

# Jamin Dreyer

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## Research Interests

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Community and ecosystem ecology, food web ecology, arthropod ecology, predator-prey interactions, cross-ecosystem exchanges, landscape ecology, limnology, agricultural pests and natural enemies

## Academic Career

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### Postdoctoral Scholar

University of Kentucky, Lexington, Kentucky

May 2014 - Present

### Postdoctoral Fellow

North Dakota State University, Fargo, North Dakota

October 2013 – April 2014

**Ph.D. Zoology** University of Wisconsin-Madison,  
Madison, Wisconsin

September 2008 – August 2013

**B.A. Biology Education**, with Michigan Secondary  
Education Certificate  
Hope College, Holland, Michigan

August 2002 – May 2006

## Peer Reviewed Publications

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11. Eichele, Jaclyn, [Jamin Dreyer](#), Ray Heinz, Stephen Foster, Jason Harmon, Deirdre Voldseth-Prischmann. *Accepted*. Soybean Aphid (*Aphis glycines*) alarm pheromone production and response. **Journal of Insect Behavior**.

10. Athey, Kacie J., [Jamin Dreyer](#), Katelyn A. Kowles, Hannah J. Penn, Michael I. Sitvarin, James D. Harwood. *Accepted*. Spring Forward: Molecular detection of early season predation in agroecosystems. **Food Webs**.

9. [Dreyer, Jamin](#), David Hoekman, Claudio Gratton. 2015. Positive indirect effect of aquatic insects on terrestrial prey even at elevated predator density. **Ecological Entomology** 41(1):61-71.

8. Xia, Ye, Seth DeBolt, [Jamin Dreyer](#), Delia Scott, and Mark A. Williams. 2015. Characterization of culturable bacterial endophytes and their capacity to promote plant growth from plants grown using organic or conventional practices. **Frontiers in Plant Science** 6:490.

7. [Dreyer, Jamin](#), Phil A. Townsend, James C. Hook III, M. Jake Vander Zanden, David Hoekman, Claudio Gratton. 2015. Quantifying aquatic insect deposition from lake to land. **Ecology** 96(2):499-509.

6. Hilary Bultman, David Hoekman, [Jamin Dreyer](#), Claudio Gratton. 2014. Terrestrial deposition of aquatic insects increases plant quality for insect herbivores and herbivore density. **Ecological Entomology** 39(4):419-426.

5. [Dreyer, Jamin](#) and Claudio Gratton. 2014. Habitat linkages in conservation biological control: lesson from the land-water interface. **Biological Control** 75(2014):68-76 (invited contribution).

4. Dreyer, Jamin, David Hoekman, Claudio Gratton. 2012. Lake-derived midges increase abundance of shoreline terrestrial arthropods. *Oikos* 21:252-258.
3. David Hoekman, Jamin Dreyer, Randall D. Jackson, Philip A. Townsend, Claudio Gratton. 2011. Lake to land subsidies: experimentally simulating aquatic insect deposition. *Ecology* 92:2063-2072.
2. Dreyer, Jamin M. 2008. A redescription of *Varacosa apothetica* (Wallace)(Araneae, Lycosidae). *Journal of Arachnology* 36(3):487-490.
1. Dreyer, Jamin M. & A.R. Brady. 2008. *Trochosa sepulchralis*, a senior synonym of *Trochosa acompa*, and the restoration of *Trochosa abdita* (Gertsch) (Araneae, Lycosidae). *Journal of Arachnology* 36(1):65-75.

### **Publications In Revision, Review, Submitted, or in Preparation**

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Raudenbush, Madeline D., Claudio Gratton, Philip A. Townsend, Jamin Dreyer, David Hoekman, Randall David Jackson. *In preparation*. Grass abundance related to aquatic insect deposition to land in a subarctic heathland.

Beleznai, Orsolya, Jamin Dreyer. *In preparation*. Behavior change in response to temperature increases predation risk of an herbivore.

Hoekman, David, Jamin Dreyer, Claudio Gratton. *In preparation*. Midges transport aquatic resources to terrestrial food webs.

### **Competitive Grants (Funded & Unfunded)**

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2015 US National Science Foundation, Arctic Natural Science

*"Greenlandic glacier foreland arthropod succession and response to climate change"*  
Co-Primary Investigator, \$560,000 **pending**

2014 Kentucky Science & Engineering Foundation, Research & Development Excellence Program

*"Developing an integrated approach to organic cucurbit production in Kentucky"*  
CO-Primary Investigator, \$30,000 **not funded**

2013 INRA Postdoctoral Fellowship, University of Bordeaux, France

*"The effect of age since organic adoption and natural enemy evenness on vineyard pest suppression"*  
Primary Investigator, ~\$100,000 **not funded**

2010 National Science Foundation Graduate Research Fellowship Award

*"Resource pulses and their effects on predators, prey, and plants"*  
Primary Investigator, \$150,000 **funded**

### **Research Experience**

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2014-Present

Food web ecology, biological control, & organic farming, Postdoctoral Researcher UK  
Entomology Department

2013-2014

Aphid Behavior/Ecology, Postdoctoral Researcher NDSU Entomology Department

2008-2013

Ecology of cross-ecosystem exchanges, Lake Mývatn, Iceland  
Gratton Lab, University of Wisconsin-Madison Depts. Of Zoology/Entomology

2005-2008

Araneae Systematics/Taxonomy, Family of Interest: Lycosidae (wolf spiders), genera *Trochosa*,  
*Varacosa*. Mentor: Dr. Allen Brady

Summer 2007

Field Technician Laboratories of Dr. Gary Lamberti & Dr. David Lodge, University of Notre Dame  
Environmental Research Center, Stream/Aquatic Invasive Ecology

Summer 2005

Howard Hughes Medical Institute Secondary Education Scholar, Hope College "Abundance and  
Prevalence of Ectoparasites on Three Cavity Nesting Bird Species" Mentor: Dr. Kathy Winnett-  
Murray

## **Teaching & Mentoring Experience**

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2015 Department of Entomology, University of Kentucky

Entomology 770: Parasite Ecology, Co-Instructor (Fall Semester)

2009 Department of Zoology, University of Wisconsin-Madison

Zoology 152 Lab Spring Semester

2006-2007 Part-Time Faculty Hope College Departments of Biology and Chemistry

Biology 240: Cells and Genetics Lab: Fall 2006, Fall 2007

Biology 195: Introduction to Cellular Biology Lab, Fall 2007

Chemistry 103: Introduction to Biological Chemistry Lab: Spring 2007

2006 Student Teacher Saugatuck High School (Saugatuck, MI)

Classes Instructed: General Biology, Anatomy, General Science, 8<sup>th</sup> Grade Science

Mentor: Mr. Bradley Smit

2003-2005 Teaching Assistant Hope College Departments of Biology & Chemistry

Biology 240: Cells and Genetics Lab, Dr.'s Tim Evans and Greg Murray, Fall 2005, 2004

Chemistry 113/114: General Chemistry Lab I/II, Dr. William Polik, Fall 2003-Spring 2004

Undergraduate Researchers Supervised (year(s), current affiliation)

Erica Nystrom Santacruz ('08, '09; MS student Univ. Minnesota), Jaclyn M.G. Entringer ('08,  
Environmental Education Assisstant, The Greening of Detroit), Heather Sage (**NSF REU** '09; MA  
student Humbolt State Univ.), Kyle Webert ('09, '10; PhD candidate UW-Madison, 2011 NSF  
Graduate Research Fellow), Breanne Bender (**NSF REU** '10; MS '14 UW-Madison), Ted  
Kratschmer ('10; Field Station Manager & Science Liason, National Great Rivers Research and  
Education Center), Hilary Bultman (**NSF REU** '11; PhD student UW-Madison, 2014 NSF  
Graduate Research Fellow), Valentine Hepper ('12, UW-Madison Hospital),  
Elsemarie DeVries ('12, PhD student UNC-Chapel Hill), Jaclyn Eichele ('14, MS student NDSU),  
Raymond Heinz ('14, MA student Minnesota State University, Mankato)

## **Fellowships, Honors, and Awards**

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2014 Entomological Society of America Science Policy Fellow (Inaugural Class)

2010 National Science Foundation Graduate Research Fellowship Award (\$150,000)

2009 National Science Foundation Graduate Research Fellowship Honorable Mention

2013 John Jefferson Davis Travel Award, UW-Madison Dept. of Zoology (\$400)  
2012 John Jefferson Davis Travel Award, UW-Madison Dept. of Zoology (\$400)  
2011 John Jefferson Davis Travel Award, UW-Madison Dept. of Zoology (\$400)  
2010 John Jefferson Davis Travel Award, UW-Madison Dept. of Zoology (\$400)  
2008 Biological Scholars Award, University of Wisconsin-Madison (\$4,000)

2006 Patterson Memorial Prize in Biology, Hope College (\$1,000)  
2006 Catherine Morrison '89 Senior Science Education (Secondary), Hope College (\$500)  
2006 Senior Sigma Xi Award, Hope College  
2005 Howard Hughes Medical Institute Secondary Education Scholar, Hope College

### **Invited Seminar Presentations**

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“Aquatic-Terrestrial Linkages: A case study from the Icelandic “Midge Lake”.” Department of Entomology, University of Kentucky, Lexington, Kentucky USA. 15 January 2015.

“Aquatic-Terrestrial Linkages: A case study from the Icelandic “Midge Lake”.” Agrarökologie (Agroecology group), Department of Crop Science, Georg-August-Universität Göttingen, Göttingen, Germany. 7 January 2015.

“Aquatic-Terrestrial Linkages: A case study from the Icelandic “Midge Lake”.”  
Biology Department, University of South Dakota, Vermillion, South Dakota USA. 8 December 2014.

“Lake flies: little bugs that make a BIG difference.” Biology Department, Ripon College, Ripon, Wisconsin USA. 15 February 2013.

### **Selected Professional Meeting Presentations**

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2016 North Central Branch Meeting of the Entomological Society of America, Cleveland, OH USA  
“Some Lessons Learned: Pests and Predators in an Organic Cucurbit System” (Invited Student Affairs Symposium: From basic to applied science: Tri-trophic interactions in natural and managed systems)

2015 Annual Meeting of the Entomological Society of America, Portland, OR USA  
“Beetle and predator behavior altered at increased temperature determining rates of predation and herbivory.” Oral Presentation  
Orsolya Beleznai, **Jamin Dreyer**, Mark A. Williams, James D. Harwood

2015 Annual Meeting of the Ecological Society of America, Baltimore, MD USA  
“Increased temperature alters beetle and predator behavior to determine rates of predation and herbivory” Oral Presentation  
Orsolya Beleznai, **Jamin Dreyer**, Mark A. Williams, James D. Harwood

2014 Annual Meeting of the Entomological Society of America, Portland, OR USA  
“Soybean aphid (*Aphis glycines*) alarm pheromone production and response” Poster Presentation  
**Jamin Dreyer**, Jaclyn Eichele, Raymond Heinz, Stephen A. Foster Deirdre Prishmann-Voldseth, Jason P. Harmon

“The effect of row cover and pesticide application variable timing on pests in organic vegetable”  
Poster Presentation  
**Jamin Dreyer**, Kacie J. Athey, Jason M. Schmidt, Mark A. Williams, James D. Harwood

2014 North Central Branch Meeting of the Entomological Society of America, Des Moines, IA USA

- “Livin' on the Edge: The importance of locomotion across habitat boundaries” (Invited Symposium: The “ecology” in agroecology: asking basic questions in applied systems)  
**Jamin Dreyer**
- 2013 Annual Meeting of the Entomological Society of America, Austin, TX USA  
 “Habitat linkages in conservation biological control: lessons from the land-water interface” (Invited Symposium: Impacts of Global Change on Biodiversity and Biological Control)  
**Jamin Dreyer**, Claudio Gratton
- 2013 Wisconsin Ecology Spring Symposium  
 “Aquatic insects reduce predation even at elevated predator density”  
**Jamin Dreyer** (Best Graduate Student Oral Presentation)
- 2012 Annual Meeting of the Entomological Society of America, Knoxville, TN USA  
 “Aquatic insects have positive indirect effects on terrestrial prey” (Oral Presentation)  
**Jamin Dreyer**, David Hoekman, Claudio Gratton
- 2012 Annual Meeting of the Ecological Society of America, Portland, OR USA  
 “Modeling Masses of Midges: Following the path of aquatic insects onto land” (Oral Presentation)  
**Jamin Dreyer**, Phil A. Townsend, James C. “Trip” Hook III, M. Jake Vander Zanden, David Hoekman, Aditya Singh, Claudio Gratton
- 2011 Annual Meeting of the Ecological Society of America, Austin, TX USA USA  
 “The effect of a midge pulse on a terrestrial arthropod food web” (Oral Presentation)  
**Jamin Dreyer**, David Hoekman, Claudio Gratton
- 2011 GLEON (Global Lakes Ecological Observatory Network) 12, Lake Kinneret, Israel  
 “Midges from space?! Massive aquatic insect emergence from Lake Mývatn, the Icelandic “midge lake”” (Poster Presentation)  
**Jamin Dreyer**, Phil A. Townsend, M. Jake Vander Zanden, Claudio Gratton
- 2010 Annual Meeting of the Entomological Society of America, San Diego, CA USA  
 “Aquatic insect emergence at the landscape scale: An example from the Icelandic “midge lake”” (Oral Presentation)  
**Jamin Dreyer**, Phil Townsend, M. Jake Vander Zanden, David Hoekman, Claudio Gratton
- 2009 Annual Meeting of the Entomological Society of America, Indianapolis, IN USA  
 “The effect of aquatic subsidies on lakeshore arthropod communities” (Oral Presentation)  
**Jamin Dreyer**, David Hoekman, Erica C. Nystrom Santacruz, Claudio Gratton
- 2009 Wisconsin Ecology Spring Symposium, University of Wisconsin-Madison  
 2008 Annual Meeting of the Entomological Society of America, Reno, NV USA  
 “Subsidy of benthic production to a terrestrial food web: Midge emergence (Chironomidae) at Lake Mývatn, Iceland” (Poster Presentation)  
**Jamin Dreyer**, David Hoekman, Erica C. Nystrom Santacruz, Jaclyn M. G. Entringer, M. Jake Vander Zanden, Claudio Gratton
- 2005 Presenter PEW Undergraduate Research Symposium, St. Louis, MO USA  
 “Abundance and Prevalence of Ectoparasites on Three Cavity Nesting Bird Species” (Poster)  
**Jamin Dreyer**, Kathy Winnett-Murray
- 2005 Interdisciplinary Science Workshop, Detroit, MI USA  
 “Ecology in the Classroom” (Oral/Interactive Presentation)  
 Kathy Winnett-Murray, **Jamin Dreyer**, Hilary Cason, Melissa DeYoung

2004 Michigan Science Teachers Association Annual Conference, Lansing, MI USA  
“Inquiry in Science Education” (Oral/Interactive Presentation)  
Donald Cronkite, Kathy Winnett-Murray, **Jamin Dreyer**

## **Professional Activity/ Society Membership**

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**Society Membership:** Ecological Society of America, Entomological Society of America

**Journal Peer-Reviewer:** Agriculture, Ecosystems and Environment, Canadian Journal of Fisheries and Aquatic Sciences, Ecosystems, Biological Control, Ecohydrology and Hydrobiology, Ecology, Ecological Entomology, Food Webs, Freshwater Biology, Journal of Insect Science, Journal of Agriculture Science and Technology, Naturwissenschaften, Science of the Total Environment

## **Service & Outreach**

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**United States Executive Branch Office Visits.** Meetings with staff from FFAR, NIH, NSF, and USDA behalf of the Entomological Society of America (Science Policy Fellowship Program). 20-22 October 2015.

**United States Congressional Office Visits.** Meetings with science/agriculture congressional staff from four House of Representatives (Barr, Huizenga, Moolenaar, Rogers) & 3 Senate (McConnell, Peters, Stabenow) on behalf of the Entomological Society of America (Science Policy Fellowship Program). 12-14 May 2015.

Workshop Coordinator: NDSU Expanding Your Horizons “Insects: The Good, Bad, and Ugly” **program promoting science to young women** in 7<sup>th</sup> – 9<sup>th</sup> Grade. 12 April 2014

“My Bug Family Reunion” (<http://entomologytoday.org/2013/11/23/my-bug-family-reunion/>) **Blog post** on *Entomology Today*, Entomology Society of America news webpage. 23 November 2013

**Club Advisor:** 2013-2014 North Dakota State University Broomball Team (Natl. Division Runner-Up), Fargo, North Dakota

“Smidge of Midge” (<http://uwmyvatn.blogspot.com>) **Research blog** contributor 2008-2013. Descriptions of research in the field and lab, lifestyle and perspective of a graduate student in ecology; updated weekly, ~30,000 visits from 90 countries.

“What Makes Science Beautiful” (<http://www.youtube.com/watch?v=6RJzdfdEZjU>) Parody music video featuring “Team Midge”, the 2012 UW-Madison field crew at the Mývatn Research Station. **Finalist** in the 2012 YouTube Your Entomology Contest of the Entomological Society of America (~5,800 views).

“Curiosity”, (<http://www.youtube.com/watch?v=PBCi-UJDb9E>) US National Science Foundation’s “Creating the Future” video **contest finalist** (~850 views).

Wisconsin Ecology Graduate Committee

### **Co-Chair 2011-2012**

Organized and managed activities of graduate students involved with campus-wide ecology group, including an undergraduate job fair, research symposium, social events, and merchandise.

“Ecology of Midge Lakes in Iceland” **60min talk to public** audience as part of the Discovery! Thursdays@Madison Public Libraries series. 6 September 2012  
Zoology Department Booth: 2012 Kappa Alpha Psi Career Fair. 14 April 2012

“Expeditionary Science in Iceland”; **30min talk to public** audience as part of the 2012 UW-Madison Science Expeditions. 14 April 2012.

"The Effect of Aquatic Insects on the Terrestrial Ecosystems Close to One Particularly Amazing Lake in Northeast Iceland"; PLATO **60min talk** to a group of 35 senior citizens interested in the vanguard of science. Space Place, Madison, WI, 7 March 2012

“Where will you be this summer? Tips for finding summer science jobs and getting into graduate school.” **Jamin** and Austin **Dreyer**. Hope College, Holland, MI, 27 October 2011

2011 Náttúruvannsóknastöðin við Mývatn [Opið hús](#) (Mývatn Research Station Open House). Organized/promoted a research **open house** attended by ~50 local Icelanders interested in our research. 16 June 2011

### **Non-Peer Reviewed/Popular Press**

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Hoekman, David, [Jamin Dreyer](#), Randall D. Jackson, Philip A. Townsend, Claudio Gratton. 2012. “Midge Additions Increase Arthropod Densities” (Photo Gallery). **Bulletin of the Ecological Society of America** **93:64-67**.

“Santorum’s stance on global warming ignores “real science”.” [Jamin Dreyer](#), Austin Dreyer, David Gonthier, John Rodstrom. Grand Rapids Press, Grand Rapids, MI, 28 Feb. 2012. **Holland Sentinel**, Holland, MI, 29 Feb. 2012.

*Updated 22 June 2016*