

Kelsey Lewis

Department of Biology
University of Florida

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EDUCATION

University of Florida, Department of Biology, Ph.D. Student — 2013-Present
Ph.D. Candidacy, April 2017
Expected graduation: Spring 2020
Advisor: Martin J. Cohn, Ph.D.
Gainesville, Florida

Mount Holyoke College, Department of Biology, B.A. with High Honors — 2006-2010
Major, Biology
Minor, Conceptual Foundations of Science
Advisor: Stan Rachootin, Ph.D.
South Hadley, Massachusetts

RESEARCH EXPERIENCE

University of Florida

2013-Present. M.J. Cohn Lab, Departments of Biology and Molecular Genetics & Microbiology
Projects:

- (1) Effects of the endocrine disrupting fungicide vinclozolin on external genital development
- (2) Effects of the endocrine disrupting fungicide vinclozolin on sexually dimorphic digit ratio
- (3) Prevalence of congenital penile anomalies in Gainesville, Florida
- (4) The role of the androgen-responsive GTPase RhoA in urethral tubulogenesis
- (5) Inappropriate applications of gendered terms in sex biology

University of Utah

2010-2013. Lab technician, G. Kardon Lab, Department of Human Genetics
Projects: (1) Examining limb morphogenesis and building a 3D interactive digital anatomical atlas of the mouse limb musculoskeleton
(2) The role of the muscle connective tissue fibroblast marker *Tcf4* (*Tcf7L2*) in limb muscle and tendon patterning

Mount Holyoke College

2009-2010. Honors thesis with S. Rachootin. "Comparative anatomy of wings and antennae in Trichoptera and Lepidoptera: All dressed up but inordinately indifferent?"
2008-2009. Lab member, G. Gillis' Biomechanics and Comparative Physiology Lab. Took high speed videos of sugar gliders (*Petaurus breviceps*) and assisted in analyzing data.

University of Massachusetts-Amherst

Summer 2009. Volunteer, bird care, Jeff Podos' Lab.

Metro Public Health Department, Nashville, Tennessee

Summer 2007. Volunteer Intern for Dr. Kimberlee Wyche-Etheridge, Family, Youth and Infant Health
Performed IRB-approved survey study of preconception health and health knowledge among public health department patients.

TEACHING EXPERIENCE

University of Florida

Spring 2019. Teaching Assistant, BSC 2010 Lab (Introductory Biology)
Fall 2018. Teaching Assistant, Evolutionary, Developmental, and Regenerative Biology
Summer 2018. Teaching Assistant, BSC2005 Online (Introductory Biology for Non-Majors)
Spring 2014. Head Teaching Assistant, Evolutionary, Developmental, and Regenerative Biology
Fall 2013. Teaching Assistant, BSC 2010 Lab (Introductory Biology)

Mount Holyoke College

Spring 2009. Teaching Assistant, Bio 226: Evolution

GRANTS, PRIZES, AND AWARDS

2019 Madelyn Lockhart Dissertation Award, Association for Academic Women (AAW, UF)
2019 Department of Biology Graduate Student Teaching Award (UF)
2019 John Paul Olowo Memorial Fund Research Grant, Department of Biology (UF)
2019 The Aubrey Gorbman Award for Best Student Oral Presentation, Division of Comparative Endocrinology, Society for Integrative and Comparative Biology (SICB)
2018 Three Minute Thesis (3MT) Top 10 Finalist and People's Choice Award (UF)
2018 College of Liberal Arts and Sciences Graduate Travel Award (UF)
2014 Best Overall Talk Award, Southeast Regional Society for Developmental Biology
2014 National Science Foundation Graduate Research Fellowship (NSF GRF)
2012 Travel Award (Poster Prize), 12th Conference on Limb Development and Regeneration, Mont-Tremblant, Quebec, Canada
2012 Nikon Small World Competition, Top 100 Photomicrograph "Image of Distinction"
2012 Winner, Federation of American Societies for Experimental Biology (FASEB) Bio-Art Scientific Art Competition
2010 Mary Lyon Scholar, Mount Holyoke College
2010 Morgan-Adams Alumnae Fellowship, Mount Holyoke College
2009 Elaine N. Marieb Science Research Award, Mount Holyoke College

PROFESSIONAL AFFILIATIONS

2013- Society for Developmental Biology (SDB)
2013- Society for Integrative and Comparative Biology (SICB)
2013- American Association for the Advancement of Science (AAAS)
2011-2012, 2018- Int'l Society for History, Philosophy, & Social Studies of Biology (ISHPSSB)
2010- Sigma Xi, The Scientific Research Society (Student Member)

UNIVERSITY & COMMUNITY SERVICE

UF Women in Science & Engineering (UF WiSE)

Founded Feminist Science Reading Group, 2019

President, 2019-

Vice President, 2018-2019

Member, 2017-

Political Outreach

Fall 2017, National Science Board Meeting with Congressman Ted Yoho: UF selected 6 NSF Graduate Research Fellows to meet with and present research to Congressman Ted Yoho at the first meeting of NSF-funded researchers with representatives, University of Florida

Community Education

April 2019, Sex & Gender 101 talk titled "Sex is ????" at Nerd Nite, Cypress and Grove Brewery, Gainesville, FL

UF Natural Resources Diversity Initiative (UF NRDI)

Summer 2017-2018, science lessons through after-school program and summer camp at Eastside Community Center, Gainesville, FL

Developmental Biology Lesson for Kids

Wiles Elementary School, Science Symposium, Gainesville, FL, Spring 2018, Spring 2017, Spring 2015, Fall 2014

Foster Elementary School, Full STEAM Ahead Day, Gainesville, FL, Spring 2015

Levy County 4-H Young Explorers Program, Bronson, FL, Spring 2015

Science Fair Judging

Professional Academies Magnet at Lofton High School, Spring 2015, Fall 2014, Spring 2014

Mebane Middle School, Alachua, FL, Fall 2013

Santa Fe High School, Alachua, FL, Fall 2013

Hillside Middle School, Salt Lake City, UT, Spring 2013

GUEST LECTURES

April 2019, Guest lecture, WST 3610 Gender, Race, and Science, UF

“Sex is a Binary Spectrum Mosaic”

March 2019, Guest lecture, LAS 6938 Masculinities, Gender, and Environment, UF

“Sex is a Binary Spectrum Mosaic”

February 2019, Guest lectures, ENC 3254 Writing in the Disciplines: Feminism & Gender, UF

“Bodies Words that Matter: Biology in a Social World”

“Letters to a Young Scientist: We Should All Be Feminists”

November 2018, Guest lecture, ZOO 3603C Evolutionary Developmental Biology, UF

“Sex Determination and Sex Diversity”

Fall 2017, Guest presentation and panel discussion, LIT 4930 Feminist Theory, UF

“How can science inform our understanding of sex and gender?”

Summer 2016, Guest lecture, ENC 2210 Technical Writing, UF

“Use of visual aids in science”

PUBLICATIONS

Wan Y, Otsuna H, Holman HA, Bagley B, Ito M, **Lewis AK**, Colasanto M, Kardon G, Ito K, Hansen C. FluRender: joint freehand segmentation and visualization for many-channel fluorescence data analysis. *BMC Bioinformatics*. 2017. 18:280.

Gredler ML*, Larkins CE*, Leal F*, **Lewis AK**, Herrera AM, Perriton CL, Sanger TJ, Cohn MJ. Evolution of external genitalia: Insights from reptilian development. *Sexual Development*. 2014. 7:311-326.

Lours-Calet C, Alvares LE, El-Hanfy AS, Gandesha S, Walters SH, Sobreira DR, Wotten KR, Jorge EC, Lawson JA, **Lewis AK**, Tada M, Sharpe C, Kardon G, Dietrich S. Evolutionarily conserved morphogenetic movements at the vertebrate head-trunk interface coordinate the transport and assembly of hypopharyngeal structures. *Developmental Biology*. 2014. 390:231-246.

Wan Y*, **Lewis AK***, Colasanto M, van Langeveld M, Kardon G, Hansen C. A Practical Workflow for Making Anatomical Atlases for Biological Research. *IEEE Computer Graphics and Applications*, Special Issue *Biomedical Applications*. 2012. 32:50-60.

PRESENTATIONS

January 2019, Society for Integrative and Comparative Biology (SICB), Tampa, FL

Talk, “The anti-androgenic fungicide vinclozolin disrupts sexual differentiation of the external genitalia”

January 2019, Society for Integrative and Comparative Biology (SICB), Tampa, FL

Poster, “Feminization of Mice and Men: Incorrect uses of gendered terms in sex biology”

October 2018, Florida Genetics Symposium, University of Florida

Poster, “The endocrine disruptor vinclozolin induces penile malformations by modulating apoptosis in the genital tubercle”

October 2018, Diversity Graduate Research Symposium, University of Florida

Poster, “Feminization of Mice and Men: Incorrect uses of gendered terms in sex biology”

October 2018, Wisconsin Symposium on Feminist Biology, University of Wisconsin-Madison

Poster, “Feminization of Mice and Men: Incorrect applications of gendered terms in sex biology”

September 2018, Science at the Shore, Whitney Marine Lab (University of Florida), Marineland, FL

Talk, “How a fungicide disrupts penis development”

Blitz Poster, “Feminization of Mice and Men: Incorrect uses of gendered terms in sex biology”

Spring 2018, College of Medicine Celebration of Research, University of Florida

Poster, “A mouse model of environmentally-induced birth defects of the reproductive system”

January 2018, Society for Integrative and Comparative Biology (SICB), San Francisco, CA

Talk, “Structural defects of the external genitalia induced by the environmental fungicide vinclozolin”

Fall 2017, Florida Genetics Symposium, University of Florida

Poster, “Structural defects of the external genitalia induced by the environmental fungicide vinclozolin”

Spring 2017, Society for Developmental Biology, Southeast Meeting, Kennesaw, GA

Talk, "Penile anomalies induced by the anti-androgenic fungicide vinclozolin"
Spring 2016, Society for Developmental Biology, Southeast Meeting, Marineland, FL
Poster, "Loss of *RhoA* in urethral epithelium disrupts external genital development"
Spring 2016, College of Medicine Celebration of Research, University of Florida
Poster, "Loss of *RhoA* in urethral epithelium disrupts external genital development"
Fall 2015, Florida Genetics Symposium, University of Florida
Poster, "Loss of *RhoA* in urethral epithelium disrupts external genital development"
Spring 2014, Society for Developmental Biology, Southeast Meeting, Pine Mountain, GA
Talk and Poster, "A 3D Atlas of Limb Musculoskeletal Morphogenesis in Mouse"
Spring 2013, Society for Developmental Biology, Southwest Meeting, Salt Lake City, UT
Poster, "A 3D Atlas of Limb Musculoskeletal Morphogenesis in Mouse"
Fall 2012, SCI X, Scientific Computing and Imaging Institute, University of Utah, Salt Lake City, UT
Poster, "A Story of Reanimating an Embryonic Mouse Limb"
Fall 2012, University of Utah Human Genetics Department Retreat, Deer Valley, UT
Poster, "A 3D Atlas of Limb Musculoskeletal Morphogenesis in Mouse"
Fall 2012, University of Utah Bioscience Symposium, Salt Lake City, UT
Poster, "A 3D Atlas of Limb Musculoskeletal Morphogenesis in Mouse"
Summer 2012, 12th Conference on Limb Development and Regeneration, Mont-Tremblant, Quebec
Poster, "A 3D Atlas of Limb Musculoskeletal Morphogenesis in Mouse"
Fall 2011, University of Utah Human Genetics Department Retreat, Deer Valley, UT
Poster, "3D reconstruction of embryonic mouse limb musculoskeletal morphogenesis via immunofluorescent confocal microscopy"
Spring 2010, Senior Symposium, Mount Holyoke College, South Hadley, MA
Talk, "Comparative anatomy of wings and antennae in Trichoptera and Lepidoptera: Homologies, Plesiomorphies— What, if anything, are orders?"
Fall 2009, Student Research Seminars, Mount Holyoke College, South Hadley, MA
Talk, "Comparative anatomy of wings and antennae in Trichoptera and Lepidoptera: Homologies, Plesiomorphies— What, if anything, are orders?"

OTHER MEETING PARTICIPATION

Congenital Anomalies of the External Genitalia Workshop

May 2018, Workshop co-hosted by AUA and NIH NIDDK, held at American Urological Association, Linthicum, MD

Florida Urological Society Meeting

September 2018, Wesley Chapel, FL