

# 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:***

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
- *Co-Developer* – “History of the Natural History Building”, multi-disciplinary research project on the biological, architectural, and historical aspects of the Natural History building
- *Research Assistant* – Ethnography of University Initiative (EUI)
- *Co-Organizer* – 2016 Undergraduate Research Week and Symposium (URW/URS)

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; anticipated)
- Total funds appropriated: \$97,500

2012 – Present	<i>Mentor</i> - MERIT Program for Emerging Scholars (NSF DUE 0622573)
2012 – 2016	<i>Graduate Student Mentor</i> (for undergraduate researchers) – Department of Animal Biology
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:**

- 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. Metacommunity dynamics of the built environment.
- 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:**

- 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.
- University of Illinois Ecolunch* (January 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.

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

*Ecological Society of America* (August 2012). Eco-evolutionary feedbacks on colonization dynamics in newly formed ponds.

### **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., Z. Rapti, and C. E. Cáceres. In prep. Effects of network structure on metapopulation dynamics

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.

### **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 EXPERIENCE:**

**Co-Developer and Teaching Asst.**, University of Illinois at Urbana-Champaign January 2015 – May 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*

**Teaching Assistant**, University of Illinois at Urbana-Champaign January 2014 – May 2014  
Introduction to Organismal and Evolutionary Biology (IB150)

### **Special Sections Taught**

Merit Program for Emerging Scholars

### **Curriculum Development**

*Discussion activities, quizzes, and exams*

**Teaching Assistant**, University of Illinois at Urbana-Champaign August 2013 – December 2013  
Ecology (IB203)

### **Special Sections Taught**

Merit Program for Emerging Scholars

**Teaching Assistant**, University of Illinois at Urbana-Champaign August 2012 – December 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*

**Teaching Assistant**, University of Illinois at Urbana-Champaign January 2012 – May 2012  
Introduction to Organismal and Evolutionary Biology (IB150)

### **Special Sections Taught**

Merit Program for Emerging Scholars

## **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](http://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:**

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

## **UNDERGRADUATES MENTORED:**

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

Abraham Matlak (*UIUC Merit Fellows Scholarship Program*; August 2015 – Present)  
Cameron Schwing (August 2016 – Present)  
Sana Khadri\* (August 2015 – Present)  
Jonathan Sanders (*UIUC Merit Fellows Scholarship Program*; August 2015 – 2016)  
Xorla Ocloo\* (January 2015 – May 2016)  
Lauren Emerson\* (August 2014 – May 2016)  
Ilona Menel\* (January 2014 – January 2015)  
Liliana Calderon (January 2013 – December 2013)  
Hannah Wright (August 2012 – December 2013)  
Ryan Smith (June 2012 – August 2012)  
Frankie Rodriguez (January 2012 – May 2013)  
Kelly Hogan (January 2012 – August 2012)