

Bill D. Wills

Department of Biological Sciences
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EDUCATION

- Ph.D. in Biology**, University of Illinois Urbana-Champaign 2013
Dissertation: “The Implications of Ecology on Body Size Distributions in Social Insects”
Advisor: Andrew V. Suarez
- B.S. in Evolution, Ecology, and Biodiversity**, University of California, Davis 2006
University Regents Scholar, High Honors

ACADEMIC APPOINTMENTS

- Assistant Research Professor** August 2018 - Present
Department of Biological Sciences
Auburn University
- Assistant Professor** August 2017 – July 2018
Department of Biology
DePauw University
- Instructor of Record** January 2016 - May 2016
Lyman Briggs College – Michigan State University
- Postdoctoral Research Associate** October 2014 - August 2017
Michigan State University
Supervisor: Douglas A. Landis
- Postdoctoral Research Associate** December 2013 - September 2014
University of Illinois Urbana-Champaign
Supervisor: Andrew V. Suarez

PUBLICATIONS

11. Odom S, Boso H, Bowling S, Brownell S, Cotner S, Creech C, Drake AG, Eddy S, Fagbodun S, Hebert S, James AC, Just J, St. Juliana JR, Shuster M, Thompson SK, Whittington R, **Wills BD**, Wilson AE, Zamudio KR, Zhong M, and Ballen CJ. 2021. Meta-analysis of gender performance gaps in undergraduate natural science courses. CBE-Life Sciences Education. DOI:10.1187/cbe.20-11-0260
10. Cates AM, **Wills BD**, Kim TN, Gratton C, Landis DA, and Jackson RD. 2021. No evidence of top-down control by ants found on decomposition rates in temperate grasslands. Ecosphere. 12:e03638. 10.1002/ecs2.3638
9. Helms J, Haddad N, Ijelu S, **Wills B**, and Landis D. 2020. Ant biodiversity and ecosystem services in bioenergy landscapes. Agriculture, Ecosystems, and Environment. 290: doi.org/10.1016/j.agee.2019.106780

8. **Wills BD**, Kim TN, Fox AF, Gratton C, and Landis DA. 2019. Reducing native ant abundance decreases predation rates in Midwestern grasslands. *Environmental Entomology*. 48: 1360-1368. <https://doi.org/10.1093/ee/nvz127>
7. Kim TN, Bartel S, **Wills BD**, Landis DA, and Gratton C. 2018. Disturbance differentially affects alpha and beta diversity of ants in mixed prairie-grasslands. *Ecosphere*. 10.1002/ecs2.2399
6. **Wills BD**, Powell S, Rivera MD, and Suarez AV. 2018. Correlates and consequences of worker polymorphism in ants. *Annual Reviews of Entomology*. 63: 575-598.
5. **Wills BD** and Landis DA. 2018. The role of ants in north temperate grasslands: A review. *Oecologia*. 186: 323-338.
4. Kim TN, Fox AF, **Wills BD**, Meehan TD, Landis DA, and Gratton C. 2017. Harvesting biofuel grasslands has mixed effects on natural enemy communities and no effects on biocontrol services. *Journal of Applied Ecology*. 54: 1365-2664.
3. **Wills BD**, Chong CD*, Wilder SM, Eubanks MD, Holway DA, and Suarez AV. 2015. Influence of nutrition on investment in worker number, size, and condition in a polymorphic social insect. *PLoS one*. 10: e0132440.
2. **Wills BD**, Moreau CS, Wray BD, Hoffman B, and Suarez AV. 2014. Body size variation in geographically distinct populations of the invasive ant *Pheidole megacephala* (Hymenoptera: Formicidae). *Biological Journal of the Linnean Society*. 113: 423-438.
1. Tillberg CV, Edmonds B, Freauff A, Hanisch P, Paris C, Smith CR, Tsutsui ND, **Wills BD**, Wittman SE, and Suarez AV. 2014. Foraging and nesting ecology of the giant, queen-less ant *Dinoponera australis* (Hymenoptera: Formicidae). *Biotropica*. 46: 229-237.

*undergraduate co-author

FORTHCOMING PUBLICATIONS

- Spencer VE[^], Grider A[^], Whitstine B*, and **Wills BD**. Disruption of ant-arthropod interactions by invasive ant species (*Invited Review Myrmecological News, Expected November 2022*)
- Spencer VE[^] and **Wills BD**. Ant biodiversity and response to a dominant competitor in pine-hardwood forests of central Alabama. (*In Preparation for Insect Conservation and Diversity*)

*undergraduate co-author
[^]graduate student co-author

RESEARCH GRANTS AND FUNDING

Current:

- Alabama Agricultural Experimental Station – 2021-2023
 Agriculture Research Enhancement and SEED Funding Program (\$50,000)
 “The role of perennial hayfields in supporting beneficial arthropod communities and their services”

Previous:

- Alabama Agriculture Experimental Station – Agriculture Research Enhancement 2020-2021
 Equipment Funding Grant (\$20,550)
 “Disentangling diet composition of omnivorous arthropods in forage crops using stable isotopes”
- COSAM – Faculty Travel Award, *Auburn University* (\$750) 2019

- AgBioResearch – Generating Research to meet Economic and Environmental Needs, *Michigan State University* (Co-Author, \$30,000) 2016
- International Union for the Study of Social Insects – North American Section Travel Award, *IUSSI* (\$1,500) 2014
- Summer Research Grant, *University of Illinois Urbana-Champaign (UIUC) Dept. of Animal Biology* (\$1,000) 2008, 2011, & 2012
- Edwin R. Banks Memorial Award, *UIUC, Dept. of Animal Biology* (\$500) 2009 & 2012
- Tinker Fellowship, *UIUC, School of Latin American Studies* (\$1,450) 2009 & 2011
- Dissertation Travel Grant Fall, *UIUC, Graduate College* (\$3,125) 2011
- Clark Research Award, *UIUC, School of Integrative Biology* (\$1,250) 2009
- Sigma Xi Grants-in-Aid of Research Program Grant, *Sigma Xi* (\$400) 2009
- Phillip Smith Memorial Fund, *UIUC Dept. Natural Resources and Environmental Sciences* (\$750) 2009
- Organization for Tropical Studies Grant, *Universidad de Costa Rica* (\$1,500) 2008

FELLOWSHIPS AND AWARDS

- Faculty Travel Grant Awardee, College of Science and Mathematics, *Auburn University* 2019
- Graduated with High Honors, *University of California Davis (UC Davis)* 2006
- Departmental Citation for Outstanding Academic and Research Achievement, *UC Davis* 2006
- Recipient of Regents Scholarship, *UC Davis* (\$15,000) 2004-2006

OTHER FUNDING

Advisee Grants and Fellowships:

Amelia Grider – Auburn University

- Audubon Society – Walter Coxe Research Grant (\$1,500) 2022

Victoria E. Spencer – Auburn University

- Sigma Xi Grants in Aid of Research (\$1,000) 2021
- Systematics, Evolution, and Biodiversity Travel Award – Entomological Society of America (\$900) 2021
- Walter F. Coxe Alabama Audubon Research Grant (\$1,500) 2020

Joshua Semmes – Auburn University

- Undergraduate Research Fellowship (\$4,600) 2020
- Folkerts Memorial Research Award (\$450)

Other Contributions to Awards/Funding:

- National Science Foundation Collaborative Approaches among Scientists and Engineers Research Experience for Undergraduate Researchers (*Senior Personnel*) 2020-Present

TEACHING EXPERIENCE

Auburn University – Department of Biological Sciences

- Biology (BIOL) Community Ecology (5150/6150) *scheduled for Spring 2023*
- BIOL 1030 Organismal Biology Fall 2018, Spring 2019, Fall 2020, Fall 2021, Fall 2022
- BIOL 3060 Ecology Spring 2020, Spring 2021

DePauw University – Department of Biology

- Biology (BIO) 102 Evolution, Organisms, and Ecology Spring 2018
- BIO 346 Plant-Animal Interactions Spring 2018
- BIO 290 Insect Ecology Fall 2017
- BIO 342 Ecology Fall 2017

Michigan State University (MSU) – Lyman Briggs College

Lyman Briggs 144 Organismal Biology, Co-Instructor	Spring 2016
University of Illinois Urbana-Champaign (UIUC) – School of Integrative Biology	
Integrative Biology (IB) 203 Ecology, Teaching Assistant	Fall 2009, Fall 2010*, Fall 2013*
IB 105 Environmental Biology, Teaching Assistant	Fall 2011, Spring 2012*
IB 496 Foundations in Ecology, Course Creator/Coordinator	Spring 2012
IB 202 Anatomy and Physiology, Teaching Assistant	Spring 2011*
IB 150 Organismal and Evolutionary Biology, Teaching Assistant	Fall 2007, Spring 2009*
IB 429 Animal Behavior, Teaching Assistant	Fall 2009
Guest Lecturer:	
ENT 848 Biological Control, <i>MSU</i>	Spring 2017
LB 144 Organismal Biology <i>MSU</i>	Fall 2016
IB 105 Environmental Biology, <i>UIUC</i>	Spring 2012
*Listed: Teacher Ranked as Excellent by Their Students	

MENTORING

Current:

Ph.D. Graduate Students

- **Taylor Papstein-Novak** August 2018-Present
(Co-Advised with Dr. Laurie Stevison, Auburn University)
“Evolution, stress, and how they interact”

Master’s Graduate Students

- **Amelia Grider** (Auburn University) Fall 2020-Present
“The potential for hayfields to retain insect and bird diversity found in perennial grasslands”

Former Graduate Students

- **Victoria E. Spencer** (M.S. Biology, Auburn University) Fall 2019-August 2022
“Diet shifts of native ants in response to dominant competitor *S. invicta*”
Science Instructor Henderson Collegiate, Henderson, NC

Undergraduate Independent Research Projects

- **Joshua Semmes** (Auburn University) Fall 2018-May 2020
“Morphological Variation of Ants in Alabama”
- **Nadia Fields** (Claflin University) Summer 2019
Collaborative Approaches among Scientists and Engineers REU
COSAM Office of Inclusion, Equity and Diversity
- **Corrine Fischer** (Binghamton University) Summer 2017
Summer Undergraduate Research Program Great Lakes Bioenergy Research Center
- **Newton Hood**, (UIUC) Co-author on manuscript in preparation 2012-2014
M.S. in Biological Science, California State Fullerton University 2019
Currently Ph.D. University of California, Irvine
- **Cody Chong** (UIUC) Co-author on manuscript 2010-2012
- **Amanda Robinson** (UIUC) 2009-2010
Graduated with Distinction
Awarded: Harriet Long Research Award for Outstanding Research
M.S. of Medicine: Physician’s Assistant Studies, Midwestern University 2016
- **Stephanie Tham** (UIUC) 2009-2010
Awarded: Mildred Award for Outstanding Achievement
M.S. in Human Resources, UIUC

Current Undergraduate Assistants (Auburn University)

Georgia Thompson
Molly Randolph
Katie Bolen
Madeleine Cargile
Riley Klemm

Former Undergraduate Assistants (minimum two semesters):

Adam Skrekut
Akins, Sam (M.S. in Statistics, University of Chicago 2014)
Andy Wszalek
Catherine Choi
Chase Robinson
Ella Brasher
Ellie Phillips (M.S. in Biology Grand Valley State University)
Erin Forster
Henry Zheng (Currently a Ph.D. student in Entomology, University of Georgia)
Jenifer Ferchau
Jessica Kalin (Currently a Ph.D. student in Entomology, University of Idaho)
Kristen. Wong (D.V.M. Ross University School of Veterinary Medicine 2019)
Lindsey Hawkins
Lisa Hannah (M.S. in Biology, Wayne State, Currently Ph.D. Student at McGill University)
Mallory Hinz
Margaret Duffy (M.Ed. in Student Affairs in Higher Education, Marquette University 2019)
Marisa Tucker (Currently a M.S. student in Higher Education, Eastern Michigan University)
Paige Welborn
Samantha Hines
Tyler DeAnda
Will Lazenby
Zachary Budde
Zachary Wolfe (Currently a Ph.D. student in Entomology, Purdue University)

PRESENTATIONS

20. **Wills, BD**. The ecology of ants in a changing landscape. Department of Biology. University Arkansas Little Rock. Invited Speaker. Little Rock, AK. August 8, 2022.
19. **Wills, BD** and Landis DA. The effects of grassland reintegration on ant communities and predation services. Entomological Society of America. Denver, CO. October 2021.
18. Spencer, VE and **Wills BD**. Ant biodiversity in pine-hardwood forests. Entomological Society of America Denver, CO. October 2021.
17. **Wills, BD**, Fox A, Kim, TN, Gratton C, and Landis DA. Grasslands in agriculture and their potential to support a resilient landscape. Virtual. November 16-19, 2020.
16. Spencer, VE and **Wills BD**. Describing dietary preferences of pine-hardwood forest ant species in Alabama. Entomological Society of America Virtual. November 16-19, 2020.

15. **Wills, BD** and Landis DA. The effects of grassland reintegration on ant community structure and pest control services. Entomological Society of America. St. Louis, MO. November 17-20, 2019.
14. **Wills, BD**. The ecology of ants in a changing landscape. Department of Entomology and Plant Pathology Seminar. Auburn, AL. November 4, 2019.
13. **Wills, BD**. The response of ants to ecological disturbance. Department of Biological Sciences Seminar Series. Auburn, AL September 5, 2019.
12. **Wills, BD**, Fox A, Kim, TN, Gratton C, and Landis DA. Ant suppression reduced biological control potential in grasslands. Entomological Society of America. Denver, CO. November 5-8, 2017.
11. **Wills, BD**. The response and implications of ants to ecological disturbance. Earlham College (*Liberal Arts College*) Invited speaker. Richmond, IN. October 26, 2017.
10. **Wills, BD** and Landis DA. Ants in restored grasslands. Stewardship Network Conference. East Lansing, MI. January 15, 2016.
9. **Wills, BD**. The role of ants in temperate managed grasslands. Great Lakes Bioenergy Research Center Symposium. South Bend, IN. May 19, 2015.
8. **Wills, BD**, Wilder, S, M. Eubanks and Suarez, A. Nutrition and colony investment in *Solenopsis invicta* workers. International Union for the Study of Social Insects, International Congress. Cairns, Australia. July 14, 2014.
7. **Wills, BD**. The causes and consequences in body size variation in ants. Saint Mary's University (*Liberal Arts College*) Invited Speaker. Winona, MN. March 13, 2014.
6. **Wills, BD**. The influence of ecology on body size variation in ants. University of Illinois, Program in Ecology, Evolution and Conservation Biology Seminar. Urbana, IL. September 25, 2013.
5. **Wills, BD** and Suarez, A. Testing Lanchester's laws with a continuously polymorphic ant species. Entomological Society of America. Austin, TX. November 10-13, 2013.
4. **Wills, BD**, Wilder, S, Eubanks, M, and Suarez, A. The role nutrition on worker demography in an invasive social insect: *Solenopsis invicta*. Entomological Society of America. Knoxville, TN. November 11-14, 2012.
3. **Wills, BD**. Considerations and preparation for graduate school: Where to start and how to move forward. School of Integrative Biology Career Development Series. Urbana, IL. October 11, 2012
2. **Wills, BD** and Suarez, A. Ecological influences on body size distribution in ants. International Union for the Study of Social Insects-North American Branch Meeting. Greensboro, NC. October 5-7, 2012.
1. **Wills, BD** and Suarez, A. Geographical variation in body size of the dimorphic invasive species: *Pheidole megacephala*. Entomological Society of America. San Diego, CA. December 12-15, 2011.

SERVICE

Journal Reviewer (20 different journals)

Agriculture, Ecosystems, and Environment (2022), Arthropod-Plant Interactions (2019); Behavioral Ecology and Sociobiology (2022, 2020); Biodiversity and Conservation (2020); Biological Control (2017, 2020); Biological Invasions (2012); Bulletin of Entomological Research (2019); Ecology (2022) Ecological Entomology (2018, 2015); Environmental Entomology (2019, 2018); Functional Ecology

(2022); *Insectes Sociaux* (2022, 2021, 2019, 2018, 2016); *Journal of Ecology* (2021); *Myrmecological News* (2019); *Nature* (2018); *Naturwissenschaften* (2021); *Oecologia* (2018); *Scientific Reports* (2017); *Trends in Evolution and Ecology* (2020); *Urban Forestry and Urban Greening* (2020)

Grant Reviewer, National Science Foundation (NSF) 2019, 2020, 2021

Committee Member:

Department of Biological Sciences Seminar Selection Committee	2022-Present
Science Policy Committee Entomological Society of America	2020-Present
Outreach and Activities Subcommittee – Diversity, Equity and Inclusion Committee Dept. Biological Sciences	2020-Present
College of Science and Math (COSAM) – Teaching Awards Honors Committee	2019-2022
State of Alabama Career and Technical Education Textbook Committee	2020-2021
COSAM Scientific Assessment Review	2019-2021

Board Member, Provost and Graduate College Advisory Board, *UIUC* 2012-2013

President, Graduates in Ecology and Evolutionary Biology (GEEB), *UIUC* 2010-2012

Workshop Coordinator GEEB, *UIUC* 2009-2010

Ecolunch Coordinator GEEB, *UIUC* 2008-2009

Member

International Union for the Study of Social Insects	2010-Present
Entomological Society of America	2009-Present

PROFESSIONAL DEVELOPMENT

Citizens Academy, City of Auburn 2022

Summer Course (Re)Design, Auburn University – Biggio Center 2019

New Faculty Scholars Program, Auburn University – Biggio Center 2018-2019

Teaching Certificates:

Pathways to Scientific Teaching (Instructor: Diane Ebert-May), <i>MSU</i>	2015
Teacher Scholar Certificate, <i>UIUC</i>	2012
Graduate Student Certificate, <i>UIUC</i>	2011

ADDITIONAL TRAINING

Ant Course – California Academy of Sciences 2009
Portal, Arizona

Organization for Tropical Studies 2007
Tropical Biology: An Ecological Approach

OTHER PROFESSIONAL EXPERIENCE

Laboratory Assistant 2007
West Valley Mosquito and Vector Control, Ontario, CA

Entomology Intern 2006
USGS-BRD, Volcanoes National Park, HI

Endangered Species Intern 2005-2006
Fish and Wildlife Service, Sacramento, CA

Wildlife Biology Intern 2005

Santa Monica National Recreational Area, Thousand Oaks, CA