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Education

Ph.D.	Cell and Developmental Biology	University of North Carolina at Chapel Hill	2009
B.S.	Biology (<i>with Honors</i>)	University of North Carolina at Chapel Hill	2002

Research Positions

Assistant Professor	University of Florida Department of Anatomy and Cell Biology	2014-present
Postdoctoral Research Associate	Emory University Mentor: Dr. James Zheng	2009-2014
Graduate Student	University of North Carolina at Chapel Hill Mentors: Dr. Ken Jacobson and Dr. Klaus Hahn	2004-2009
Research Technician	University of North Carolina at Chapel Hill Supervisor: Dr. Kerry Bloom	2003-2004
Undergraduate Researcher	University of North Carolina at Chapel Hill Mentor: Dr. Kerry Bloom	2001-2002

Joint Appointments and Affiliations

UF Department of Neuroscience	affiliate faculty
UF Center for Translational Research in Neurodegenerative Disease	affiliate faculty
McKnight Brain Institute of the University of Florida	member

Honors and Awards

NIH Pathway to Independence Award (K99/R00)	2014-2018
Outstanding Postdoctoral Fellow Achievement Award, Emory University	2013
NIH Ruth L. Kirschstein NRSA for Individual Postdoctoral Fellows (F32)	2011-2013
Training in Translational Research in Neurology (NIH/T32) postdoctoral fellow, Emory University	2010-2011
NIH Ruth L. Kirschstein NRSA for Individual Predoctoral Fellows (F31)	2008-2009
Cell and Molecular Biology Training Program (NIH/T32) predoctoral fellow, UNC-CH	2005-2007
Graduated with Honors and Distinction, UNC-CH	2002

16. Osking Z, Ayers JI, Hildebrandt R, Skruber K, Eukovich AR, Brown H, Ryu D, Golde TE, Borchelt DR, Read TA, **Vitriol EA**. (2019) ALS-linked SOD1 Mutants Enhance Outgrowth and Branching in Adult Motor Neurons. *iScience* 11: 294-304.
15. Skruber K, Read TA, **Vitriol EA** (2018) Reconsidering an Active Role for G-actin in Cytoskeletal Regulation. *Journal of Cell Science*, 131 (1): jcs203760.
14. Li X, Mei Y, Yan B, **Vitriol E**, Huang S, Ji P, Qiu Y (2017) Histone Deacetylase 6 Regulates Cytokinesis and Erythrocyte Enucleation Through Deacetylation of Formin Protein mDia2. *Haematologica*, 102(6):984-994.
13. Kapustina M, Read TA, **Vitriol EA** (2016) Simultaneous Quantification of Actin Monomer and Filament Dynamics with Modelling Assisted Analysis of Photoactivation. *Journal of Cell Science*, 129(24):4633-4643.
12. **Vitriol EA***, McMillen LM, Kapustina M, Gomez SM, Vavylonis D, Zheng JQ (2015) Two Functionally Distinct Sources of G-actin Supply the Leading Edge of Lamellipodia. *Cell Reports*, 11(3): 433-445. ***Corresponding author**
11. Tsygankov D, Bilancia CG, **Vitriol EA**, Hahn KM, Peifer M, Elston TC (2014) CellGeo: A Computational Platform for the Analysis of Shape Changes in Cells with Complex Geometries. *Journal of Cell Biology*, 204(3): 443-460
10. **Vitriol EA**, Wise AL, Berginski ME, Bamburg JR, Zheng JQ (2013) Instantaneous Inactivation of Cofilin Reveals Its Function of F-actin Disassembly in Lamellipodia. *Molecular Biology of the Cell*, 24(14): 2238-47. **Cover article. Recommended by Faculty of 1000 (2★)**.
9. Lee CW*, **Vitriol EA***, Shim S, Wise AL, Velayutham RP, Zheng JQ (2013) Dynamic Localization of G-actin During Membrane Protrusion in Neuronal Motility. *Current Biology*, 23(12): 1046-56. ***Co-first author**
8. **Vitriol EA** and Zheng JQ (2012) Growth Cone Travel in Space and Time: The Cellular Ensemble of Cytoskeleton, Adhesion, and Membrane. *Neuron*, 73(6): 1068-1081.
7. Fan Y, Tang X, **Vitriol E**, Chen G, Zheng JQ (2011) Actin Capping Protein Is Required for Dendritic Spine Development and Synapse Formation. *Journal of Neuroscience*, 31(28): 10228-10233.
6. Berginski M*, **Vitriol EA***, Hahn KM, Gomez SM (2011) High-Resolution Quantification of Focal Adhesion Spatiotemporal Dynamics in Living Cells. *PLoS One*, 6(7): e22025. ***Co-first author**
5. Gulyani A*, **Vitriol E***, Allen R, Wu J, Gremyachinskiy D, Lewis S, Dewar B, Graves LM, Kay BK, Kuhlman B, Elston T, Hahn KM (2011) A Biosensor Generated via High-throughput Screening Quantifies Cell Edge Src Dynamics. *Nature Chemical Biology*, 7(7): 437-44. ***Co-first author**
4. Kapustina M, **Vitriol E**, Elston T, Loewe LM, Jacobson K (2010) Modeling Capping Protein FRAP and CALI Experiments Reveals *in vivo* Regulation of Actin Dynamics. *Cytoskeleton*, 67(8): 519-534.
3. Jacobson K, Rajfur Z, **Vitriol E**, Hahn KM (2008) Chromophore-Assisted Laser Inactivation in Cell Biology. *Trends in Cell Biology*, 18(9): 443-50. **Recommended by Faculty of 1000 (1★)**.
2. **Vitriol EA**, Uetrecht AC, Shen F, Jacobson K, Bear JE (2007) Enhanced Green Fluorescent Protein-Chromophore Assisted Laser Inactivation using Deficient Cells Rescued with Functional EGFP-Fusion Proteins. *Proceedings of the National Academy of Sciences*, 104(16): 6702-6707.
1. Lobachev K, **Vitriol E**, Stemple J, Resnick MA, Bloom K (2004) Chromosome Fragmentation after Induction of a Double-Strand Break Is an Active Process Prevented by the RMX Repair Complex. *Current Biology*, 14(23): 2107-2112. **Highlighted in Current Biology.**

Current Funding

ALS Association Starter Grant Vitriol (PI) 9/1/2018 - 8/31/2019

The Actin Cytoskeleton as a Novel Pathway in ALS Pathogenesis

The major goal of this study is to determine the mechanistic role of actin dysregulation in motor neuron toxicity and ALS disease progression.

Completed Funding (as tenure-track faculty)

R00 NS087104 (NIH/NINDS) Vitriol (PI) 4/1/2015 -3/31/2018

Novel mechanisms of actin dynamics underlying cell motility, axon growth, and ALS

The goal of this study is to determine the role that regulated polymerization of actin monomers plays in cell motility, motor neuron development, and ALS pathogenesis.

Completed Funding (as a postdoc or graduate student)

K99 NS087104 (NIH/NINDS) Vitriol (PI) 2014-2015

Novel mechanisms of actin dynamics underlying cell motility, axon growth, and ALS

The goal of this study is to determine the role that regulated polymerization of actin monomers plays in cell motility, motor neuron development, and ALS pathogenesis.

F32 NS077612 (NIH/NINDS) Vitriol (PI) 2011-2013

Spatiotemporal Control of Cofilin Activity During Growth Cone Motility

The goal of this study is to use optogenetic control of cofilin to determine its role in regulating cell motility and growth cone guidance.

T32 NS007480 (NIH/NINDS) 2010-2011

Training in Translational Research in Neurology at Emory University

Postdoctoral trainee

F31 NS062487 (NIH/NINDS) Vitriol (PI) 2008-2009

Spatiotemporal Dynamics of RhoA Activation in Growth Cone Motility

The goal of this study is to determine how the small GTPase RhoA is spatiotemporally activated during growth cone motility and guidance.

T32GM008581 (NIH/NIGMS) 2005-2007

Cell and Molecular Biology Training Program at the University of North Carolina at Chapel Hill

Graduate student trainee

Professional Memberships

Society for Neuroscience 2015-present

American Society for Cell Biology 2004-present

Manuscript Reviewer

The Journal of General Physiology, The Journal of Mathematical Biology

Invited Presentations

University of Florida, Center for Neurogenetics	2018
University of Florida, Department of Pharmacology & Therapeutics	2018
SUNY Upstate Medical University, Department of Cell and Developmental Biology	2018
University of Florida, Department of Physiological Sciences	2015
University of Florida, Department of Neuroscience	2015
Annual Meeting of the American Society for Cell Biology, Philadelphia	2014
University of Florida, Department of Anatomy and Cell Biology	2014
Institut Curie, France, Subcellular Structure and Cellular Dynamics Unit	2014
UNC-Chapel Hill, Department of Cell Biology and Physiology	2013
Emory University, Department of Cell Biology	2013
Annual Meeting of the American Society for Cell Biology, Washington D.C.	2007

Teaching Experience

University of Florida

Granstmanship (GMS 6691), course director	2017
Molecular Cell Biology Journal Club (GMS 6690), course director	2015-2017
Neurodegenerative Research: From Bench-to-Bedside (GMS 6029)	2016
Transcriptional and Translational Control of Cell Growth and Proliferation (GMS 6647)	2016
Fundamentals of Biomedical Science I (GMS 6001)	2015-2016

Emory University

Techniques in Neuroscience (NS 551)	2011-2013
Foundations in Biochemistry, Cell, and Developmental Biology (BCDB 502)	2012

University of North Carolina at Chapel Hill

Advanced Cell Biology I (CBIO 324), teaching assistant	2005-2007
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Graduate Student Trainees

Kristin Skruber	University of Florida (Molecular Cell Biology)	2017-present
Zachary Osking	University of Florida (Molecular Cell Biology)	2017-present

Undergraduate Trainees

Rachael Shkylyarov	University of Florida (BMS 4095 student)	2018-present
Austin Chen	University of Florida (BMS 4095 student)	2018-present
Nida Imtiaz	University of Florida (volunteer)	2018
Amanda Eukovich	University of Florida (BMS 4095 student)	2015-2017

Participation in Dissertation Committees

Yuxing Xia	University of Florida (Neuroscience, MD-PhD)	2018-present
Joseph Lebowitz	University of Florida (Neuroscience)	2015-present

Service to University of Florida

Review Panel member for The Thomas H. Maren Postdoctoral Award	2018
Co-director of the Molecular Cell Biology concentration of the BMS graduate program	2015-2017
Marshall for the Doctoral Degree Commencement Ceremony	2016
Judge for the International Student Award Competition	2016
Judge for the Medical Guild Advancement to Candidacy Award	2015-2016
Admissions Committee for the Graduate Program in Biomedical Sciences	2015-2016
Judge for the Medical Guild Graduate Student Research Competition	2015
Anatomy and Cell Biology Assistant Professor Faculty Search Committee	2015

Service to Scientific Community

Faculty mentor, ASCB Doorstep Meeting “2 nd Florida Translational Cell Biology Symposium”	2018
Faculty mentor, ASCB Doorstep Meeting “Florida Translational Cell Biology Symposium”	2017
American Society for Cell Biology ambassador for the University of Florida	2017