

Anna (Any) Goldina
Elizabethtown College
Biology Department
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Education

Crawdada Invertebrate Neurophysiology Course, Cornell University January, 2014

Ph.D. in Behavioral Endocrinology, Florida International University, Miami, FL 2011
Dissertation Title: Endocrine regulation of dynamic communication signals in gymnotiform fish

B.S. with Honors, Biology, Florida International University, Miami, FL 2003
Honors Thesis Title: Relating circulating thyroid hormones with the regenerating sciatic nerve: are there age-related difference and sexual dimorphism?

Professional Experience

Visiting Assistant Professor at Elizabethtown College 2013-present
Human Anatomy and Physiology (BIO 201, 202)

Adjunct faculty at Elizabethtown College Spring, 2013
Biological Concepts (BIO101) lecture and lab

QBIC Visiting Lecturer Spring, 2012
General Biology II (BSC1011) (2 sections-282 enrollment)
QBIC General Biology II (BSC1011)
QBIC Senior Seminar -Science Café (BSC4934)
Held multiple community education outreach events on various topics

Invited Lectures:
Animal Behavior: "Brains and Social Systems" Spring, 2010
General Biology: "Animals – Vertebrates" Fall, 2009
General Biology: "Nervous system" Fall, 2009
Evolution: "The Pattern of Evolution" Summer, 2008

Instructor for the QBIC Program
Senior seminar – Science Café (BSC4934) Spring, 2011
General Biology Lab I (BSC1010L) Fall, 2010

Curriculum development for General Biology laboratories 2008 – 2010
Development, testing, and implementation of new laboratory courses for General Biology I and II laboratories (BSC1010L and BSC1011L)

Laboratory Instructor - Co-Head TA
General Biology I and II lab (BSC1010L and BSC1011L) 2007- 2009

MBRS RISE Graduate Fellowship 2003 - 2007
Research assistant in the lab of Philip Stoddard, Ph.D.

MBRS RISE Undergraduate Fellowship 2001 - 2003
Research assistant in the lab of Ophelia I. Weeks, Ph.D.

Fellowships and Grants

Scholarship Creative Arts and Research Program (SCARP) 2014

Projects:

1. Examination of the relationship between molting and social status establishment in the crayfish *Orconectes obscurus*
2. Status-dependent sensitivity to serotonin in agonistic behavior of the crayfish *Orconectes obscurus*
3. Effect of isolation on social memory and agonistic behavior of the crayfish *Orconectes obscurus*

Student participants: Kevin Dise, Casey Meier, Samuel Thalathoti

Sigma Xi Grants-in-Aid 2005

MBRS RISE graduate fellowship 2003 - 2007

MBRS RISE undergraduate fellowship (NIGMS R25 GM61347) 2001 - 2003

Summer Comparative Immunology Initiative (GM01347) 2002

Scholarships and Awards

Emergent Scholar Mentor, Jacki Hikes 2014

3rd place for oral presentation, GSA Scholarly Forum 2009

Research Funding from FIU Graduate Student Association 2007, 2008

Travel award from FIU Graduate Student Association 2007

Harvey Young Family Scholarship 1999 - 2003

Florida Academic Scholars 1999 - 2003

University Scholars 1999 - 2003

Publications

Goldina A, Weeks OI. 2014. Science Café Course: An innovative means of improving science communication skills of undergraduate biology majors. *Journal for Microbiology and Biology Education*. 15(1): 13-17.

Gavassa S, **Goldina A**, Silva A, Stoddard PK. 2013. Behavioral ecology, endocrinology, and signal reliability of electric communication. *Journal of Experimental Biology*, 216 (13):2403-2411.

Goldina A, Gavassa S, Stoddard PK. 2011. Testosterone and 11-ketotestosterone have different regulatory effects on electric communication signals of *Brachyhyopomus gauderio*. *Hormones and Behavior* 60(2):139-147

Goldina A*, Simms TM*, Pitzer T. 2011. Once a loser always a loser? Using crayfish to teach behavioral endocrinology. Pages 355-360, in *Tested Studies for Laboratory Teaching*, Volume 32 (K. McMahon, Editor). Proceedings of the 32nd Conference

- of the Association for Biology Laboratory Education (ABLE), 446 pages.
<http://www.ableweb.org/volumes/vol-32/v32reprint.php?ch=35>
- Simms TM*, **Goldina A***, Pitzer T. 2010. General Biology I Laboratory Manual. McGraw-Hill, New York.
 * Both authors contributed equally to the production of this manual.
- Goldina A***, Simms TM*, Pitzer T. 2010. General Biology II Laboratory Manual. McGraw-Hill, New York.
 * Both authors contributed equally to the production of this manual.
- Markham MR, Allee SJ, **Goldina A**, Stoddard PK. 2009. Melanocortins regulate the electric waveforms of gymnotiform electric fish. *Hormones and Behavior*. 55: 306-313.

In prep

- Goldina A**, Stoddard PK. Hormonally regulated signal plasticity tracks sociality across gymnotiform electric fish. Will be submitted to *Hormones and Behavior*
- Goldina A**, Crampton WGR, Stoddard PK. Information content of the electric communication signal within the South American order Gymnotiformes correlates with species-specific sociality levels. Will be submitted to *Animal Behavior*
- Goldina A**, Crampton WGR, Markham RM, Stoddard PK. Radiation of dynamic communication signals through differential melanocortin sensitivity in the gymnotiform electric fish. Will be submitted to *Journal of Experimental Biology*

Invited talks

- Saginaw Valley State University 04/2014
 “Hormones, the link between communication signal plasticity and sociality in electric fish”

Poster and Oral Presentations

(an asterisk indicates student presenters)

- *Kevin Dise. Examination of the relationship between molting and social status establishment in the crayfish *Orconectes obscura*. Summer Creative Arts and Research Program. Elizabethtown College. July 2014
 - * Casey Meier. Status-dependent sensitivity to serotonin in agonistic behavior of the crayfish *Orconectes obscurus*. Summer Creative Arts and Research Program. Elizabethtown College. July 2014
 - * Samuel Thalathoti. Effect of nutrition on social memory and agonistic behavior of the crayfish *Orconectes obscurus*. Summer Creative Arts and Research Program. Elizabethtown College. July 2014
- Bryan M. Dewsbury, Marcy K. Lowenstein, **Anna Goldina**, Adam J. Rosenblatt
 Journal club: a four-year class to increase scientific literacy and outreach among undergraduate biology majors. American Society for Cell Biology, Denver, CO. December 2011.

- *Enrique D. Machado, **Anna Goldina**, Philip K. Stoddard. Repeated treatment with alpha-melanocyte stimulating hormone partially mimics social enhancement of electric waveform structure in gymnotiform fish. 9th Annual Neuroscience Research Day, University of Miami Miller School of Medicine, Miami, FL. November 2010
- Anna Goldina**, Michael R. Markham, Philip K. Stoddard. Communication signal plasticity of gymnotiform electric fish reflects species- specific sociality and is regulated by dual action of steroid and peptide hormones. 9th Annual Neuroscience Research Day, University of Miami Miller School of Medicine, Miami, FL. November 2010
- Anna Goldina**, Sat Gavassa, Philip K. Stoddard. Communication signal dynamics in the weakly electric fish *Brachyhyppopomus gauderio* are modulated by the dual action of steroid and peptide hormones. Society for Neuroscience. San Diego, CA. November, 2010.
- Anna Goldina**, Tanya M. Simms, Thomas Pitzer. Once a loser always a loser? Using crayfish to teach behavioral endocrinology. Association for Biology Laboratory Education. Halifax, NS. June, 2010
- Anna Goldina**, Philip Stoddard. Testosterone insensitivity is related to sociality levels in Gymnotiform fish. Society for Behavioral Neuroendocrinology. East Lansing, MI. June 2009.
- Anna Goldina**, Philip K. Stoddard. Steroid hormone sensitivity is related to sociality levels in Gymnotiform fish. FIU Scholarly Forum (oral presentation). April, 2009.
#Third place for oral presentation
- Anna Goldina**, Philip Stoddard. Endocrine regulation of dynamic communication signals in Gymnotiform fish. 11th Annual Biology Research Symposium. Florida International University, Miami, FL. February, 2009.
Honorary mention for oral presentation
- Philip K. Stoddard, Susan J. Allee, **Anna Goldina**, Michael R. Markham. Synergy between androgens and melanocortins in regulation of gymnotiform electric waveforms. International Congress for Neuroethology. Vancouver, British Columbia. July, 2007
- Anna Goldina**, Michael R. Markham, Philip K. Stoddard. The evolution of electrifying diversity: melanocortins modulate communication signals differently across the order Gymnotiformes #PO253. International Congress for Neuroethology. Vancouver, British Columbia. July, 2007
- Anna Goldina**, Michael R. Markham, Philip K. Stoddard. The evolution of electrifying diversity: mechanisms of signal plasticity in weakly electric fish. 9th Annual Biology Research Symposium. Florida International University, Miami, FL. December, 2007.
- Anna Goldina**, Michael R. Markham, Philip K. Stoddard. Evolution of circadian and melanocortin-induced plasticity in communication signals of gymnotiform electric fish #579.8. Society for Neuroscience. Atlanta, GA. October, 2006.
- Anna Goldina**, Michael R. Markham, Philip K. Stoddard. Signal plasticity is not a ubiquitous trait of Gymnotiform electric fish. MBRS FIU Symposium. Miami, FL. October, 2006.

- Anna Goldina**, Bong Kim, Christopher Brown, Ophelia I. Weeks. Relating serum thyroid hormones with the regenerating sciatic nerve: are there age-related differences and sexual dimorphism? Society for Neuroscience. New Orleans, LA. November, 2003
- Anna Goldina**, Bong Kim, Christopher Brown, Ophelia I. Weeks. Expression of thyroid hormone receptors and corticosterone receptors in the regenerating sciatic nerve: correlation with sex and age. Fifth Comparative Immunology Symposium. Miami, FL. March 2003.
- Anna Goldina**, Charles H. Bigger, Ophelia Weeks, Bong Kim, Alison Roesch, Chris Brown. Peripheral nerve injury, regeneration & functional recovery in males & females; can serum thyroid hormone & corticosterone be used as regeneration & functional recovery markers? Annual Biomedical Research Conference for Minority Students. New Orleans, LA. November 2002.
- Anna Goldina**, Ophelia I. Weeks, Bong Kim, Alison Roesch, Chris Brown. Peripheral nerve injury, regeneration & functional recovery in males & females, can serum thyroid hormone & corticosterone be used as regeneration & functional recovery markers? MBRS FIU Symposium, Miami, FL. October 2002.

Academic Service

Brain Fair at the Miami Science Museum	2012
Developed 3 neuroscience exhibits with the QBIC General Biology class	
Judge for the Miami-Dade Regional Science and Engineering Fair	2005 – 2010
FIU MBRS RISE Advisory Committee	2007
Biology Graduate Student Association (Treasurer)	2006 – 2007
Molecular and Cellular Biology Club (President)	2004 – 2005

Membership in Scientific Societies

STEM-UP PA
 Human Anatomy and Physiology Society
 Faculty for Undergraduate Neuroscience
 Sigma Xi

Mentoring

Current students

Casey Meier Class of 2015 (Biology)
 Kevin Dise Class 2015 (Biology, Honors project)
 Samuel Thalathoti '15 (Biology)
 Marisa del Gaudio '15 (Biology, Honors project – starting Fall, 2015)
 Kris Davis '15 (Biology, Honors project – starting Fall, 2015)

Past students

Enrique Macchado	2009 – 2010
Honors thesis: Repeated treatment with alpha-melanocyte stimulating hormone mimics social enhancement of electric waveform structure in gymnotiform fish	
Christian Agudelo	2009 – 2010
Project: Real-time steroid hormone sampling in weakly electric fish	

Michael Helbig	2006- 2008
MAS Family Scholars Program initiative in Columbus High School	
Project: Morphological correlates of communication signals in weakly electric fish.	
Awards:	
Superior status at the Engineering and Science Fair, Miami, Florida	2007
4 th Place in the Physics division at the Florida State Science Fair	2008
4 th Place in the Animal Sciences division at the Intel International Science and Engineering Fair	
2008	
Jonathan Moore	2006
MAS Family Scholars Program initiative in Columbus High School	
Project: Introduction to working in a laboratory; fish care, electrode preparation	

References

Philip K. Stoddard

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 Dept. Biological Sciences (305)348-1520 lab
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 Miami FL 33199, USA e-mail: stoddard@fiu.edu
 PhD Thesis advisor

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 Colleague

Matthew Grober

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 PhD committee member