

CURRICULUM VITAE

Christopher J. Holmes

PhD Candidate

Department of Animal Biology

University of Illinois at Urbana-Champaign

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EDUCATION:

2014 – Present

University of Illinois at Urbana-Champaign, Urbana, Illinois

Ph.D in Animal Biology (Ecology, Ethology, and Evolution)

Advisor: Carla Cáceres

Doctoral Committee: Brian F. Allan, Carla E. Cáceres, Ephantus J. Muturi, James P.

O'Dwyer, Andrew V. Suarez (chair)

Dissertation Research: Disentangling patterns of community structure in stormwater ponds

Research Focus: Evolutionary and community ecology

2012 – 2014

University of Illinois at Urbana-Champaign, Urbana, Illinois

M.S. in Biology (Ecology, Ethology, and Evolution)

Advisor: Carla Cáceres

Thesis: Effects of diversity on community assembly dynamics in newly formed pond communities

2010 – 2011

University of Illinois at Urbana-Champaign, Urbana, Illinois

B.S. in Integrative Biology, Minor in Earth Systems, Society, and Environment

Summa Cum Laude

Bronze Tablet Recipient

2008 – 2009

Parkland College, Champaign, Illinois

A.S. in Pre-Professional Medicine

Additional Training:

2017

ELME: Structural Equation Modeling in Ecology

Kellogg Biological Station – Michigan State University

2015

Introduction to RNA Sequencing Workshop

High-Performance Biological Computing (HPCBio) – University of Illinois

2015

Introduction to Unix/Linux Workshop

High-Performance Biological Computing (HPCBio) – University of Illinois

2013

Introduction to Tropical Ecology Graduate Fundamentals Course Organization for Tropical Studies

2013

Graduate Teaching Certificate - University of Illinois at Urbana-Champaign

UNIVERSITY SERVICE:

2015 – Present

Programs Coordinator – University of Illinois Office of Undergraduate Research

- *Co-Developer* – Undergraduate Research Apprenticeship Program (URAP)
- *Co-Developer* – “In the Field”, a showcase of student research on campus
- *Research Assistant* – Ethnography of University Initiative (EUI)
- *Co-Organizer* – Undergraduate Research Week and Symposium (URW/URS; 2016 and 2017)

2013 – Present

Founding Co-Director – Animal Biology / Access and Achievement Program Undergraduate Summer Research Fellowship (ABSRF)

- Purpose: To provide summer research fellowship for undergraduate students from underrepresented backgrounds in the biological sciences

- Fellowships provided (total funds allocated): 2014: 2 (\$15,000), 2015: 3 (\$22,500), 2016: 4 (\$30,000), 2017: 5 (\$30,000)
- Total funds appropriated: \$97,500

2013	<i>Graduate Student Representative</i> – Five-year department head evaluation committee for Dr. Ken Paige
2013	<i>Graduate Student Judge</i> – Graduates in Ecology and Evolutionary Biology (GEEB) Graduate Student Symposium
2012 – 2014	<i>Webmaster</i> – Graduates in Ecology and Evolutionary Biology (GEEB)

GRANTS:

- 2017 (\$1,000): Odum-Kendeigh Research Award, Department of Animal Biology.
- 2017 (\$925): Lebus Fund Award, School of Integrative Biology
- 2016 (\$3,000): Animal Biology Summer Stipend (Alumni Award), Department of Animal Biology.
- 2015 (\$1,000): Edwin M. Banks Research Award, Department of Animal Biology.
- 2015 (\$1,000): Odum-Kendeigh Research Award, Department of Animal Biology.
- 2014 (\$3,000): Animal Biology Summer Stipend (Alumni Award), Department of Animal Biology.
- 2014 (\$1,000): Francis M. and Harlie M. Clark Research Support Grant.
- 2014 (\$800): Animal Biology Outstanding Teaching Award (Spring 2014).
- 2014 (\$325): University of Illinois at Urbana-Champaign Graduate College Conference Travel Award (Spring 2014).
- 2013 (\$1,500): Travel Grant for Organization for Tropical Studies Course, Department of Animal Biology, University of Illinois at Urbana-Champaign.
- 2013 (\$2,000): Organization for Tropical Studies – An Introduction to Tropical Ecology Course Fee, School of Integrative Biology, University of Illinois at Urbana-Champaign.
- 2013 (\$500): Sigma Xi Grants-in-Aid of Research Program (GIAR).
- 2013 (\$3,000): Animal Biology Summer Stipend (Alumni Award), Department of Animal Biology.
- 2013 (\$1,000): Philip W. Smith Memorial Award, School of Integrative Biology.
- 2012 (\$500): Masters Project Travel Grants (Spring 2012 Competition), University of Illinois at Urbana-Champaign. Colonization dynamics in freshwater zooplankton and its role in aquatic community structuring.
- 2012 (\$1,000): Odum-Kendeigh Research Award, Department of Animal Biology. Colonization dynamics in freshwater zooplankton and its role in aquatic community structuring.

POSTERS AND ORAL PRESENTATIONS:

External Presentations:

- Association for the Sciences of Limnology and Oceanography* (June 2016). Initial genetic diversity increases founder effects and alters genetic structuring of a newly established *Daphnia* metapopulation.
- International Symposium on Biomathematics and Ecology Education and Outreach* (October 2015). Effects of diversity on community assembly dynamics in newly formed ponds.
- Ecological Society of America* (August 2015). Metacommunity dynamics of the built environment.
- Ecological Society of America* (August 2014). Effects of diversity on community assembly dynamics in newly formed ponds.
- Ecological Society of America* (August 2013). Effects of diversity on community assembly dynamics in newly formed ponds.
- Ecological Society of America* (August 2012). Eco-evolutionary feedbacks on colonization dynamics in newly formed ponds.

Internal Presentations:

University of Illinois Ecolunch (January 2014). Effects of diversity on community assembly dynamics in newly formed ponds.

University of Illinois Ecolunch (January 2013). Using experimental ponds to empirically test eco-evolutionary feedbacks.

AWARDS and HONORS:

College of Liberal Arts and Sciences, Excellence in Undergraduate Teaching for Graduate Teaching Assistants (Spring 2017)

Teachers Ranked as Excellent by Students (Fall 2012, Spring 2012, Fall 2013, Fall 2014, Spring 2014)

Animal Biology Outstanding Teaching Award for 2014 Academic Year (Spring 2014)

NSF Graduate Research Fellowship Program, Honorable Mention (Spring 2012)

University of Illinois Dean's List (Fall 2010 - Fall 2012)

Parkland College Dean's List (Fall 2008 - Spring 2010)

Parkland College Student Commencement Speaker (May 2010)

Outstanding Phi Theta Kappa Honors Society Chapter President (May 2010)

Phi Theta Kappa Honors Society (January 2009 - May 2010)

All-USA College Academic Team (January 2010)

Herb Seto Chemistry Scholarship (Spring 2009)

PUBLICATIONS:

Holmes, C. J., J. H. Pantel, K. L. Schulz, and C. E. Cáceres. 2016. Initial genetic diversity increases founder effects and alters genetic structuring of a newly established *Daphnia* metapopulation. *Molecular Ecology* 25(14): 3299-3308.

Holmes, C. J., S. E. Figary, K. L. Schulz, and C. E. Cáceres. 2016. Effects of diversity on community assembly in newly formed ponds. *Ecosphere* DOI: 10.1002/ecs2.1377.

Heath, K. D. E. Bagley, A. J. M. Berkey, D. M. Birlenbach, M. K. Carr-Markell, J. W. Crawford, M. A. Duennes, J. O. Han, M. J. Haus, S. M. Hellert, C. J. Holmes, B. C. Mommer, J. Ossler, R. Peery, L. Powers, D. R. Scholes, C. A. Silliman, L. R. Stein, C. J. Wesseln. 2014. Amplify the Signal: Graduate Training in Broader Impacts of Scientific Research. *Bioscience* 64 (6): 517-523.

Manuscripts in preparation:

Holmes, C. J., Z. Rapti, and C. E. Cáceres. In prep. Effects of network structure on metapopulation spatio-temporal dynamics

RESEARCH EXPERIENCE:

Doctoral Dissertation: University of Illinois Department of Animal Biology, Fall 2014-Present (*Research Advisor:* Carla Cáceres). Topic: Disentangling patterns of community structure in stormwater ponds.

Master's Thesis: University of Illinois Department of Animal Biology, Fall 2011-2013 (*Research Advisor:* Carla Cáceres). Topic: Effects of initial stocking diversity on community assembly dynamics in newly formed ponds.

Undergraduate Research Assistant: University of Illinois Department of Animal Biology, Fall 2011, (*Research Advisor:* Carla Cáceres). Topic: Effects of initial stocking diversity on community assembly dynamics in newly formed ponds.

Undergraduate Research Assistant: University of Illinois Department of Animal Biology, Summer 2010, (*Research Advisor:* Dr. Rebecca Fuller, *Mentor:* Dr. Daniel Welsh). Topic: Evolutionary adaptation of freshwater minnows to lentic and lotic water flow regimes.

Undergraduate Research Assistant: University of Illinois, Department of Plant Biology, Fall 2010, (*Research Advisor:* Dr. Surangi Punyasena). Topic: Reconstructing and understanding prehistoric climate and ecology through pollen morphology.

TEACHING AND MENTORING EXPERIENCE:

Teaching Assistantships

University of Illinois at Urbana-Champaign

Spring 2015 Conservation Biology (IB451)

Curriculum Development

Conservation biology laboratories, lecture exams, course organization, and final project in which outreach signage educating the public about conservation issues was designed by students and donated to local zoo

Spring 2014 Introduction to Organismal and Evolutionary Biology (IB150)

Special Sections Taught

Merit Program for Emerging Scholars

Curriculum Development

Discussion activities, quizzes, and exams

Fall 2013 Ecology (IB203)

Special Sections Taught

Merit Program for Emerging Scholars

Fall 2012 Introduction to Organismal and Evolutionary Biology (IB150)

Special Sections Taught

Merit Program for Emerging Scholars

Access and Achievement Program (AAP)

Curriculum Development

Discussion activities, active learning in-class lecture activities, quizzes, and exams

Spring 2012 Introduction to Organismal and Evolutionary Biology (IB150)

Special Sections Taught

Merit Program for Emerging Scholars

Mentoring Experience:

2012 – Present *Mentor* - MERIT Program for Emerging Scholars (NSF DUE 0622573)

2012 – Present *Graduate Student Mentor* (for undergraduate researchers) – Department of Animal Biology

Undergraduates Mentored:

(* Indicates that a student is actively pursuing or has pursued an independent research project)

Cameron Schwing* (August 2016 – Present)

Abraham Matlak (*UIUC Merit Fellows Scholarship Program*; August 2015 – 2017)

Sana Khadri* (August 2015 – Present), Medical Student - Arkansas College of Osteopathic Medicine

Jonathan Sanders (*UIUC Merit Fellows Scholarship Program*; August 2015 – 2016)

Xorla Ocloo*, January 2015 – May 2016), MS Student – University of Michigan

Lauren Emerson* (August 2014 – May 2016), Research Assistant

Iona Menel* (January 2014 – January 2015), Research Specialist - University of Illinois at Urbana-Champaign

Liliana Calderon (January 2013 – December 2013)

Hannah Wright (August 2012 – December 2013), Research Assistant - University of Kansas Medical Center

Ryan Smith (June 2012 – August 2012), Freshwater Monitoring Technician - The Nature Conservancy

Frankie Rodriguez (January 2012 – May 2013), Microbiologist - Glanbia Performance Nutrition

Kelly Hogan (January 2012 – August 2012), MS Student- Clemson University

OUTREACH, COMMUNITY SERVICE, and NEWS:

June 2016 Scientists watch as water fleas take over new territory. Illinois News Bureau: Life Sciences

June 2014 Assisted in Girls Do Science Summer Camp - Orpheum Children's Museum

January 2014 Educational film featured in Explorers Journal (National Geographic) in an article titled "Out of Their Element: Science Students Produce Films in Costa Rica."

August 2013 Pre-Scientist Penpal: Letters to a Pre-Scientist – www.prescientist.org

June 2013 Assisted in Girls Do Science Summer Camp - Orpheum Children's Museum
March 2013 *Environmental Almanac: Studying tiny creatures to answer big questions.* The News-Gazette. Published March 3, 2013
January 2013 *Life on Earth: Why are there so many of us?* WEFT 90.1 Science Radio Show
December 2012 *Biodiversity day at the Orpheum.* Orpheum Children's Science Museum - Champaign, Illinois
December 2012 *Life on Earth: Why are there so many of us?* Smile Politely - Champaign-Urbana's Online Magazine. Published December 11, 2012

PROFESSIONAL MEMBERSHIPS:

February 2016 – Present Association for the Sciences of Limnology and Oceanography
April 2015 – Present Entomological Society of America
January 2014 – Present Illinois State Academy of Science
April 2013 – Present Sigma Xi, The Scientific Research Society
January 2012 – Present Ecological Society of America