Kara A Fulton, Ph.D.

Dept. of Computational Neuroethology, Research Center Caesar
Ludwig-Erhard-Allee 2, Bonn, Germany 53175

EDUCATION

Ph.D., Neuroscience, August 2020
Brown University—National Institutes of Health (NIH) Graduate Partnership Program
Providence, RI, USA (2013—2014), Bethesda, MD, USA (2014—2017), Bonn, Germany (2017—2020)
Course work: Advanced Molecular and Cellular Neurobiology (I & II), Advanced Systems Neuroscience, Neuroanatomy, Scientists Teaching Science Certificate, Statistics for Biomedical Scientists (I & II)
Summer course: Neural Systems & Behavior, Marine Biological Laboratory, Woods Hole, MA (Summer 2019)

Bachelor of Science (B.Sc.), Mathematics, December 2010
University of Michigan, Ann Arbor, MI, USA
Mathematical Sciences Program, Graduated with Honors

RESEARCH

Department of Computational Neuroethology, Research Center Caesar Aug. 2020—Present
Postdoctoral Research Fellow, Advisor: Kevin Briggman
Structural and functional connectivity of molecularly-distinct interneurons in the mouse olfactory bulb.

Department of Computational Neuroethology, Research Center Caesar Oct. 2017—Aug. 2020
Circuit Dynamics and Connectivity Unit, NINDS, NIH Aug. 2014—Sept. 2017
Ph.D. Candidate, Advisor: Kevin Briggman
Dissertation Title: Wiring specificity of molecularly-distinct interneurons in the mouse olfactory bulb.

Graduate Rotations June 2013—Aug. 2014
Advisors at NIH: Leo Belluscio, Mark Stopfer; Advisors at Brown University: Chris Moore, Jim Simmons
Acquired experience in immunohistochemistry, *in vivo* electrophysiology and two-photon microscopy in mice, bat echolocation behavioral experiments, and electrophysiology in locusts.

Biostatistics and Bioinformatics Branch, NICHD, NIH Sept. 2012—June 2013
Post-Baccalaureate Intramural Research Training Award (IRTA), Advisors: Paul Albert and Danping Liu
Developed statistical methodology for analyzing multiple binary responses with zero-inflation.

Research Technologies Branch, NIAID, NIH June 2011—Sept. 2012
Post-Baccalaureate Intramural Research Training Award (IRTA), Advisors: Steve Porcella and Dan Sturdevant
Performed gene chip microarray experiments, data analysis and statistical processing.

Department of Mathematics, University of Michigan Jan. 2010—Dec. 2010
Research Experience for Undergraduates, Advisor: Richard Yamada
Developed mathematical models for investigating feedback networks of coupled oscillators.

PUBLICATIONS

Fulton KA and Briggman KL. Permeabilization-free *en-bloc* immunohistochemistry for correlative microscopy. *eLIFE,* (2021).

Wheeler AR, **Fulton KA**, Gaudette JE, Simmons RA, Matsuo I, Simmons JA. Echolocating big brown bats, *Eptesicus fuscus,* modulate pulse intervals to overcome range ambiguity in cluttered surroundings. *Frontiers in Behavioral Neuroscience* **10:125,** (2016).

Fulton KA*, Liu D*, Haynie DL, Albert PS. Mixed model and estimating equation approaches for zero-inflation in clustered binary response data with application to a dating violence study. *The Annals of Applied Statistics* **9:1,** 275-299 (2015). *Co-first authors.

Winer KK, **Fulton KA**, Albert PS, Cutler GB. Effects of pump versus twice-daily injection delivery of synthetic parathyroid hormone 1-34 in children with severe congenital hypoparathyroidism. *The Journal of Pediatrics* **165:3,** 556-563 (2014).

Fulton KA and Briggman KL. Wiring specificity of olfactory bulb interneurons in the mouse olfactory bulb. In preparation.

SELECTED ORAL PRESENTATIONS

Mapping cell-type specific connectivity in the mouse olfactory bulb with correlative electron microscopy. Symposium at the International Society of Olfaction and Taste (ISOT) Conference, August 6, 2020, Virtual Conference.

Mapping cell-type specific connectivity in the mouse olfactory bulb with correlative electron microscopy. Minisymposium at the Society for Neuroscience Conference, October 22, 2019, Chicago, IL.

Mapping cell-type specific connectivity in the mouse olfactory bulb with correlative electron microscopy. July 30, 2019, Cold Spring Harbor Laboratory, NY.

Mapping cell-type specific connectivity in the mouse olfactory bulb with correlative electron microscopy. Max Planck/HHMI Connectomics Conference, April 14, 2019, Berlin, Germany.

Mapping the subtype-specific connectivity of PGCs in the mouse OB. Student talk at the Brown-NIH Graduate Partnership Program Retreat, October 17, 2018, Woods Hole, MA.

Mapping the subtype-specific connectivity of PGCs in the mouse OB. Short talk at the Bonn Brain Conference, March 28, 2018, Bonn, Germany.

Mapping the subtype-specific connectivity of PGCs in the mouse OB. Dynamic poster at the Society for Neuroscience Conference, November 15, 2017, Washington, DC.

Mapping the subtype-specific connectivity of PGCs in the mouse OB. Short talk at the NeNa Conference, October 17, 2017, Tubingen, Germany.

Correlative serial block-face scanning electron microscopy in the mouse olfactory bulb glomerulus. NIH Graduate Student Seminar Series, May 30, 2017, Bethesda, MD.

Detergent-free antibody labeling protocol for correlative serial block-face scanning electron microscopy. Janelia High Resolution Circuit Reconstruction Conference, April 11, 2016, Ashburn, VA.

FELLOWSHIPS & AWARDS

Nominated for Joukowsky Outstanding Dissertation Prize (2021)
International Society of Olfaction and Taste (ISOT) Don Tucker Memorial Award (2020)
Summer research mentor award, NIH (2017)
Travel award to the AChemS Conference (2017)
First place for poster presentation at NINDS Intramural Retreat, NIH (2015)
Pre-doctoral Intramural Research Training Award, NIH (2013—2020)
Post-baccalaureate Intramural Research Training Award, NIH (2011—2013)
Research Experience for Undergraduates Fellowship, National Science Foundation (2010)
Dominic Tomasi Scholarship Fund, University of Michigan Alumni Association (2007)

PROFESSIONAL INVOLVEMENT

Leadership Experience

Committee for Mentoring and Networking at AChemS (2021—Present)
Organizer of Caesar Research Center journal club (2019—2021)
Committee for Max Planck Institute PhD Neuroscience Meeting (WireUp) (2018—2020)
Lasker Lessons in Leadership Program (2016—2017)
Committee Co-Chair for Neurons, Brains and Behavior Seminar Series (2016—2017)
Graduate Women in Science and Engineering (2013—2014)

NIH Graduate Student Council

Founder of Graduate Students and Mentors Lunch Series (2016—2017)
Community Service Chair for Graduate Student Council (2017—2018)
Co-Chair for Graduate Student Council (2015—2016)
Committee for Graduate Student Retreat (August 2016)
Secretary for Graduate Student Council (2014—2015)

TEACHING & MENTORSHIP EXPERIENCE

Masters and post-masters projects supervised:

Jinling Li – University of Bonn, MSc in Neurosciences (January 2021—Present)
Masha Barzegar Keshteli – Research Center caesar, post-masters student (February 2019—September 2020)

Undergraduate and masters student intern projects supervised:

Student (HiWi) tracers in WebKnossos, Research Center caesar (February 2018—Present)

Maria Allahham	Mariana Gonzalez-Medina	Gloria Olar
Bahaeddine Ayadi	Andreea Grigoras	Fernando Pedraza Martinez
Lukas Balevicius	Mihaela Guranda	Olga Pogasiy
Mehtap Bayin	Victoria Halim	Laura Rivero Medina
Manoela Caiaffa	Malin Jessen	Siddhi Srivastava
Shannon Douglas	Melih Kara	Ada Ucer
Raphael Ehrich	Petro Leka	Grace Van Susteren
Ehab Elbaroudy	Kevin McAlpin	Angie Veronica
Mohamed Elkhashab	Diego Meza Hernandez	Kateryna Vynokurova
Heba Elkilany	Abigail Miller	Seniz Yueksel
Jesse Gayk	Nima Moradzadeh Esmaeili	Bukurie Zhuleku
Natalie George	Aliona Novac	

Kayla Bohlke – Summer Internship Program, University of Maryland (Summer 2017)
Carlton Wicker, Jr. – Community College Summer Enrichment Program at NIH, College of Southern Maryland (Summer 2017)

Teaching:

Instructor for FAES course “BIOL262: Research Tools for Studying Diseases” (Spring 2015)
Teaching assistant for Coursera course “Exploring Neural Data” (Fall 2014)
NIH Summer Intern Journal Club Leader (Summer 2014)
Brown University Graduate-Undergraduate Mentor Initiative Program (2013—2014)

SERVICE

Skype a Scientist (2021—Present)
Advisor for Simply Neuroscience’s Action Potential Advising Program (2021—Present)