January 17, 2019

**I. PERSONAL**

**Kevin Michael Collins**

Assistant Professor

Department of Biology Phone: (305) 284-9058

218 Cox Neuroscience Annex Email: kevin.collins@miami.edu

University of Miami Website: www.bio.miami.edu/CollinsLab/

1301 Memorial Drive Twitter: @kevinemco

Coral Gables, FL 33146 Nationality: American

**II. EDUCATION**

2006 Ph.D., Biochemistry, Dartmouth College, Hanover, NH

1997 B.S., Biological Sciences, Carnegie Mellon University, Pittsburgh, PA

 Minors in Chemistry and Japanese

*Additional training*

June, 2009 Ion Channel Physiology course, Cold Spring Harbor Laboratory, NY

**III. APPOINTMENTS**

2014 – Present Assistant Professor of Biology, Department of Biology, University of Miami

 Member, Neuroscience Graduate Program

 Member, Cellular Physiology and Molecular Biophysics Graduate Program

2013 – 2014 Associate Research Scientist, Department of Molecular Biophysics & Biochemistry, Yale University, New Haven, CT

2006 – 2012 Postdoctoral Fellow, Department of Molecular Biophysics & Biochemistry, Yale University, New Haven, CT

1998 – 2000 Research Technician, Howard Hughes Medical Institute, Brigham & Women’s Hospital, Harvard Medical School, Boston, MA

**IV. PUBLICATIONS**

**Juried or Referred Journal Articles or Exhibitions:**

*In preparation*

21. Ravi B, Zhao J, Kang L, and **Collins KM**. (2019) Presynaptic Go signaling inhibits cell excitability and neurotransmitter release in a model serotonin motor circuit in *Caenorhabditis elegans.*

20. Kopchock III R, Ravi B, and **Collins KM**. (2019) Dissecting the function of the cholinergic VC motor neurons in *C. elegans* egg-laying behavior.

19. Scheetz M, Nassar LM, Bode A, and **Collins KM**. (2019) Differential modulation of a shared reproductive neural circuit drives mating or egg-laying behaviors in *Caenorhabditis elegans*.

18. Ravi B and **Collins KM**. (2019) Stretch-dependent modulation of neural circuit activity and behavioral states. Review for submission to *Frontiers in Neural Circuits*.

*In revision*

17. Munro CJ\*, Nguyen MA\*, Falgons C, Bobé C, Bode A, Portela ME, Knecht MR, and **Collins KM**. (2018) Identification of Toxicity Effects of Cu2O Nanoparticles on *C. elegans* as a Function of Particle Morphology and Size. In revision at *Environmental Science: Nano*. \*authors contributed equally. Collins Lab undergraduate co-author.

*Published*

16. Brewer J, Olson AC, **Collins KM**, and Koelle MR (2019). Serotonin and a neuropeptide co-transmitter are both used by the HSN command neuron to initiate *C. elegans* egg laying. *PLoS Genetics*, *in press*.

15. Ravi B, Garcia J, **Collins KM** (2018) Homeostatic feedback modulates the development of two-state patterned activity in a model serotonin motor circuit in *Caenorhabditis elegans*. *J. Neurosci.* 38 (28): 6283-6298*.* Collins Lab undergraduate co-author. *-Recommended in F1000Prime by Ilya Ruvinsky*

14. Tang S\*, Zhang Y\*, Dhakal P\*, Ravelo L, Anderson CL, **Collins KM**, Raymo FM. (2018) Photochemical Barcodes. *J. Am. Chem, Soc.* 140 (13): 4485-4488. \*authors contributed equally.

13. Ravi B\*, Nassar LM\*, Kopchock R III\*, Dhakal P\*, Scheetz M, **Collins KM** (2018) Ratiometric calcium imaging of individual neurons in behaving *Caenorhabditis elegans*. *J. Vis. Exp*. 132, e56911 \*authors contributed equally. Collins Lab undergraduate co-author.

12. Thapaliya E, Zhang Y, Dhakal P, Brown A, Wilson J, **Collins KM**, Raymo F. (2017)

Bioimaging with Macromolecular Probes Incorporating Multiple BODIPY Fluorophores. *Bioconjugate Chemistry*. 28 (5): 1519-1528.

11. Banerjee N, Bhattacharya R, Gorczyca M, **Collins KM**, Francis MM. (2017) Local neuropeptide signaling modulates serotonergic transmission to shape the temporal organization of *C. elegans* egg-laying behavior. *PLoS Genetics*. 13 (4) e1006697.

10. **Collins KM**, Bode A, Fernandez RW, Tanis JE, Brewer J, Creamer M, and Koelle MR. (2016) Activity of the *Caenorhabditis elegans* egg-laying behavior circuit is controlled by competing activation and feedback inhibition. *eLife*. 10.7554/eLife.21126.

9. Li P, **Collins KM**, Koelle MR, and Shen, K. (2013) LIN-12/Notch signaling instructs postsynaptic target selection by regulating UNC-40/DCC and MADD-2 in *Caenorhabditis elegans*. *eLife*. 2: e00378.

8. **Collins KM** and Koelle MR. (2013) Postsynaptic ERG potassium channels limit muscle excitability to allow distinct egg-laying behavior states in *Caenorhabditis elegans*. *J. Neurosci.* 33 (2): 761-775.

7. **Collins KM** and Wickner WT. (2007) *trans*-SNARE complex assembly and yeast vacuole membrane fusion. *Proc. Natl. Acad. Sci. USA.* 104 (21): 8755-8760.

6. Fratti RA, **Collins KM**, Hickey CM, and Wickner W. (2007) Stringent 3Q•1R composition of the SNARE 0-layer can be bypassed for fusion by compensatory SNARE mutation or by lipid bilayer modification.J*. Biol. Chem.* 282 (20): 14861-14867.

5. Jun Y, Thorngren N, Starai VJ, Fratti RA, **Collins K**, and Wickner W. (2006) Reversible, cooperative reactions of yeast vacuole docking. *EMBO J.* 25 (22): 5260-5269.

4. Stroupe C, **Collins KM**, Fratti RA and Wickner WT. (2006) Purification of active HOPS complex reveals its affinities for phosphoinositides and the SNARE Vam7p. *EMBO J.* 25 (8): 1579-1589. *- Selected by Peter Mayinger for a Faculty 1000 Review*

3. **Collins KM**, Thorngren NL, Fratti RA, and Wickner WT. (2005) Sec17p and HOPS, in distinct SNARE complexes, mediate SNARE complex disruption or assembly for fusion. *EMBO J.* 24 (10): 1775-1786. *- Selected by Reinhard Jahn for a Faculty 1000 Review*

2. Thorngren N, **Collins KM**, Fratti RA, Wickner W, and Merz AJ. (2004) A soluble SNARE drives rapid docking, bypassing ATP and Sec17/18p for vacuole fusion. *EMBO J.* 23 (14): 2765-2776.

1. Wang L, Merz AJ, **Collins KM**, and Wickner W. (2003) Hierarchy of protein assembly at the vertex ring domain for yeast vacuole docking and fusion. *J. Cell Biology* 160 (3): 365-374.

**Conference Presentations:**

36. Ravi B and **Collins KM**. (2018) Homeostatic Feedback, Not Early Activity, Modulates the Development of Two-State Patterned Activity in the *C. elegans* Egg-Laying Behavior Circuit. Poster presentation by Ravi at the Cell Biology of the Neuron Gordon Research Conference, Waterville Valley, New Hampshire.

35. Scheetz M, Nassar LM, and **Collins KM**. (2018) The *C. elegans* Egg-Laying Circuit is Activated during Mating Behavior. Poster presentation by Collins at the *C. elegans* Neuronal Development, Synaptic Function, and Behavior Meeting, Madison, Wisconsin.

34. Dhakal P and **Collins KM**. (2018) Understanding how Gαq Signaling Modulates Egg-Laying Circuit Activity and Behavior of *C. elegans.* Poster presentation by Dhakal at the *C. elegans* Neuronal Development, Synaptic Function, and Behavior Meeting, Madison, Wisconsin.

33. Kopchock III R and **Collins KM**. (2018) Dissecting the Function of the Cholinergic VC Motor Neurons in *C. elegans* Egg-Laying Behavior. Poster presentation by Kopchock at the *C. elegans* Neuronal Development, Synaptic Function, and Behavior Meeting, Madison, Wisconsin.

32. Ravi B and **Collins KM**. (2018) Homeostatic Feedback, Not Early Activity, Modulates the Development of Two-State Patterned Activity in the *C. elegans* Egg-Laying Behavior Circuit. Poster presentation by Collins at the *C. elegans* Neuronal Development, Synaptic Function, and Behavior Meeting, Madison, Wisconsin.

31. Medrano E and **Collins KM**. (2018) Mechanosensory Feedback Regulates Egg-Laying Circuit Activity and Behavior. Poster presentation by Medrano at the *C. elegans* Neuronal Development, Synaptic Function, and Behavior Meeting, Madison, Wisconsin.

30. Dhakal P and **Collins KM**. (2018) Understanding how Gαq Signaling Modulates Egg-Laying Circuit Activity and Behavior of *C. elegans.* Poster presentation by Dhakal at the Florida Area Worm Meeting, Melbourne, Florida.

29. Kopchock III R and **Collins KM**. (2018) Dissecting the Function of the Cholinergic VC Motor Neurons in *C. elegans* Egg-Laying Behavior. Poster presentation by Kopchock at the Florida Area Worm Meeting, Melbourne, Florida.

28. Ravi B and **Collins KM**. (2018) Homeostatic Feedback, Not Early Activity, Modulates the Development of Two-State Patterned Activity in the *C. elegans* Egg-Laying Behavior Circuit. Poster presentation by Collins at the Florida Area Worm Meeting, Melbourne, Florida.

27. Medrano E and **Collins KM**. (2018) Mechanosensory Feedback Regulates Egg-Laying Circuit Activity and Behavior. Poster presentation by Medrano at the Florida Area Worm Meeting, Melbourne, Florida.

26. Ravi B and **Collins KM**. (2017) Role of early activity in the development of the *Caenorhabditis elegans* egg-laying behavior circuit. Poster presentation by Collins at the Neuromodulation Gordon Research Conference, Sunday River, Maine.

25. Nassar LM, Scheetz M, Bode A, and **Collins KM**. (2017) Regulation of female reproductive behavior states in *C. elegans*. Poster presentation by Nassar at the International *C. elegans* Meeting, Los Angeles, CA. undergraduate co-author

24. Kopchock III R and **Collins KM**. (2017) Dissecting the function of acetylcholine in the *C. elegans* egg-laying behavior circuit. Poster presentation by Kopchock at the International *C. elegans* Meeting, Los Angeles, CA.

23. Dhakal P and **Collins KM**. (2017) Understanding how Gαq signaling regulates egg-laying circuit activity and behavior. Poster presentation by Dhakal at the International *C. elegans* Meeting, Los Angeles, CA.

22. Li C and **Collins KM**. (2017) The UNC-7 innexin coordinates vulval muscle contraction and egg release. Poster presentation by Li at the International *C. elegans* Meeting, Los Angeles, CA.undergraduate co-author

21. Ravi B and **Collins KM**. (2017) Role of early activity in the development of the *Caenorhabditis elegans* egg-laying behavior circuit. Poster presentation by Ravi at the International *C. elegans* Meeting, Los Angeles, CA.

20. Ravi B and **Collins KM**. (2017) Role of early activity in the development of the *Caenorhabditis elegans* egg-laying behavior circuit. Poster presentation by Ravi at the Sunposium Neuroscience Conference, West Palm Beach, FL.

19. Ravi B and **Collins KM**. (2016) Role of early activity in the development of the *Caenorhabditis elegans* egg-laying behavior circuit. Poster presentation by Ravi at the Society for Neuroscience Meeting, San Diego, CA.

18. Nassar LM, Bode A, **Collins KM**. (2016) Understanding how sex modulates the female nervous system to drive distinct reproductive behavior states. Poster presentation by Nassar at the Society for Neuroscience Meeting, San Diego, CA. undergraduate co-author

17. Kopchock III, R and **Collins KM**. (2016) Dissecting the function of acetylcholine in the *Caenorhabditis elegans* egg-laying behavior circuit. Poster presentation by Kopchock at the Society for Neuroscience Meeting, San Diego, CA.

16. **Collins KM** (2016) Competing activation and inhibition in the *Caenorhabditis elegans* egg-laying behavior circuit. Platform presentation by Collins at the *C. elegans* Topic Meeting: Neuronal Development, Synaptic Function & Behavior, Nagoya, Japan.

15. Ravi B and **Collins KM**. (2015) Development of activity in the *Caenorhabditis elegans* egg-laying circuit. Poster presentation by Ravi at the International Worm Meeting, Los Angeles, CA.

14. Nassar LM, Bode A, and **Collins KM**. (2015) Understanding how sex modulates the female nervous system to drive distinct reproductive behavior states. Poster presentation by Nassar at the International Worm Meeting, Los Angeles, CA. undergraduate co-author

13. **Collins KM**, Bode A, Fernandez R, Tanis J, Creamer M, Koelle MR. (2015) Competing activation and inhibition in the *Caenorhabditis elegans* egg-laying behavior circuit. Poster presentation by Bode at the International Worm Meeting, Los Angeles, CA.

12. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2014) Understanding the cellular and molecular basis for distinct egg-laying motor behavior states in *C. elegans.* Oral presentation by Collins at the *C. elegans* Neuronal Development, Synaptic Function and Behavior, Madison, WI.

11. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2013) Understanding the cellular and molecular basis for distinct egg-laying motor behavior states in *C. elegans.* Poster presentation by Collins at the Cell Symposia: Genes, Circuits & Behavior.

10. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2013) Understanding how neurotransmitter signaling drives two-state activity of the *C. elegans* egg-laying behavior circuit. Poster presentation by Collins at the International Worm Meeting, Los Angeles, CA.

9. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2012) ERG Potassium Channels Allow Distinct Postsynaptic Excitability and Motor Behavior States In *C. elegans.* Poster presentation by Collins at the Cell Symposium: Neuromodulatory Mechanisms Meeting, New Orleans, LA.

8. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2012) ERG potassium channels allow distinct postsynaptic excitability and motor behavior states in *C. elegans*. Poster presentation by Collins at the *C. elegans* Neuronal Development, Synaptic Function and Behavior, EMBL, Heidelberg, Germany.

7. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2011) The C. elegans ERG (Ether-a-Go-Go Related Gene) K+ channel is a synaptically localized inhibitor of vulval muscle electrical excitability. Poster presentation by Collins at the International Worm Meeting, Los Angeles, CA.

6. **Collins KM** and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2011) The ERG (Ether-a-Go-Go Related Gene) K+ channel localizes to a functions postsynaptically to modulate synaptic activity in *C. elegans*. Poster presentation by Collins at Synapses:  from Molecules to Circuits, Cold Spring Harbor Laboratory, NY.

5. [**Collins KM**](http://www.wormbase.org/resources/person/WBPerson8467), [Bellemer A](http://www.wormbase.org/resources/person/WBPerson14395), [Jose A](http://www.wormbase.org/resources/person/WBPerson2472), [Bany I](http://www.wormbase.org/resources/person/WBPerson40)A, and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2010) ERG Potassium Channels Localize to and Function at Post-Synaptic Sites of Egg-Laying Muscles and May Mediate the Effects of G Protein Signaling on Egg-Laying Behavior. Poster presentation by Collins at the *C. elegans* Neuronal Development, Synaptic Function and Behavior, Madison, WI.

4. [**Collins KM**](http://www.wormbase.org/resources/person/WBPerson8467), [Bellemer A](http://www.wormbase.org/resources/person/WBPerson14395), [Jose A](http://www.wormbase.org/resources/person/WBPerson2472), [Bany I](http://www.wormbase.org/resources/person/WBPerson40)A, and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2009) Heterotrimeric G protein signaling may modulate ERG K+ channel activity to control cell excitability and animal behavior. Poster presentation by Collins at the Great Lakes GPCR Retreat, Rochester, NY.

3. [**Collins KM**](http://www.wormbase.org/resources/person/WBPerson8467), [Bellemer A](http://www.wormbase.org/resources/person/WBPerson14395), [Jose A](http://www.wormbase.org/resources/person/WBPerson2472), [Bany IA](http://www.wormbase.org/resources/person/WBPerson40), and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2008) A Hyperactive Egg Laying Mutant May Define a New Regulator of Neurotransmitter Release in *C. elegans*. Poster presentation by Collins at the *C. elegans* Neuronal Development Meeting, Madison, WI

2. [**Collins KM**](http://www.wormbase.org/resources/person/WBPerson8467), [Bellemer A](http://www.wormbase.org/resources/person/WBPerson14395), [Jose A](http://www.wormbase.org/resources/person/WBPerson2472), [Bany IA](http://www.wormbase.org/resources/person/WBPerson40), and [Koelle MR.](http://www.wormbase.org/resources/person/WBPerson330) (2008) A Hyperactive Egg Laying Mutant May Define a New Regulator of Neurotransmitter Release in *C. elegans*. Poster presentation by Collins at the Cell Biology of the Neuron Gordon Research Conference, Colby-Sawyer College, New London, NH.

1. [**Collins KM**](http://www.wormbase.org/resources/person/WBPerson8467) and Wickner WT. (2003) Purification of SNARE complexes from yeast vacuoles. Poster presented by Collins at the Cellular and Molecular Biology of Membranes course, Cargèse, Corsica.

**V. PROFESSIONAL / GRANTS**

**Funded Research**

*Ongoing*

9/01/2014 Neuromodulator signaling and activity in the *C. elegans* egg-laying circuit

 – 7/31/2019 Agency: NIH/NINDS; grant 1 R01 NS086932

 Total costs: $614,661

 Role: Co-PI (with Michael Koelle, Yale University)

*Pending*

1/15/2019 CAREER: Regulation of reproductive behaviors by mechanosensory feedback

– 12/31/2023 Agency: NSF; grant 1844657

 Total costs: $750,000

 Role: PI

7/01/2019 Neuromodulator signaling and activity in the *C. elegans* egg-laying circuit

 – 6/30/2023 Agency: NIH/NINDS; grant 2 R01 NS086932-05A1

 Total costs: $999,903

 Role: Co-PI (with Michael Koelle, Yale University)

*Completed*

6/1/2016 Molecular mechanisms responding to acute changes in internal pressure and stretch

 – 5/31/2017 Agency: University of Miami; Provost’s Research Award

 Total costs: $17,000

 Role: PI

*Submitted*

2018 Identification of new genes required for neuroendocrine cell development and mechanical activation

 Agency: University of Miami; Provost’s Research Award

 Total costs: $17,000

 Role: PI

2018 Neuromodulator signaling and activity in the *C. elegans* egg-laying circuit

 Agency: NIH/NINDS; grant 2 R01 NS086932-05

 Total costs: $1,093,000

 Role: Co-PI (with Michael Koelle, Yale University)

2017 Engineering new neurotransmitter signaling systems for circuit and behavior analysis

 Agency: Beckman Young Investigator Award, Letter of Intent

 Outcome: Not selected for full proposal

 Role: PI

2017 CAREER: How mechanosensory feedback regulates *C. elegans* copulation behavior

 Agency: NSF

 Total costs: $1,084,889

 Role: PI

2017 Regulation of female mating behavior in *C. elegans*

 Agency: NSF, IOS Pre-proposal (Neural Systems, Modulation)

 Outcome: Not selected for full proposal

 Role: PI

2017 Molecular mechanisms responding to acute changes in internal pressure and stretch

 Agency: NSF, IOS Pre-proposal (Neural Systems, Activation)

 Outcome: Not selected for full proposal

 Role: PI

2016 Searle Scholar Award

 Agency: Searle Funds at the Chicago Community Trust

 Direct costs: $300,000

 Outcome: Not selected for funding

 Role: PI

2015 Research Fellowship in Neuroscience

 Agency: Alfred P. Sloan Foundation

 Direct costs: $120,000

 Outcome: Not selected for funding

 Role: PI

2015 Provost’s Research Award

 Agency: University of Miami

 Direct costs: $17,000

 Outcome: Not selected for funding

 Role: PI

*Postdoctoral Fellowships*

1/1/2011 Molecular basis of Ether-a-go-go Related Gene (ERG) potassium channel

– 12/31/2012 regulation by heterotrimeric G protein signaling

 Agency: American Heart Association; grant POST4990016

 Role: PI

 $94,000 in direct costs to Yale University

2/1/2007 Heterotrimeric G-protein regulation of neurotransmission in *C. elegans*

– 1/31/2010 Agency: National Institutes of Health; grant 5F32GM079813

 Role: PI

 Direct costs: $141,726 to Yale University

*Predoctoral Fellowships*

2002-2004 Fellow, Molecular and Cellular Biology NIH Training Grant, Dartmouth College

**Professional Organizations**

2008 – Present Society for Neuroscience, Genetics Society of America

**Other Professional Activities**

Reviewer: BMC Biology, Journal of Neuroscience, Journal of Neuroscience Research, Journal of Visualized Experiments, Nature Communications, Philosophical Transactions B, PLoS ONE, and Scientific Reports

**Invited Talks:**

9/17/2019 Department of Cellular Biology, University of Georgia, Athens, GA

5/2/2019 Department of Neurobiology, University of Massachusetts Medical School, Worcester, MA

2/18/2019 Department of Molecular Biophysics & Biochemistry, Yale University, New Haven, CT

11/10/2017 Keynote at Dynamic Neural Networks: The Stomatogastric Nervous System Meeting; Satellite Meeting at Society for Neuroscience, Washington, D.C.

10/20/2016 Department of Molecular and Cellular Pharmacology, Miller School of Medicine, University of Miami, Miami, FL

10/13/2016 Neural Engineering Research Symposium, Miller School of Medicine, University of Miami, Miami, FL

9/2/2015 Department of Computer Science, University of Miami, Coral Gables, FL

5/7/2015 Tropical Research and Education Center, University of Florida, Homestead, FL

9/15/2014 Department of Physiology and Biophysics, Miller School of Medicine, University of Miami, Miami, FL

2/12/2014 Department of Biology, University of Miami, Coral Gables, FL

1/9/2014 Department of Biological Sciences, Dartmouth College, Hanover, NH

12/9/2014 Department of Biology, University of Nevada, Reno, NV

7/13/2005 Department of Immunobiology, Yale University, New Haven, CT

7/12/2005 Department of Molecular Biophysics & Biochemistry, Yale University, New Haven, CT

**VI. TEACHING AND MENTORING**

**Teaching**

*University of Miami*

Fall 2018 Pre-tenure teaching leave

Spring 2018 BIL162: HHMI Integrated Biology/Chemistry Laboratory (3 credits)

 NEU190: Freshmen Neuroscience Forum (1 credit)

 BIL575/675: Methods & Logic in Molecular Biology Seminar (1 credit) PHS742: Principles of Membrane Physiology and Biophysics II (1 lecture) NEU763: Developmental Neuroscience (1 lectures)

Fall 2017 BIL/NEU468, BIL675: Developmental Neuroscience (3 credits)

 BIL575/675: Methods & Logic in Molecular Biology Seminar (1 credit)

Spring 2017 BIL162: HHMI Integrated Biology/Chemistry Laboratory (3 credits)

 NEU190: Freshmen Neuroscience Forum (1 credit)

 BIL575/675: Methods & Logic in Molecular Biology Seminar (1 credit) PHS742: Principles of Membrane Physiology and Biophysics II (1 lecture) NEU763: Developmental Neuroscience (2 lectures)

Fall 2016 BIL/NEU468, BIL675: Developmental Neuroscience (3 credits)

 BIL575/675: Methods & Logic in Molecular Biology Seminar (1 credit)

Spring 2016 BIL162: HHMI Integrated Biology/Chemistry Laboratory (3 credits) BIL675: Research in Progress Seminar (1 credit) PHS742: Principles of Membrane Physiology and Biophysics II (1 lecture)

Fall 2015 BIL/NEU468, BIL675: Developmental Neuroscience (3 credits) BIL456: Developmental Biology Laboratory (2 credits) BIL675: Research in Progress Seminar (1 credit)

Spring 2015 BIL162: HHMI Integrated Biology/Chemistry Laboratory (3 credits) BIL375: Methods and Logic in Molecular Biology Seminar (1 credit)

*Yale University*

Spring 2014 BIOL 101, 102: Biochemistry, Biophysics, Cell Biology, and Physiology Postdoctoral Teaching Scholar (TA for 3 credit course)

*Dartmouth College*

Fall 2001 Biology 77: Biochemistry, Graduate Teaching Assistant (3 credits)

**Thesis and Dissertation Advising/Post-doctoral student supervision**

*Postdoctoral Associates*

2015 – 2016 Christian Guijarro, Ph.D

Project: Role of cGMP and Protein Kinase G signaling in egg-laying behavior Current position: Supply Chain Management Coordinator at ALPS Electric Europe GmbH in Munich, Germany

*Graduate students*

2017 – present Emmanuel Medrano, University of Miami (Ph.D. student in Biology) Project: Regulation of egg-laying circuit activity by mechanical stretch

2016 – present Pravat Dhakal, University of Miami (Ph.D. student in Biology) Project: Phosphoinositide signaling in the *Caenorhabditis elegans* egg-laying behavior circuit

2015 – present Richard Kopchock III, University of Miami (Ph.D. student in Biology) Project: Dissecting the function of acetylcholine in the *Caenorhabditis elegans* egg-laying behavior circuit

2015 – present Bhavya Ravi, University of Miami (Ph.D. student in Neuroscience) Project: Role of early activity in the development of the *Caenorhabditis elegans* egg-laying behavior circuit. Dissertation defense schedule for January 24, 2019

*Undergraduate students*

2018 – present Alexander Claman, University of Miami (Neuroscience major)

Project: Mechanical activation of the uv1 neuroendocrine cells

2018 – present Mattingly Bartole, University of Miami (Neuroscience major)

Project: Dissecting the function of Protein Kinase G and TGF signaling in *Caenorhabditis elegans* egg-laying behavior

2018 – present Dominique Rajic, University of Miami (Biology major)

Project: Understanding how high osmolarity inhibits egg-laying circuit activity and behavior

2017 – present Erika Arvelo, University of Miami (Neuroscience major) Project: Dissecting the functions of acetylcholine signaling through muscarinic receptors in *Caenorhabditis elegans* egg-laying behavior

Summer 2018 Christian Falgons, Johns Hopkins University Project: Effects of Cu2O nanoparticles on *C. elegans*

Summer 2018 Tyler Wagner, Georgia Southern University Project: Effects of SrTiO3 nanoparticles on *C. elegans*

2017 – 2018 Michelle Ng-Reyes, University of Miami (Biology major) Project: uv1 neuroendocrine cell activation and signaling during mating behavior

Summer 2017 Christopher Joly, NSF REU fellow, University of Virginia (Biology major) Project: Peptide-Templated Metal Nanoparticles: Synthesis and Effect on *Caenorhabditis elegans* (co-mentored with Dr. Marc Knecht in Chemistry)

Summer 2017 Xavier Poole, NSF REU fellow, Georgia Southern University (Biology major) Project: Enhanced photocatalytic activity of Pd-coated SrTiO₃ nanoparticles and their effects of *C. elegans* (co-mentored with Dr. Marc Knecht in Chemistry)

2016 – 2018 Christine Li, University of Miami (Biology major with thesis) Project: The UNC-7 gap junction protein facilitates egg ejection in *Caenorhabditis elegans*

Summer 2016 Carla Bobé, NSF REU fellow, Florida International University (Biology major) Project: Acute toxicity of Copper Oxide nanoparticles on *Caenorhabditis elegans* viability and behavior (co-mentored with Dr. Marc Knecht in Chemistry)

2015 – 2016 William Coffey, University of Miami (B.S. Neuroscience, 2016) Project: Dissecting the functions of acetylcholine signaling through muscarinic receptors in *Caenorhabditis elegans* egg-laying behavior

2015 – 2018 Jessica Garcia, University of Miami (Biology major), MDC Bridge Program Project: Regulation of the *Caenorhabditis elegans* defecation motor program by serotonin signaling

2015 – 2018 Layla Nassar, University of Miami (Neuroscience, Biochemistry & Molecular Biology major)

Project: Modulation of the egg-laying circuit during mating behavior

Current position: NSF GRF recipient in the BBS PhD program at Yale University

*High School students*

summer 2017 Kiara Farias, HHMI Scholar, Alonzo and Tracy Mourning Senior High School

Currently an Information Systems major at Florida State University

summer 2017 Lila Rosendorf, HHMI Scholar, Miami Country Day School

Currently a Neuroscience major at Smith College

* Joint Project: Dissecting the functions of acetylcholine signaling through muscarinic receptors in *Caenorhabditis elegans* egg-laying behavior

summer 2016 Erika Arvelo, HHMI Scholar, Riviera High School

 Currently a Neuroscience major at the University of Miami

summer 2016 Patricia Garcia, HHMI Scholar, Young Women’s Preparatory Academy

 Currently a Biomedical Engineering major at George Washington University

* Joint Project: Dissecting the functions of acetylcholine signaling through muscarinic receptors in *Caenorhabditis elegans* egg-laying behavior

**Advisory Committees**

*Graduate students*

2018 – present Sijan Poudel Sharma, Ph.D. student in Biology

2017 – present Christina Johnson, Ph.D. student in Physiology & Biophysics

2017 – present Briana Watkins, Ph.D. student in Physiology & Biophysics

2016 – present Elena Buglo, Ph.D. student in Neuroscience

2015 – present David James, Ph.D. student in Biology

2016 – present Alex Kula, Ph.D. student in Biology

2015 – present Michael Richmond, Ph.D. student in Biology

2016 – present Sureni Sumathipala, Ph.D. student in Biology

2015 – 2018 Wei Wu, Ph.D. student in Biology

2015 – 2016 Steven Denyer, M.S. Biology

2015 – 2018 Honglin Feng, Ph.D. in Biology

*Undergraduate students*

2016 – present Ariel Paz, University of Miami (Neuroscience major)

2016 – present Jay Feldman University of Miami (Neuroscience major)

**Dissertation Committees, Outside Member**

2019 (expected) Catherine Munro, Ph.D. student in Chemistry, University of Miami

2018 Michelle A. Nguyen, Ph.D. student in Chemistry, University of Miami

2018 Ek Raj Thapaliya, Ph.D. student in Chemistry, University of Miami

**VII. SERVICE**

*Department of Biology*

2016 – present Biology Undergraduate Curriculum Committee

2014 – 2016 Biology Graduate Symposium Organizing Committee

2015 – 2016 Co-Chair, Biology Faculty Seminar Organizing Committee

2015 – 2016 Developmental Biology Faculty Search Committee

*University of Miami*

2017 Internal reviewer, Brain Research Foundation, Fay/Frank Seed Grant Program

2017 Internal reviewer, Brady Education Foundation

2016Provost’s Research Award, Natural Sciences and Engineering Panel

2016 Lois Pope LIFE Foundation Fellowship Review Panel

2016 Beyond the Book Award Review Panel, College of Arts and Sciences

2015 Summer and Dissertation Award Review Panel, College of Arts and Sciences

*Community Activities*

2018 Abstract Selection Committee, 7th International *C. elegans* Topic Meeting on Neuronal Development, Synaptic Function, and Behavior, Madison, WI

2018 – present Local member, Institutional Biosafety Committee for a Phase III human gene transfer clinical trial, Coral Gables Clinical Research, Inc. Coral Gables, FL

2017 – presentLocal member, Institutional Biosafety Committee for a Phase III human gene transfer clinical trial, Miami Dade Research Institute, Miami, FL

2017 – presentLocal member, Institutional Biosafety Committee for a Phase III human gene transfer clinical trial, LCC Medical Research Institute, Miami, FL

2017 Scientific outreach with 6th graders from the Henry S. West Laboratory school

2017 Scientific outreach with University of Miami summer campers on Environmental and Human Health