience Center, University of North Carolina at Chapel Hill, March 2012
31. Invited Seminar Speaker at the Department of Biology, University of North Carolina at Chapel Hill, November 2011
32. Invited Seminar Speaker at the Department of Cell and Developmental Biology University of North Carolina at Chapel Hill, April 2010
33. Invited Speaker, Gordon Research Conference: *Integrins, Fibronectins, and Related Molecules*, February 2009
34. Invited Speaker, Cold Spring Harbor Conference: *Axon Guidance, Synaptogenesis and Neural Plasticity*, 2008
35. Invited Speaker, MIT Biophysics Seminar Series, April 2008
36. Invited Symposium Speaker, American Society for Cell Biology Annual Meeting, Minisymposium: *The Cellular Basis of Morphogenesis*, December 2008
37. Invited Speaker, Gordon Research Conference: *Motile and Contractile Systems*, July 2005
38. Invited Symposium Speaker, Imaging: Integrating Across Disciplines: A symposium in honor of Nina Strömgren Allen, on the occasion of her 70th birthday, September 2005
39. Invited Symposium Speaker, American Society for Cell Biology Annual Meeting, Minisymposium: *Arp2/3 and Formins, Regulators of Actin*, December 2005

**6) GRADUATE TEACHING/TRAINING ACTIVITIES:**

Block Director/Lecturer

* Advanced Cell Biology, Microscopy Block, 2012-current (8-13 students/year, 6 lectures)

Lecturer

* PHCO745: 2018-current, Lecturer (~14 students, 1 lecture)
* Graduate Grant Writing Course: Reviewer Spring 2017-2018(~9 students, 2 meetings)
* CBPH703: Human diseases: 2017-current (~8 graduate students, 1 lecture)
* CBPH850: Advanced Cell Biology- Controversies in Trafficking, 2015-current (~10 graduate students, 4 lectures) (Previously CBIO 893, CBPH893)
* CBPH702: Animal models to study disease: Axon Guidance and Branching in Human Disease 2015-2016 (~15 students, 1 lecture) (Previously Phy702)
* NBIO723: Cytoskeletal dynamics and membrane trafficking during axon guidance, 2015-current (~12 students/ year, 1 lecture)
* Super Cell: graduate student: Polarized Membrane Trafficking, 2014 (~15 students, 1 lecture Course discontinued)
* CBIO 893, graduate students (Controversies in Trafficking) 2011 (~12 Students)
* Cell Motility, Mt. Holyoke College, undergraduate students, cell motility during neurodevelopment 2009 (10 students, 1 lecture)

One-on-one laboratory training

* Undergraduate research training: (20 students, **\*Current lab members**)

1. **\*Vong Thoong:** Undergraduate Work-study: 2018-present
2. **\*Emma Johnson:** Undergraduate Research: 2017-present
3. **\*Saumil Patel:** Undergraduate Work-study: 2017-present
4. **\*Emily Wolfgram:** Undergraduate Research: 2017-present
5. **\*Priya Vasan:** Undergraduate Research: 2016-present
6. **\*Andrew Bock:** Undergraduate Research: 2016-present, Project title: “Validation of novel TRIM67substrates”
7. Enaj Furigay:Undergraduate Work-study: 2016-2017.
8. Divya Mahesh**:** Undergraduate Research: 2016-2017.
9. Joel Anil:Undergraduate Summer Research: 2016-2017. Project title: “Validation of novel TRIM9substrates”
10. Dave Richard:Undergraduate Work-study: 2016-2017.
11. Caroline Monkiewicz: Undergraduate research Bio395, Fall 2015 - Spring 2016. Project titles: “The role of deubiquitinases in axon branching”, “Neuroanatomical consequences of *Trim67* deletion.”
12. Haejin Song: UNC Undergraduate work study student Fall 2013-Spring 2016 (currently attending a postbaccalaureate program at Meredith College, North Carolina)
13. Jenci Hawthorne: Visiting undergraduate from the University of Richmond, research Summer 2015, Project Title: “Myosin 19 in axon branching”
    * 1. *\*\*U Richmond Summer**Research Fellow*
14. Maite Ghazaleh: UNC undergraduate work-study student Fall 2014-Spring 2015 (currently attending graduate school at the University of Georgia)
15. Hieu Nguyen: UNC undergraduate research: Fall 2013-Spring- 2015.
16. David Creasman: Visiting undergraduate from Campbell University, Summer 2014, Project title: “The role of the proteosome and lysosomes in axon branching” (attending a graduate school at University of California, Irvine) *\*\*Sure/REU Program*
17. Carey Hanlin: UNC undergraduate research, Fall 2013-Spring 2014.
18. Christopher Maglione: UNC Undergraduate Research: Fall 2013-Spring 2014. Project title: “TRIM9 controls axon branching in vivo”
19. Naucika Desousa, B.S., Biomedical Engineering, NC State, 2013 (currently attending medical school at Wake Forest University, North Carolina) *\*\* Lucas scholarship recipient*
20. Charles Park: UNC Undergraduate Research, April 2011-May 2013, (currently attending a postbaccalaureate program at UNC-Chapel Hill)
21. Kinnari Buch: UNC undergraduate research, November 2011-August 2012. Project title: “Exploring TRIM67 localization and function in cortical neurons.”

*\*\*HHMI Future Scientists and Clinicians Fellow*

* Graduate student training (4 students, **\*Current lab members**)

1. **\*Melissa Plooster** (50%): Graduate student Cell Biology & Physiology, 2016-present

*\*\*supported by NIH/NIGMS T32 GM119999*

1. **\*Fabio Urbina**: Graduate student Cell Biology & Physiology, 2015-present

Working thesis title: “Novel automated computer vision analysis reveals novel mechanisms regulating exocytosis in developing neurons.

*\*\*supported by NIH/NINDS NRSA F31 NS103586, previously by NIH/NIGMS Diversity supplement & IMSD R25*

1. **\*Nicholas Boyer**: PhD candidate in Neurobiology curriculum, UNC 2014-present

Working thesis title: “TRIM9 and TRIM67 differentially control growth cone filopodia and axon guidance downstream of netrin

*\*\*supported by NIH/NINDS NRSA F31 NS096823, previously NINDS T32 NBIO*

1. Cortney Winkle: PhD candidate in neurobiology curriculum, UNC 2012-present

Thesis: Staying TRIM: How *Trim9*constrains neuronal cell morphology to regulate connectivity, defended April 22, 2016, completion data May 30, 2016

*\*\*supported by NIH/NINDS NRSA F31*

* First year graduate rotation student training (14 students)
  1. Laura McCormick
  2. Shenee’ Martin
  3. Danielle Berlin
  4. Jessie Niehaus
  5. Krystal Orlando
  6. Tim Cupp
  7. Fabio Urbina
  8. Reid Olsen
  9. Nick Boyer
  10. Suzanne Nobles
  11. Cortney Winkle
  12. Hailey Brighton
  13. Jorge Martinez
  14. James Shellhammer
* Visiting graduate student training (1 student)

1. Lara Albania: 2013 (University of Padua, Italy, lab of Francesco Filippni)

* Postdoctoral research training (2 fellow2, **\*Current lab members**)

1. **\* Anthony Mangan, PhD**: 2017-present,

*\*\*UNC SPIRE fellow*

1. **\* Shalini Menon, PhD**: 2013-present,

*\*\*postdoctoral fellow of the American Heart Association*

* Technician training and supervision (5 technicians, **\*Current lab members**)

1. **\*Caroline Monkiewicz**: 2016-present.
2. Carey Hanlin: 2014-2016 (currently working for a NGO in New York City)
3. Charles Park: 2013-2014 (currently attending a postbaccalaureate program at UNC)
4. Christopher Bott: 2012-2103 (currently attending graduate school at the University of Virginia)
5. Juli Valtschanoff, M.D.: 2011-2012 (Associate Dean, Professor and Chair of Medical Cell Biology at American University of Antigua

Teaching Assistant

* Medical Student Cell Biology Laboratory 2013: Helped with laboratory section of Cell Biology section for med students lead by Keith Burridge. (20 students)
* Physiology Course at MBL in Woods Hole, MA with Clare Waterman, Ph.D. 2006 (15 students)
* Visualizing Cytoskeletal Dynamics course directed by Vic Small, Ph.D. and the Federation of European Biochemical Society, 2002 (10 students)
* Laboratory section of Plant Biology at NCSU with Udo Blu, Ph.D. 2000 (20 students)

First Year Group Co-Mentor 2012-2016:

* Co-Mentor in First Year Group. Participated in class discussions and mentored students in scientific ethics, rotation selection, poster presentations, and writing sections of the course. (~20 students)

Graduate Student Supervision:

Thesis Committees (**20, 11 current, 9 completed**):

1. Danielle Berlin (UNC Cell Biology and Physiology, **chair**) 2017-present
2. Zayna King (UNC Cell Biology and Physiology) 2017-present
3. Megan Agajanian (UNC Pharmacology) 2017-present
4. Carlos Patino Deskovitch (UNC Cell Biology and Physiology) 2017-present
5. Jesse Niehaus (UNC Neurobiology Curriculum, **chair**) 2017-present
6. Selena Romero (UNC Cell Biology and Physiology, **chair**) 2017-present
7. Alicia Tagliatela (UNC Cell Biology and Physiology, **chair**) 2016-present
8. Jennifer Ocasio Adorno (UNC Neurobiology Curriculum, **chair**) 2015-present
9. Katie Veleta (UNC Neurobiology Curriculum) 2015-present
10. Kendall Lough (UNC Genetics and Molecular Biology) 2014-present
11. Amanda Raimer (UNC Genetics and Molecular Biology) 2014-present
12. Maria Bagonis (Harvard University, Biological and Biomedical Sciences, PhD 2017) 2016-2017
13. Kaleb Naegeli (Duke Pharmacology and Cancer Biology, PhD, 2017) 2013-2017
14. Timothy Cupp (UNC Cell and Developmental Biology, Masters 2016)
15. Kelly Watson (UNC Cell and Developmental Biology, PhD, 2015) 2012-2015
16. Liz Haynes (UNC Cell and Developmental Biology, PhD 2015) 2012-2015
17. Kathryn Trogden (UNC Biology, PhD 2015) 2012-2015
18. Matty Kutys (UNC Cell and Developmental Biology/NIH, PhD 2014), 2012-2014
19. Scott Huock (UNC Cell and Developmental Biology, PhD 2014) 2011-2014
20. Alex Raines (UNC Neurobiology Curriculum, PhD 2012) 2011-2012

Qualifying Exam Committee (**9**):

* + - Cell Biology and Physiology Qualifying Exam Committee (2016)
    - Alicia Tagliatela (UNC Cell and Developmental Biology, 2015)
    - Kelly Gewain (UNC Cell and Developmental Biology, 2014)
    - Jennifer Karin Ocasio Adorno (UNC Neurobiology Curriculum, 2014, **chair**)
    - David Graham (UNC Cell and Developmental Biology, 2014)
    - Suzanne Nobles (UNC Neurobiology Curriculum, 2013)
    - Bomi Oladosu (UNC Neurobiology Curriculum, 2012, **chair**)
    - Hailey Brighton (UNC Cell and Developmental Biology, 2012)
    - Mai Doan (UNC Cell and Developmental Biology, 2011)

**7) GRANTS/FUNDING:**

**Ongoing Research Support:**

R21MH109653 NIH/NIMH (Gupton, PI) 05/15/16-04/30/18

*Identification of ubiquitylated substrates of Trim9 and Trim67*

In this proposal we perform unbiased quantitative proteomic screens to identify neuronal proteins in close proximity that are differentially ubiquitylated in the absence of TRIM9 and/or TRIM67.

R01GM108970 NIH/NIGMS (Gupton, PI) 01/01/14-12/31/18

*Trim9 coordinates membrane trafficking and cytoskeletal dynamics*

In this proposal we focus on the spatial and temporal regulation of axonal responses to netrin and how TRIM9 regulates cytoskeletal dynamics and membrane trafficking to affect shape changes of developing neurons *in vitro* and *in vivo*.

R01GM054712 NIH/NIGMS (Brennwald, PI, Gupton, Co-PI) 09/01/16-08/31/20

*Polarized Exocytosis: Rhos, Rabs, Tethers and SNAREs*

My contributions to this proposal are to help determine how mutations and variations in tSNARE1, which are associated with schizophrenia, affect membrane trafficking and morphogenesis in developing neurons

**Pending Research Support:**

R01GM108970 NIH/NIGMS (Gupton, PI) 01/01/19-12/31/23

*Mechanisms of netrin-1 chemotaxis and haptotaxis*

In this proposal we investigate how netrin-1 can function as both a chemotactic cue and a haptotactic cue during neuronal development

R21NS104530 NIH/NINDS (Song, PI, Gupton Investigator) 08/01/18-07/31/20

#### Trim9 in the morphogenesis of adult-born neurons

In this collaborative proposal we investigate the role of TRIM9, in the migration, morphogenesis, and physiology of adult-born neurons in the dentate gyrus.

R01NS105614 NIH/NINDS (Gupton, PI) 09/01/18-08/31/23

#### Exocytosis for plasma membrane expansion in developing neurons

The major goals of this proposal include defining the mechanisms that regulate the organization, progression, and mode of vesicle fusion with the plasma membrane of developing neurons.

**Completed Research Support:**

R01GM108970 NIH/NIGMS (Gupton, PI) 09/08/2017

*Trim9 coordinates membrane trafficking and cytoskeletal dynamics*

This was an administrative supplement from NIGMS to upgrade our TIRF microscope

R01GM108970 NIH/NIGMS (Gupton, PI) 06/15/15-06/14/17

*Trim9 coordinates membrane trafficking and cytoskeletal dynamics*

This was an administrative diversity supplement from NIGMS to support Mr. Fabio Urbina’s graduate studies in my lab. The supplement supports Mr. Urbina under the co-mentorship of myself and Dr. Shawn Gomez (UNC, Biomedical Engineering)

UNC Junior Faculty Development Award (Gupton, PI) 01/01/16-12/31/16

*Identification of Interacting Partners of Trim9 and Trim67*

In this proposal we perform an unbiased quantitative proteomic screen to identify neuronal proteins in close proximity to TRIM9 and TRIM67.

Pilot Project UNC University Research Council (Gupton, PI) 05/01/14-04/31/16

*Design and Application of a Novel Axon Guidance Microfluidic Device*

In this proposal we design and develop a PDMS-based microfluidic device to study axon guidance in a gradient of extracellular guidance cues in dissociated neurons. 0% effort

**8) PROFESSIONAL SERVICE:**

To discipline:

* + - Editorial:
    - *Open Biology 2017-*
    - *Molecular and Cellular Neuroscience 2018-*
    - Refereeing of manuscripts 2011-ongoing:

*eLife, PNAS, Journal of Cell Biology, Journal of Neuroscience,* *Molecular Biology of the Cell, PLoS Genetics, Journal of Clinical Investigation, Journal of Biological Chemistry, Biophysics, Development, Scientific Reports, PLoS Biology, Neuroscience, Frontiers in Neuroscience, Royal Chemistry Society, ACS Neuro, Cytoskeleton, JoVE, Cell and Molecular Neuroscience, Developmental Neurobiology, eNeuro, nanomedicine*, *BMC Cell Biology*

* Grant Review:
* NIH study section: Synapses, Cytoskeleton and Trafficking Study Section (SYN) *ad hoc,* Feb 2018
* NSERC: Discovery Grant Proposal, Natural Sciences and Engineering Research Council of Canada
* NIH study section: Drug Discovery and Probes for the Nervous System (ZRG1 MDCN-B 04 S) *ad hoc,* Nov 2016
* NSF *ad hoc,* 2016
* NIH study section: Synapses, Cytoskeleton and Trafficking Study Section (SYN) *ad hoc,* Feb 2016
* NIH study section: Neurodifferentiation, Plasticity, Repair and Rhythmicity (NDPR) *ad hoc*, June 2015
* UK SBS Grants, *ad hoc,* 2013
* Meeting Chair:
* Session Co-chair: “Cytoskeletal Dynamics, Mechanics, and Cell Motility” ASCB/EMBO Annual Meeting (December 2017*)*
* Session Chair: “Motile and Contractile Systems” Gordon Research Conference (July 2017)
* Session Chair: “Emerging Concepts in the Neuronal Cytoskeleton” focused meeting if IBUMB, Puerto Varas, Chile (April 2017)
* Co-chair“Neuronal Cell Biology: Cytoskeleton and Trafficking” Special Interest Subgroup at the annual meeting of the American Society for Cell Biology (ASCB, 2016)
* Co-chair“Neuronal Cytoskeleton 2.0: A Complex Interplay of Cytoarchitecture and Dynamics” Special Interest Subgroup at the annual meeting of the American Society for Cell Biology (ASCB, 2015)
* Faculty 1000 (2018-present)

Within the University of North Carolina at Chapel Hill:

* + - Established and **co-chair** a cross-campus “UNC Trafficking Super Group” with Dr. Saskia Neher, Biochemistry and Biophysics 2015-present
    - Admissions Committee for UNC Biological and Biomedical Science Program (BBSP), member: 2011-2015, member, **chair** 2016-present
    - Admissions subcommittee for BBSP, 2011-2014, 2016-present
    - BBSP poster scoring 2012-present
    - NBIO Student Mentoring and Oversight Committee, 2012-present
    - BBSP graduate student grade repeal Committee, 2016
    - Integrative Program for Biological and Genome Sciences (iBGs) Faculty Search Committee, 2015-2016
    - CBP Seminar Series Committee, 2012-2016, **chair** 2014-2016
    - Cell Biology and Physiology (CBP) Faculty Search Committees: Research Assistant Professor, 2014-2015
    - Neurobiology Curriculum (NBIO) Taskforce on PI Conduct, 2014
    - CBP Faculty Search Committee, 2013-2014
    - Cell and Developmental Biology Graduate Studies Committee, 2012-2014