

Colleen G. Bilancia, Ph.D.

Postdoctoral Research Associate
Biology Department
University of North Carolina at Chapel Hill
Phone: 919-962-2309
Email: cmguerin@email.unc.edu

EDUCATION

Ph.D., Cell and Developmental Biology, October 20, 2009

Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School,
University of Medicine and Dentistry of New Jersey, and
Rutgers, The State University of New Jersey, Piscataway, NJ

Embryology: Concepts and Techniques in Modern Developmental Biology, June 10 - July 23, 2006

Marine Biological Laboratory, Woods Hole, MA

B.A., Biology; Minors in Psychology and Religion, May 2003

La Salle University - School of Arts and Sciences, Philadelphia, PA
Honors: Magna Cum Laude

PUBLICATIONS

Bilancia, C.G., Winkelman, J., Tsygankov, D., Nowotarski, S.H., Sees, J., Comber, K., Evans, I, Lakhani, V., Wood, W., Elston, T.C., Kovar, D.R., and Peifer, M. Enabled negatively regulates Diaphanous-driven actin dynamics. In revision at Developmental Cell.

Tsygankov, D., **Bilancia, C.G.**, Vitriol, E.A., Hahn, K.M., Peifer, M., and Elston, T.C. *CellGeo*: a computational platform for the analysis of shape changes in cells with complex geometries. *The Journal of Cell Biology*, *in press*.

Winkelman, J., **Bilancia, C.G.**, Peifer, M., and Kovar, D.R. *Drosophila* Ena/VASP Enabled is a highly processive actin polymerase tailored to assemble filaments for filopodia-like structures. In revision at PNAS.

Rogers, E.M., **Bilancia, C.G.**, Sumigray, K.D., Allred, C., Nowotarski, S.H., Ritchie, B.J., and Peifer, M. (2013). Abelson kinase does not require kinase activity or its F-actin binding domain to regulate embryonic morphogenesis. In revision at Molecular Biology of the Cell.

Guerin, C.M. and Kramer, S.G. (2009). RacGAP50C directs perinuclear γ -tubulin localization to organize the uniform microtubule array required for *Drosophila* myotube extension. *Development*, **136**, 1411-1421.

Guerin, C.M. and Kramer, S.G. (2009). Cytoskeleton Remodeling during Myotube Assembly and Guidance: Coordinating the Actin and Microtubule Networks. *Commun Integr Biol.* **2**, 452-457.

PROFESSIONAL EXPERIENCE

Postdoctoral Research Associate, September 2009 – Present

Research Area: Regulation of the actin cytoskeleton – Led a collaborative team using a multidisciplinary approach involving cell and developmental biological techniques, genetics, biochemistry, biophysics, and computational analysis to understand how actin regulatory proteins work individually and as a network to control the actin cytoskeleton and cell protrusive behaviors.

Mentor: Mark Peifer, Ph.D., Hooker Distinguished Professor of Biology
University of North Carolina at Chapel Hill, Chapel Hill, NC

Doctoral Research, April 2004 – August 2009

Research Title: “Muscle Attachment Site Selection in *Drosophila*.” Performed genetic mapping and cell biological analysis to identify genes required for fruit fly muscle development in vivo and to define their molecular mechanisms of action.

Mentor: Sunita G. Kramer, Ph.D., Associate Professor
Department of Pathology and Laboratory Medicine
University of Medicine and Dentistry of New Jersey, and
Rutgers, The State University of New Jersey, Piscataway, NJ

Laboratory Technician, June - August 2003

Cardiovascular and Urogenital Centre of Excellence for Drug Discovery
GlaxoSmithKline, King of Prussia, PA

Undergraduate Research Assistant, December 2002 - April 2003

Research Title: “Cytoskeletal regulation of wound healing.” Utilized cell culture of patient samples to model wound healing and to test the effects of microtubule disruption on scar formation.

Mentor: Edward Doolin, MD
Department of Pediatric General and Thoracic Surgery
Children’s Hospital of Philadelphia, Philadelphia, PA

AWARDS & HONORS

- 2012 Invited Talk, Actin Organization and Dynamics Minisymposium,
The Annual Meeting of The American Society for Cell Biology, San Francisco, CA
- 2012 Postdoctoral Travel Award from The American Society for Cell Biology to attend the
Annual Meeting, San Francisco, CA
- 2011 Poster Presentation Winner, 36th Annual UNC Lineberger Postdoc-Faculty Research Day,
Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, NC
- 2009 Postdoctoral Fellowship Award, UNC Developmental Biology Training Program
NIH Grant - T32 HD046369-05
- 2009 Postdoctoral Poster Presentation Winner, UNC Developmental Biology Symposium,
University of North Carolina at Chapel Hill, Chapel Hill, NC
- 2009 Outstanding Teaching and Service Award – Graduate School of Biomedical Sciences,
University of Medicine and Dentistry of New Jersey, Piscataway, NJ
- 2008 Santa Cruz Developmental Biology Conference Fellowship to give an oral presentation
Santa Cruz, CA
- 2007 Honorable Mention - Student Poster Contest
Pan American Congress on Developmental Biology, Cancun, Mexico
- 2006 S.O. Mast Memorial Fund Fellowship and Society for Developmental Biology Fellowship
to attend the “Embryology: Concepts & Techniques in Modern Developmental Biology” course
Marine Biological Laboratory, Woods Hole, MA
- 2003 Brother Emery C. Mollenhauer Award for exemplifying the Lasallian values of charity and justice
La Salle University, Philadelphia, PA
- 2003 New Economy Technology Scholarship
Pennsylvania Higher Education Assistance Agency, PA

SELECT PRESENTATIONS

Invited Talks

Enabled negatively regulates Diaphanous-driven actin dynamics. Actin Organization and Dynamics Minisymposium, **The American Society for Cell Biology Annual Meeting**, San Francisco, CA December 2012.

Tumbleweed/RacGAP50C directs perinuclear γ -tubulin localization to organize microtubules for myotube extension. **50th Annual Drosophila Research Conference**, Chicago, IL March 2009.

Postmitotic Requirement of the Cytokinesis Proteins RacGAP50C and Pavarotti in *Drosophila* Somatic Muscle Guidance. **Santa Cruz Developmental Biology Meeting**, Santa Cruz, CA. June 2008.

Understanding Cell Migration and Guidance during Muscle Development.
La Salle University, Philadelphia, PA. February 2008.

RacGAP50C Functions in *Drosophila* Somatic Muscle Development. **UMDNJ Pathology Department Graduation Dinner**, Piscataway, NJ. June 2007.

Poster Presentations

Mechanisms of Diaphanous and Enabled Crosstalk in Controlling Actin Dynamics and Cell Protrusions.
36th Annual UNC Lineberger Comprehensive Cancer Center Postdoc-Faculty Research Day, October 2011.
* **Poster Presentation Winner**

Understanding the Regulation of Cell Protrusions by Diaphanous and Enabled during Epithelial Morphogenesis.
UNC Developmental Biology Symposium, Chapel Hill, NC November 2009.
* **Postdoctoral Poster Presentation Winner**

Identification of Novel Genes Affecting *Drosophila* Larval Somatic Muscle Patterning.
First Pan American Congress on Developmental Biology, Cancun, Mexico. June 2007.
* **Honorable Mention in Student Poster Contest**

TEACHING, MENTORING & SERVICE

Graduate Student Rotation Mentor, Fall 2013, University of North Carolina at Chapel Hill, Chapel Hill, NC
Graduate student: Kala Nwachukwu

Undergraduate Research Mentor, Summer 2011, UNC Exchange Program,
University of North Carolina at Chapel Hill in conjunction with the National University of Singapore
Undergraduate research assistant: Yuanyuan Wei

Undergraduate Research Mentor, Fall 2010, University of North Carolina at Chapel Hill, Chapel Hill, NC
Undergraduate research assistant: Sheryl Payne

Graduate Student Rotation Mentor, Spring 2010, University of North Carolina at Chapel Hill, Chapel Hill, NC
Graduate student: Catherine Wright

Undergraduate Research Mentor, Spring 2010, University of North Carolina at Chapel Hill, Chapel Hill, NC
Undergraduate research assistant: Andrea Brady

Resident Assistant and Research Mentor, May – August 2005; June – August 2008
Research in Science and Engineering Program (RiSE)
Rutgers, The State University of New Jersey, Piscataway, NJ

Career Day Speaker, February 2008
Biology Department Undergraduates
La Salle University, Philadelphia, PA

Keynote Speaker, October 2007
National Honor Society Induction
Saint Hubert Catholic High School for Girls, Philadelphia, PA

Molecular Biosciences Tutor, September 2004 – April 2009
University of Medicine and Dentistry of New Jersey and
Rutgers, The State University of New Jersey, Piscataway, NJ
Courses: Quantitative Problems, Biochemistry, Cell Biology, Microbial and Molecular Genetics

Student Assistance Campus Committee, June 2005 – June 2008
Graduate School of Biomedical Sciences Student Representative
University of Medicine and Dentistry of New Jersey, Piscataway, NJ

Vice President - Graduate Student Association, June 2004 - June 2005
Joint Programs in Molecular Biosciences, University of Medicine and Dentistry of New Jersey and
Rutgers, The State University of New Jersey, Piscataway, NJ

PROFESSIONAL AFFILIATIONS

2010-present The American Society for Cell Biology

2004-present Society for Developmental Biology

2003-2005 New York Academy of Science

2003-2009 Molecular Biosciences Graduate Student Association, University of Medicine and Dentistry
of New Jersey and Rutgers, the State University of New Jersey, Piscataway, NJ

2003-present Alpha Epsilon Alumni Honor Society

2003-present National Society of Collegiate Scholars

REFERENCES

Dr. Mark Peifer, Hooker Distinguished Professor of Biology, Biology Department,
University of North Carolina at Chapel Hill, Chapel Hill, NC
(919) 962-2271; peifer@unc.edu

Dr. Sunita G. Kramer, Associate Professor, Department of Pathology and Laboratory Medicine,
Robert Wood Johnson Medical School at Rutgers, the State University of New Jersey, Piscataway, NJ
(732) 235-4226; kramersg@umdnj.edu

Dr. Victoria Bautch, Professor and Chair of Biology, Biology Department,
University of North Carolina at Chapel Hill, Chapel Hill, NC
(919) 966-6797; bautch@med.unc.edu