

Ian Kaplan

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Education

PhD (Entomology), 2007, University of Maryland

Advisor: Dr. Robert F. Denno

Dissertation title: *"Inducible plant responses linking above- and below-ground herbivory: ecological significance and underlying mechanisms"*

MS (Entomology), 2003, Auburn University

Advisor: Dr. Micky D. Eubanks

Thesis title: *"Consequences of a fire ant-aphid mutualism for biological control and arthropod community dynamics in cotton"*

BS (Biology), 2000, Davidson College

Academic Appointments

2018 – present Professor, Department of Entomology, Purdue University
2014 – 2018 Associate Professor, Department of Entomology, Purdue University
2016 Visiting Scientist, Department of Terrestrial Ecology, Netherlands Institute of Ecology
2009 – 2014 Assistant Professor, Department of Entomology, Purdue University
2007 – 2009 Postdoctoral Associate, Department of Entomology, Cornell University
Advisor: Dr. Jennifer S. Thaler

Awards & Honors

2019 Purdue Agricultural Research Award
2017 Major Scientific Equipment Award, Purdue Office of the Provost (\$90,000)
2017 PRF (Purdue Research Foundation) International Travel Grant (\$1,000)
2016 Visiting Professor Fellowship, Royal Netherlands Academy of Arts & Sciences (KNAW; 23,500 Euros)
2016 NWO Visitors Travel Grant, Netherlands Organization for Scientific Research (NWO; 8,500 Euros)
2016 Visiting Scientist Grant, Wageningen University, Graduate School for Production Ecology & Resource Conservation (PERC; 5,200 Euros)
2015 Purdue University Faculty Scholar (\$50,000)
2013 IOBC (International Organization for Biological Control) Early Career Outstanding Scientist Award
2012 PECASE (Presidential Early Career Award for Scientists & Engineers) recipient
***Nominated by USDA and received from President Obama at a White House ceremony*
2003 H.G. Good & F.S. Arant Memorial Award, Outstanding M.S. Graduate Student in the Department of Entomology & Plant Pathology, Auburn University

Peer-Reviewed Publications

<https://scholar.google.com/citations?user=-7kr4soAAAAJ&hl=en>

Invited Departmental Seminars

2019 University of Kentucky (Dept. of Entomology), Lexington, KY
2018 Wright State University (Dept. of Biological Sciences), Dayton, OH
2018 University of Wisconsin (Dept. of Entomology), Madison, WI
2018 Colorado State University (Dept. of Bioag. Sci. & Pest Manag.), Fort Collins, CO
2018 Clemson University (Dept. of Plant & Environmental Sciences), Clemson, SC
2017 Western Michigan University (Dept. of Biology), Kalamazoo, MI
2016 Purdue University, Calumet (Dept. of Biological Sciences), Calumet, IN
2016 Wageningen University (Ecology & Evolution), Wageningen, Netherlands
2016 University of Neuchâtel (Institute of Biology), Neuchâtel, Switzerland
2016 Netherlands Institute of Ecology (NIOO), Wageningen, Netherlands
2016 Wageningen University (Dept. of Entomology), Wageningen, Netherlands
2016 Max Planck Institute for Chemical Ecology, Jena, Germany
2015 Michigan State University (Dept. of Entomology), East Lansing, MI
2015 University of Florida (Dept. of Entomology), Gainesville, FL
2014 University of Illinois (Dept. of Entomology), Urbana-Champaign, IL
2014 Washington State University (Dept. of Entomology), Pullman, WA
2013 Purdue University (Dept. of Horticulture), West Lafayette, IN
2013 Texas A&M University (Dept. of Entomology), College Station, TX
2013 Iowa State University (Dept. of Entomology), Ames, IA
2012 Virginia Commonwealth University (Dept. of Biology), Richmond, VA
2012 Rice University (Dept. of Ecology & Evolutionary Biology), Houston, TX
2012 South Dakota State University (Dept. of Plant Sciences), Brookings, SD
2012 University of Rhode Island (Dept. of Biological Sciences), Kingston, RI
2011 University of Denver (Dept. of Biological Sciences), Denver, CO
2011 North Carolina State University (Dept. of Entomology), Raleigh, NC
2011 University of Wisconsin (Dept. of Entomology), Madison, WI
2010 Texas A&M University (Dept. of Entomology), College Station, TX
2010 Purdue University, Calumet (Dept. of Biological Sciences), Calumet, IN
2009 Purdue University (Dept. of Biological Sciences), West Lafayette, IN
2009 Michigan State University (Dept. of Entomology), East Lansing, MI
2009 Purdue University (Dept. of Entomology), West Lafayette, IN
2009 University of Virginia (Dept. of Environmental Sciences), Charlottesville, VA
2009 Blandy Experimental Farm (UVA), Boyce, VA
2009 Tulane University (Dept. of Ecology & Evolut. Biology), New Orleans, LA
2008 Canisius College (Dept. of Biology), Buffalo, NY
2008 University of Missouri (Division of Plant Sciences), Columbia, MO
2008 University of Georgia (Dept. of Entomology), Athens, GA
2008 Cornell University (Dept. of Ecology & Evolutionary Biology), Ithaca, NY
2007 University of Maryland (Dept. of Entomology), College Park, MD
2007 Rutgers University (Dept. of Entomology), New Brunswick, NJ
2003 Auburn University (Dept. of Entomology & Plant Pathology), Auburn, AL

Current Graduate Student Advisees

Wadih Ghanem, PhD, 2017-present

Thesis title: *Using plant-soil feedback to combat yield and quality reduction in high tunnel tomatoes*

Jacob Pecenka, PhD, 2017-present

Thesis title: *Integrating pest and pollinator management into adjacent Midwest agroecosystems*

Christie Shee, PhD, 2017-present

Thesis title: *Using host-plant volatiles and aggregation pheromone in organic control of striped cucumber beetles*

Paola Olaya, PhD, 2013-present

Thesis title: *Interactive effects of pesticides and environmental stressors on the monarch butterfly, *Danaus plexippus* L.*

Past Graduate Student Advisees

John Ternest, MS, 2017-2019

Thesis title: *Navigating the trade-off between pest control and pollinator conservation in watermelon*

Current position: PhD student, Department of Entomology & Nematology, University of Florida (advisor: Rachel Mallinger)

Michael Garvey, PhD, 2012-2018

Thesis title: *Food quality and stress mediated resistance to parasitoids in *Manduca sexta* (Lepidoptera: Sphingidae)*

Current position: Postdoctoral Scientist, Department of Biological Sciences, Louisiana State University (advisor: Bret Elderd)

Ulianova Vidal Gómez, PhD, 2011-2017

Thesis title: *Associative learning of *Podisus maculiventris* (Hemiptera: Pentatomidae) to herbivore-induced plant volatiles*

Current position: Principal Researcher, Fraunhofer-Chile Research, Salud Apícola 2020

Carmen Blubaugh, PhD, 2010-2015

Thesis title: *Undercover predators: Vegetation mediates foraging, trophic cascades, and biological control by omnivorous weed seed predators*

Current position: Assistant Professor of Agroecology, Department of Plant & Environmental Sciences, Clemson University

Gina Angelella, PhD, 2010-2015

Thesis title: *Tracking plant virus infections through multiple dimensions: a search for sources of nonpersistent virus vectors and reservoirs at local and regional scales*

Current position: Postdoctoral Scientist, Department of Horticulture, Virginia Tech University (advisor: Megan O'Rourke)

Elizabeth Rowen, MS, 2012-2015

Thesis title: *Plant communication causes animal attraction? Testing potential mechanisms underlying natural enemy orientation to synthetic lures*

Current position: PhD student, Department of Entomology, Penn State University (advisor: John Tooker)

Jessica Kelly, MS, 2011-2013

Thesis title: *Revitalizing augmentation biocontrol: employing immunomarking techniques and behavior-modifying semiochemicals to track and improve efficiency*

Joseph Braasch, MS, 2010-2012

Thesis title: *Insect responses to synthetic herbivore-induced plant volatiles in an ecological framework: evidence for context-dependent attraction based on varying odor blends, crop systems, and spatial scales*

Current position: PhD student, Department of Ecology & Evolutionary Biology, University of Arizona (advisor: Katrina Dlugosch)

Graduate Student Committees

Thorsten Hansen	Ph.D, Entomology, 2018-present
Marguerite Bolt	M.S., Entomology, 2017-2019
Ivan Grijalva	M.S., Entomology, 2017-present
Matthew Ethington	Ph.D, Entomology, 2017-present
Theresa Andrew	Ph.D, Entomology, 2017-2018
Sara Stack	M.S., Entomology, 2016-2018
Alexandra Duffy	M.S., Entomology, 2014-2016
Adam Alford	Ph.D, Entomology, 2014-2018
Bridget Blood	M.S., Entomology, 2014-2016
Madeline Spigler	Ph.D, Entomology, 2013-2014
Luis Ernesto Beltran	Ph.D, Biology, 2013-2017
Matthew Paschen	Ph.D, Entomology, 2013-2014
Veronica Campos Medina	Ph.D, Entomology, 2013-2017
Asya Robertshaw	Ph.D, Biology, 2013-2014
Ahmad Shah Mohammadi	Ph.D, Entomology, 2013-2014
Lindsay Kolich	M.S., Entomology, 2013-2014
Ashley Kissick	Ph.D, Entomology, 2012-2016
Carlos Quesada	M.S., Entomology, 2011-2013
Julia Prado	Ph.D, Entomology, 2009-2013
Madeline Spigler	M.S., Entomology, 2010-2013
Adam Salyer	M.S., Entomology, 2009-2012
Sarah Thompson	M.S., Entomology, 2009-2012

Postdoctoral Training

Ashley Leach, 2019-present

PhD, Entomology, Cornell University (advisor: Brian Nault)

Matthew McCary, 2017-present

Dept. of Entomology, University of Wisconsin (advisor: Claudio Gratton)

- Serving as external advisor via the Professorial Advancement Initiative (PAI)

Kathryn Ingerslew, 2016-2018

PhD, Entomology, University of Missouri (advisor: Deborah Finke)

Current position: Field Research Associate, The Climate Corporation

Laura Ingwell, 2014-2019

PhD, Entomology, University of Idaho (advisor: Nilsa Bosque-Perez)

- Awarded 2 year USDA-NIFA postdoctoral fellowship to work in Kaplan Lab (\$150,000)

Fellowship proposal title: *Integrating epidemiology, vector control, and natural crop resistance to manage a devastating beetle-transmitted cucurbit pathogen*

Current position: Assistant Professor, Dept. of Entomology, Purdue University

Juli Carrillo, 2013-2016

PhD, Ecology & Evolutionary Biology, Rice University (advisor: Evan Siemann)

- Awarded 3 year NSF postdoctoral fellowship to work in Kaplan Lab (\$207,000)
Fellowship proposal title: *Ecological costs of tri-trophic plant defenses*

Current position: Assistant Professor, Dept. of Food & Land Systems, University of British Columbia

Funded Research Grants

USDA-Agriculture and Food Research Initiative (AFRI)

A community selection approach to engineering pest-resistant crop microbiomes

2019-2023, \$700,835, Co-PI

Purdue AgSEED

Back to the future IPM! Developing automated tools to monitor and manage insect pests

2017-2020, \$75,000, PI

USDA-Agriculture and Food Research Initiative (AFRI)

Optimizing plant-soil feedbacks for high intensity crop production systems

2017-2022, \$400,000, PI

USDA-Specialty Crop Research Initiative (SCRI)

Navigating the trade-off between pest management and pollinator conservation in cucurbits

2016-2021, \$3,673,611, PI

USDA-Organic Research and Extension Initiative (OREI)

Lab to farm: integrating organic cucurbit science and production in the Midwest

2016-2019, \$1,100,000, Co-PI

USDA-NIFA

Farming with phylogenetics: Can evolutionary history inform crop management?

2016-2020, \$474,632, PI

U.S. Fish and Wildlife Service

Evaluating the toxicity of agricultural pesticides on monarch butterflies

2016-2017, \$70,000, PI

Purdue AgSEED

Are modern crop management practices contributing to the long-term decline of monarch butterflies?

2016-2017, \$50,000, PI

Purdue AgSEED

Towards harmonizing ecosystem preservation and crop protection

2014-2015, \$50,000, Co-PI

Purdue AgSEED

*Towards a new strategy to mitigate pollinator shortfalls in agricultural crops: A correlative analysis of floral volatiles and pollinator attraction in wild and cultivated watermelon (*Citrullus lanatus*) varieties*

2014-2015, \$50,000, PI

USDA-North Central Regional IPM (NC-RIPM)

Establishing beneficial insects in high tunnels for vegetable pest management

2013-2016, \$98,791, PI

USDA-Agriculture and Food Research Initiative (AFRI)

Delivering on the promise of herbivore-induced plant volatiles: Manipulating phytochemical signals to enhance predation on pests

2011-2016, \$713,035, PI

USDA-North Central Regional IPM (NC-RIPM)

A multi-scale approach to forecasting plant disease epidemics by identifying vector sources and virus reservoirs

2011-2014, \$99,164, PI

USDA-Organic Research and Extension Initiative (OREI)

Economics, ecology, education: an integrated approach to ensure the success of organic vegetable growers

2010-2015, \$1,288,010, Co-PI

Purdue Mission Oriented Grant

Collateral damage from an invasive pest: Soybean aphid as an emerging constraint on Indiana specialty crop production

2010-2011, \$25,000, PI

Editorial Responsibilities

Handling Editor for *Oecologia* (2014 – present)

Associate Editor for *Journal of Applied Ecology* (2013 – present)

Section Editor for *Current Opinion in Insect Science* (**Ecology** section). 2014, Volume 2

Subject Editor (**Plant-Insect Interactions**) for the journal *Environmental Entomology*.
2013 – 2014

Subject Editor (**Population Ecology**) for the journal *Environmental Entomology*.
2009 – 2013

Journal Reviews

Reviewed manuscripts (on average, 20-30 per year) for the following journals:

Agricultural and Forest Entomology, Animal Biology, Annals of the Entomological Society of America, Arthropod-Plant Interactions, Behavioral Ecology, Biological Control, Biological Invasions, Bulletin of Entomological Research, Ecological Applications, Ecological Entomology, Ecology, Ecology Letters, Entomologia Experimentalis et Applicata, Environmental Entomology, European Journal of Entomology, Functional Ecology, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Chemical Ecology, Journal of Ecology, Journal of Economic Entomology, Naturwissenschaften, New Phytologist, Oecologia, Oikos, Pest Management Science, Plant Cell & Environment, Plant Ecology, PLoS ONE, PLoS Biology, Population Ecology, Proceedings of the National Academy of Sciences (USA), Science, Trends in Plant Science

Participation in Regional Workshops

Indiana Monarch Conservation Summit, Indiana Wildlife Federation, September 19-20, 2017; Indianapolis, Indiana

ESA P-IE Section Science Policy Field Tour: *Balancing Pest Management and Pollinator Health*, August 22-24, 2017; Jackson, MS

NC507: *Monarch Butterfly Conservation*, 2016-present

NE1401: *Focusing Chemical Ecology on Agricultural Pest Management*, 2014-present

NCERA 125: *Biological Control of Arthropods and Weeds*, 2009-present

Organized Symposia

Symposium: *Plant-Soil-Microbe Interactions for Crop and Pest Management*. International Workshop at Wageningen University, Wageningen, The Netherlands, June 2016. Co-Chairs: M. Bezemer (NIOO) and A. Pineda (NIOO)

Symposium: *Non-Lethal Effects of Predators in Arthropod Food Webs: Ecological Patterns, Behavioral Mechanisms, and Agricultural Applications*. Annual meeting of the Entomological Society of America, Portland, OR, November 2014. Co-Chair: C. Blubaugh (Purdue University)

Symposium: *Host Plant Volatiles: Identifying New Approaches for Insect Pest Management*. Annual meeting of the Entomological Society of America, Reno, NV, November 2011. Co-Chair: C. Rodriguez-Saona (Rutgers University)

Symposium: *One Man's Influence on the Field of Insect Ecology: A Tribute to Robert F. Denno*. Annual meeting of the Entomological Society of America, Reno, NV, November 2008. Co-Chairs: D.L. Finke (University of Missouri) and A.F. Huberty (USDA-APHIS).

Courses Taught

ENTM 29500/31100: Insect Ecology, Spring 2012, 2013, 2014, 2015, 2017, 2018, 2019 (3 credits)

ENTM 59200: Special Topics – *“Relationships of natural enemies and non-prey foods”*
Fall 2010, Co-instructor: Cliff Sadof (2 credits)

ENTM 59500: Advanced Insect Ecology. Spring 2012 and 2013 (3 credits)

ENTM 59500: Science Writing. Spring 2015 and 2017 (2 credits), Fall 2018 (1 credit)

ENTM 69200: Biocontrol Topics – *“Invasive species and classical biological control”*
Spring 2010; Co-instructors: Steve Yaninek and Douglas Richmond (2 credits)

Departmental Service

Chair, Social Media Committee, 2018-present

Representative to college Area Promotions & Tenure Committee, 2018-present

Development of Entomology Subdiscipline Strategy for plant-insect ecology, 2018

Pollinator Biology faculty search committee, 2017-2018

Representative to college Agenda & Policy Committee, 2015-2018

Member of graduate committee, 2014-present

Faculty staffing plan committee, 2010-2011 and 2014

Entomology greenhouse committee, 2013-present

Organizer of departmental seminar series, 2012-present

Osmun award nominating review committee, 2011-present