A N U R A G A G R A W A L

James A. Perkins Professor of Environmental Studies
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EDUCATION

Year	Degree	Institution
1999	Ph.D., Population Biology	University of California at Davis Advisor: Dr. Richard Karban
1995	Tropical Biology 95-3	Organization for Tropical Studies
1994	M.A., Conservation Biology	University of Pennsylvania
1994	B.A., Biology *Magna Cum Laude*	University of Pennsylvania

PROFESSIONAL EXPERIENCE

Year	Experience
2017-	James Perkins Professor of Environmental Studies, Cornell University
2010-	Cornell University, Professor of Ecology and Evolutionary Biology, with joint appointment in the Department of Entomology, Cornell University
2005-2010	Cornell University, Associate Professor of Ecology and Evolutionary Biology, with joint appointment in the Department of Entomology, Cornell University
2008-2010	Cornell University, Faculty Director for Environmental Programs, Atkinson Center for a Sustainable Future
2004-2005	Cornell University, Assistant Professor of Ecology and Evolutionary Biology, with joint appointment in the Department of Entomology, Cornell University
2000-2004	University of Toronto, Assistant Professor of Botany
1999-2000	University of Amsterdam, Postdoctoral Fellow in the Section of Population Biology, Advisor: Dr. Maurice W. Sabelis
1994-1999	University of California at Davis, Teaching and research assistanceships
1993-1994	University of Pennsylvania, Research assistant: Dr. Daniel Janzen

SCHOLARLY SUMMARY*: >200 peer-reviewed publications and editor of 15 journal special issues and books. >25 papers with undergraduate student coauthors and H-index = 78, cited ≈23,000 times (based on Google Scholar). Top 20 cited publications all >300 citations. Fledged 15 graduate students and postdocs (8 of which are in permanent faculty positions). ≈5 invited talks per year over the past 10 years.*

AREAS OF EXPERTISE

Environmental biology, Community and evolutionary ecology of interspecific interactions, Genotypic and environmental influences on insect communities, Phenotypic plasticity, Induced plant defense against herbivores, Ecological genetics, Evolutionary biology, Phylogenetics and comparative biology, Chemical ecology

HONORS AND AWARDS

E.O. Wilson Award, American Society of Naturalists (2019)
Silverstein-Simeone Award, International Society of Chemical Ecology (2018)
National Outdoor Book Award, Nature and Environment Category (2017)
James Perkins Professorship in Environmental Studies, Cornell University (2017)
Fellow of Ecological Society of America (2017)
Robert H. MacArthur Award, Ecological Society of America (2016)
Highly Commended (Harper Prize competition) for Martin et al. 2015, British Ecological Society
Founders' Memorial Award, Entomological Society of America (2013)
Best Paper Award, Royal Entomological Society (for Rafter et al. 2012)
Fellow, American Association for the Advancement of Science (2012)
David Starr Jordan Prize (2009)
George Mercer Award, Ecological Society of America (2006)
NSF Early Career Award (2005)
Premier's Research Excellence Award (Ontario, 2000)
Young Investigator Award, American Society of Naturalists (1999)
Merton Love Award, Outstanding doctoral thesis in ecology and evolution (UC Davis 1999)
Buell Award, Ecological Society of America (Honorable mention, 1998)
Phi Beta Kappa (elected 1994)
ARCS Scholar (1997-1999)

Honorary lectures

L. Floyd Clarke Lecture, University of Wyoming (planned, May 2020)
Wege Environmental Lecture, Meijer Gardens (planned, Sept. 2019)
Silverstein-Simeone Lecture, International Society of Chemical Ecology (2018)
Robert MacArthur Award Lecture, ESA, Portland (2017)
Alexander Entomology Lecture, University of Massachusetts (2015)
Douglas Distinguished Lecturer, Rocky Mountain Biological Laboratory (2014)
University of Montana, Distinguished speaker (2014)

G. Evelyn Hutchinson Distinguished Speaker, Yale University (2014)
Chris Reed Memorial Lecture, Dartmouth College (2013)
Jill Adams Memorial Lecture, University of Washington (2011)
Walton Memorial Lecture, University of Virginia (2009)
Dennis Chitty Lecture, University of British Columbia (2009)
Eminent Ecologist Lectures, Kellogg Biological Station (2006)
George Williams Lecture, Stony Brook University (2006)

SABBATICALS

Spring 2018, Oaxaca, Mexico
Fall 2017, University of Montana
Spring 2011, University of Arizona
Fall 2007, Michigan State University

LAB MEMBERS

Postdoctoral Associates

Dr. Peter Van Zandt, 2001-2003, Assistant Prof. at Birmingham Southern College
Dr. Kailen Mooney (Jan. 2005 - July 2007), Associate Prof. at UC Irvine
Dr. John D. Parker (Jan. 2006 - Aug. 2007), Senior Scientist at the Smithsonian ERC
Dr. Sergio Rassman (Feb. 2007 - Dec. 2010), Associate Professor at Neuchatel University
Dr. Gaylord Desurmont (August 2009 - Dec. 2010), Research Entomologist, EBCL
Dr. Jared Ali (Sept 2011 – Mar. 2013), Assistant Professor, Pennsylvania State University
Dr. Georg Petschenka (Oct 2012 - March 2015), Postdoc at University of Giessen
Dr. Karin Gustafsson (Jan. 2014 – Jan. 2015), Associate Professor, Örebro University
Dr. Tobias Zuest (April 2012-2015), Postdoc at Bern University
Dr. Patricia Jones, 2014-2017, Assistant Prof. at Bowdoin College
Dr. Tyler Coverdale, Fall 2018-

Graduate students

Katherine Holmes, E&EB, Ph.D., 2021
Jacob Elias, E&EB, MSc, 2020

Nile Kurashige (2001-2004), MSc Botany, University of Toronto. Phenotypic plasticity to light competition and herbivory in *Chenopodium album.* Plant Technician, University of Washington.

Marc Johnson (2002-2006), PhD Botany, University of Toronto. Community genetics of Evening Primrose and its insects: testing how plant genes and insect communities interact. Associate Professor, University of Toronto.

Marc Lajeunesse (2003-2008), PhD EEB, Cornell University. Host range evolution in parasites. Associate Professor, University of South Florida.

Michael Stastny, (2004-2010), PhD EEB, Cornell University. Ecological consequences of relatedness: the role of Competition and herbivory in the community structure of co-occurring Asteraceae. Staff Scientist, Canadian Forest Service (Fredericton, NB, Canada).

Susan C. Cook-Patton, (2006-2012), PhD EEB, Cornell University. Consequences of changing biodiversity for plants, insects, and ecosystems. Forest Restoration Scientist, The Nature Conservancy

Alexis C. Erwin, (2006-2013), PhD EEB, Cornell University.
Patterns and ecological consequences of aboveground and belowground herbivory. Currently Energy and Environmental Sustainability Advisor, U.S. Agency for International Development

Marjorie Weber, (2009-2014), PhD EEB, Cornell University.
The evolution of mutualistic defensive traits in plants. Currently Assistant Professor, Michigan State University

Lina Arcila-Hernandez, (2013-2019), PhD EEB, Cornell University.
Biogeographic variation in oviposition behavior in the milkweed stem weevil: Contributions to ecological specialization. Currently active learning postdoctoral fellow, Cornell University.

Research Professionals

Amy Hastings, MSc, Research Support Specialists (2008-)
Ronald White, Technician II (2017-)

Katalin Boroczky, Research Associate (2015-2017)
Eamonn Patrick, Technician II (2014-2015)
Andrew Tuccillo, Technician (2005-2006)
Andrew McDowell, Technician (2004-2005)
Lisa Plane, Technician (2001-2003)
Marc Johnson, Technician (2000-2001)

EXTERNAL FUNDING

2019	NSF IOS IEP-1907491, Insect herbivore feeding guilds and compartmentalized plant defense. ($534,000)
2017	NSF IOS EDGE-1645256, Development of genetic and genomic resources for milkweed, *Asclepias syriaca* and *Asclepias curassavica*. Co-PI with 3 others ($1,020,000)
2015	NSF DEB-1513839, Genetic transformation of common milkweed, *Asclepias syriaca*: Creating a model plant for ecological investigations ($307,000)
2013	John Templeton Foundation, Convergence and the origins of biodiversity. ($1,0355,000 split between Cornell, Univ. Arizona, and Univ. Hamburg
2011	NSF DEB-1118783, Tests of classic plant defense theory ($439,918)
2009	NSF DEB-1026110, Evolution of plant defense: A multigenerational selection experiment in the field ($264,000)
2005	NSF DEB-0822462, Milkweed-herbivore interactions: Advancing community ecology and student community outreach ($566,000)
2005	NSF DEB-0544929, Workshop: Frontiers in Ecology ($46,000)
2003	Joint award to host an international symposium on plant-insect interactions ($21,000 from NSF DEB-0330166, Connaught Committee University of Toronto, and Botany Department at the University of Toronto).
2002	NSERC equipment grant for C-N analyzer ($55,000) (with several others)
2000-2003	Canadian Foundation for Innovation grant ($478,000) (with Jennifer Thaler and David Guttman)
2000-2004	NSERC Discovery grant ($150,000)
2000-2001	Premier's Research Excellence Award, Ontario ($150,000)
2000-2002	Connaught research grants, University of Toronto ($40,000)
1997	NSF, Dissertation Improvement Grant ($10,000)
1996-1997	Organization for Tropical Studies Fellowship ($2,500)
1996	Phi Beta Kappa Graduate Research Grant ($3,000)
1995-1996	Jastro Shields Research Grant from UC Davis ($2,800)
1995-1997	Center for Population Biology Research Grant from UC Davis ($3,400)
1994	Institute Environmental Studies, University of Pennsylvania ($2,000)
1993	NSF - REU at Mountain Lake Biological Station ($2,500)
1989	NIH Undergraduate Research scholarship ($1,500)

TEACHING AND ADVISING

BIOEE 1610 Ecology and the Environment (Fall 2013, 2015, Spring 2016, Fall 2018, 2019)
BIOEE 3611 Field Ecology (Fall 2006, 2010, 2012, 2014, 2016)
BIO G 2990 / BIO G 4990 Independent Undergraduate Research in Biology
BIOEE 3690 Chemical Ecology (every spring since 2007)
BIOEE 4580 Community Ecology (Spring 2006, 2008, 2010)
BIOEE 7590 Special Topics in Evolution and Ecology: Plant-Insect Interactions Seminar (every semester since Fall 2004)
BIOEE 7590 Special Topics in Evolution and Ecology: Professional Development in E&EB (Fall 2006, Fall 2011, Spring 2014, Spring 2017)
BIOEE 7600 Special Topics in Evolution and Ecology: Phylogenetics in Ecology (Fall 2005, spring 2009)
BIOEE 760 Special Topics in Evolution and Ecology: Biodiversity (Spring 2010)
BIOEE 7600 Special Topics in Evolution and Ecology: Eco-Evo Feedbacks (Fall 2011)

Fashionable Concepts in Ecology, University of Toronto (BOT1700, Spring 2001)
Evolutionary Ecology, University of Toronto (BOT1700, Spring 2003)
Advanced Ecology, University of Toronto (JZB1014H, Spring 2004)
Ecology and Evolution of Interspecific Mutualisms, Univ. of California at Davis, Fall 1998
Community Ecology, University of Toronto BIO321 (Fall 2001, 2002, 2003)
Introductory Biology, University of Toronto (Winter 2002, 2003, 2004) for 2200 students
Plant-Animal Interactions, University of Toronto (Winter 2003, 2004)
Biodiversity and Ecology in Indochina, Univ. Toronto (BIO308H1F, 2004, 17 days in Vietnam)

Current undergraduate Students Mentored in Independent Research

Elise He

Current Undergraduate Advisees

8 students in *Environment and Sustainability* and 6 students in *Biology*

Other Relevant Teaching and Advising

Participating mentor, Cornell teaching Partnership Program (2016-)
Participating instructor, Evolutionary Biology Workshop (June 23-30, 2012, Switzerland)
Participating instructor in the Organization for Tropical Studies Field Course in Plant-Animal Interactions in the Tropics (January 2010, La Selva Biological Station, Costa Rica).
Participating instructor in an Insect Chemical Ecology course (ICE10) for 40 graduate students (June 2010, Pennsylvania State University).

Undergraduate project students

(*indicates students were co-authors on published papers – 19)
(†indicates students completed a senior thesis at Cornell - 7)

Margaret Sherriffs* (University of California – Davis, NSF Young Scholars Program, 1996)
Chris Kobayashi* (University of California – Davis, NSF Young Scholars Program, 1997)
Corrine Klein* (University of California – Davis, NSF Young Scholars Program, 1998)
Karin Rotem* (University of Toronto, NSERC Fellowship, 2001)
Natalie Griffiths (University of Toronto, Northrop-Frye Scholar, 2002)
Rowan Barrett* (University of Guelph, NSERC Fellowship, 2002)
William Godsoe* (University of Guelph, NSERC Fellowship, 2003)
Rosanna McGuire* (University of Toronto, NSERC Fellowship, 2004)
Patricia L. Jones* (Cornell University, NSF-REU Fellowship, 2005)
R. Alex Smith*† (Cornell University Presidential Scholar, 2006)
Kelly Goodsell (Cornell University, NSF-REU Fellowship, 2006)
Jessica Goldstein* (Cornell University, NSF-REU Fellowship, 2007)
Margaret Daisy Johnson*† (Cornell University, NSF-REU Fellowship, 2008, 2010)
Ellen Woods*† (Cornell University, NSF-REU Fellowship, 2008, 2009)
Trey Ramsey* (Cornell University, NSF-REU Fellowship, 2009)
Emily Kearney*† (Cornell University, NSF-REU Fellowship, 2010, 2011)
Jessica Tingle*† (Cornell University, Howard Hughes Fellowship, 2010, 2011)
Andrea Alfano (Cornell University, NSF-REU Fellowship, 2012)
Eamonn Patrick*† (Cornell University, NSF-REU Fellowship, 2012, 2013)
Daniel Fines* (Cornell University, NSF-REU Fellowship, 2014)
Sophie Mao*† (Cornell University, NSF-REU Fellowship, 2014)
Aliya Ali* (Cornell University, independent study, 2015, 2016, 2017)
Isabella Sobalvarro (Cornell University, 2015-summer 2016)
Zach Stoessel (Cornell University, 2016-summer 2017)
Jackson Seminara (Cornell University, summer 2017)
Gunnar Glover (Cornell University, summer 2017)
Elise He (Cornell University, 2019 -)

Graduate student special committee member

Geoffrey Broadhead, Ph.D. Neurobiology and Behavior 2019
Collin Edwards, E&EB, Ph.D., 2019
Aubrie James, E&EB, Ph.D., 2019
Ellie Goud, E&EB, Ph.D., 2019
Zoe Getman-Pickering, Entomology, Ph.D., 2020
Katherine Eisen, E&EB, Ph.D., 2020
Gregor Siegmund, E&EB, Ph.D., 2020
Lauren Brzozowski, Horticulture, Ph.D., 2020
Alexander Chautá, E&EB, Ph.D., 2020
Jennifer Uehling, E&EB, Ph.D., 2021
Arielle Johnson, Plant Biology, Ph.D., 2022

(past)

David Clark (2000-2002) MSc, Botany, University of Toronto
Danush Viswanathan (2000-2005) PhD, Botany, University of Toronto
Maria Clara Castellanos (2001-2003) PhD, Zoology, University of Toronto
Eric Dunbar (2001-2003) MSc, Botany, University of Toronto
Michelle Greenshields (2001-2003) MSc, Forestry, University of Toronto
Pamela O (2001-2003) MSc, Botany, University of Toronto at Missisauga
Chad Brassil (2001-2004) PhD, Zoology, University of Toronto
Celine Muis (2001-2004) MSc, Botany, University of Toronto
Charles J. Donlan, III, (2008) PhD, Ecology and Evolutionary Biology, Cornell
Andrea Davelos (2008) PhD, Natural Resources, Cornell
Jesse L. Bellemare (2009) PhD, E&EB, Cornell
Gaylord Desurmont (2009) PhD, Entomology, Cornell
Jesse L. Bellemare (2009) PhD, E&EB, Cornell
Daniel L. Rabosky (2009) PhD, E&EB, Cornell
Megan O'Rourke (2009) PhD, E&EB, Cornell
Amy Parachnowitsch (2010) E&EB, Cornell
Sophie Cardinal (2010) Entomology, Cornell
Charlotte Jander (2011) NB&B, Cornell
Scott McArt (2011) Entomology, Ph.D., Cornell
Sarah J. Reilly (2012), E&EB, Ph.D., Cornell
Joe Simonis (2012) E&EB, Ph.D., Cornell
Monica Kersch-Becker (2014), E&EB, Ph.D., Cornell
Annise Dobson (2014), DNR, MSc, Cornell
Jake Blessing, DNR, MSc., 2015
Laura J. Martin, DNR, Ph.D., 2015
Ben Freeman, E&EB, Ph.D., 2016
Annise Dobson, DNR, Ph.D., 2018
Renee Petipas, E&EB, Ph.D., 2018
Kristen Brochu, Entomology, Ph.D. 2018
Jacob Berv, E&EB, Ph.D., 2019

Sabbatical visitors

Laurel Fox (University of California, Santa Cruz), Fall 2006
Robin Bingham (Western State College of Colorado), 2008-2009
Luis Santamaría (Mediterranean Institute for Advanced Studies), 2012
Chad Brasil (University of Nebraska), Spring 2015
Susanne Dobler (University of Hamburg), Spring 2015

PROFESSIONAL SERVICE

Editorial boards

PLoS Biology, Editorial board (2006-)
Quarterly Review of Biology, Associate Editor (2007-)
PeerJ, Academic Editor (2012-2015)
American Naturalist, Associate Editor (2010-2013)
Ecological Entomology, Associate Editor (2007-2010)
Ecological Entomology, Editorial board (2004-2007)
Functional Ecology, Editorial board (2005)
Ecology, Special Features editor (2001-2004)
Ecology Letters, Editorial board (2001-2003)
Trends in Ecology and Evolution, Commentary panel (2000-2002)

Society membership

American Society of Naturalists (2010-)
    Executive committee (2015-2017)
    Vice president (2016)

Ecological Society of America (1994-)
    Mercer Award Committee (2013-2015)
    MacArthur Award Committee (2017-)

Society for the Study of Evolution (1996-)
American Association for the Advancement of Science (2005-)
Sigma Xi (1996-)
International Society for Chemical Ecology (2008-)
Entomological Society of America (1996, 2012-)

Peer-reviewing

626 Ad hoc manuscripts, grants and external promotion files reviewed since 1996 (about 27 papers per year, not including those handled as an editor): American Journal of Botany (2), American Midland Naturalist (1), American Naturalist (17), Animal Migration (1), Applications in Plant Sciences (1), Annals of Botany (2), Annals of the Entomological Society of America (1), Arthropod-Plant Interactions (2), Australian Journal of Agricultural Research (1), Basic and Applied Ecology (1), Behavioral Ecology (3), Biological Conservation (1), Biological Reviews (1), Biology Letters (7), BioScience (3), Biotropica (5), Blackwell book (1), BMC Evolutionary Biology (1), Bulletin of Entomological Research (5), Canadian Journal of Botany (3), Canadian Journal of Fisheries and Aquatic Sciences (1), Canadian Journal of Forest Research (1), Chemoecology (4), Cornell Hatch Proposal (5), Current Biology (2), Czech Republic Academy of Sciences (1), Dutch SF (2), Ecography (1), Ecological Applications (1), Ecological Entomology (16), Ecological Monographs (2), Ecology (23), Ecology Letters (45), Écoscience (6), Ecosphere (1), Ecosystems (1), eLife (1), Entomologia Experimentalis et Applicata (5), Environmental Entomology (3), Evolution (23), Environmental Epigenetics (1), Evolutionary Ecology (4), Evolutionary Ecology Research (6), Experimental and Applied Acarology (5), Frontiers in Ecology and Environment (1), Functional Ecology (8), Global Change Biology (2), Global Ecology and Biogeography (2), Gordon Research Conference proposal (1), Graduate Women in Science grants (1), Heredity (2), Israel Science Foundation (1), Journal of Animal Ecology (5), Journal of Applied of Ecology (5), Journal of Chemical Ecology (25), Journal of Ecology (22), Journal of Evolutionary Biology (5), Journal of Experimental Botany (1), Journal of Insect Science (1), Journal of the Lepidopterists' Society (1), Journal of Natural History (1), Journal of Tropical Ecology (1), Journal of Tropical Forest Science (1), MacArthur Fellows Program (1), Maryland Agricultural Experiment Station Competitive Grants (1), Molecular Ecology (2), National Geographic Society Grants (2), Nature (4), Nature communications (1), Nature Ecology and Evolution (2), Nature Plants (2), NERC-England (5), New Phytologist (28), NSERC (5), NSF (48), Oecologia (31), Oikos (39), Philosophical Transactions of the Royal Society of London, special issue proposal (1), Physiological Entomology (1), Phytochemistry (1), Phytochemistry Reviews (1), Plant Biology (1), Plant Physiology (8), PloS Biology (5), PLoS One (5), PNAS (29), Princeton Monograph proposal (3), Princeton monographs (2), Proceedings of the Royal Society of London - B (13), Promotion to tenured faculty or full professor (33), Quarterly Review of Biology (3), Royal Society Fellowships (1), Science (14), Science Advances (1), Sinauer text book (1), Swiss ETH (3), Swiss National Science Foundation (3), Trends in Ecology & Evolution (4), Trends in Plant Science (2), Turku University thesis evaluation (1), UMass Hatch proposals (2), University of Chicago Book proposals (2), USDA (9), US-Israel Binational Science Foundation (1), Wallenberg Foundation Grant (2), Web Ecology (1), Western North American Naturalist (1).

COMMITTEES

University

CALS Dean Search Committee, 2019-2020
Cornell Presidential Postdoctoral Fellows Selection Committee (2018-)
University Appeals Panel (2014-)
Natural Areas Committee, Cornell Plantations (2006-)
Faculty Advisory Board, Atkinson Center for a Sustainable Future (2008-2018)
Lab of Ornithology, Administrative Board (2017)
Advisory board, University Courses (2014-2017)
Life Sciences Advisory Council (2013-2015)
Presidential Life Sciences (PLSF) committee (2012-2013)
Environmental Sciences Planning Committee (2010)
CALS Dean Search Committee, 2009-2010
Faculty Advisory Committee, Cornell Center for a Sustainable Future (2008-2010)
Joker's Hill Scientific Reserve, Scientific Oversight Committee, Univ. of Toronto (2001-2004)
Joker's Hill Scientific Reserve, Management Board, Univ. of Toronto (2002-2004)

College

NB&B Faculty search committee, (2018-2019)
CALS rebranding committee (2016-2017)
CALS Structure Task Force (2016)
Agricultural Experiment Station, Culture of Sustainability Committee (2008-2010)
Ad hoc tenure committee (2008, 2013)
Ad hoc tenure committee chair (2006)
CALS Environmental Sustainability and Development Task Force (2007-2008)
Plant Sciences Task Force (2006-2007)
Center for the Environment Faculty Advisory Committee (2005-2008)
CALS Greenhouse Faculty Advisory Committee (2005-2006)
Atmospheric Science search committee, CALS/CCSF, 2008-2009
Terrestrial Biogeochemistry search committee, CALS/CCSF, 2008-2009

Department

Chair, Faculty 3rd year review (2018)
Mentoring committee chair, Maren Vitousek (2016-)
Mentoring committee, Denis Willtett (2018-)
Graduate Admissions Committee, Field of E&EB, (2005-2007, 2011, 2013, 2018)
Mentoring committee chair, Katja Poveda (Entomology) (2014-2017)
Evolution Search Committee, co-chair (2016-2017)
Strategic Planning, Chair (2015-2016)
Awards Chair (2015-2017)
Awards committee (Entomology) (2012-2013)
Seminar Committee Chair (2008-2010)
Chair, Faculty 3rd year review (2008)
Whittaker and Book Award Committee (2006)
Cole Award Committee (2005)

Graduate Studies Committee, University of Toronto Botany Department (2002-2004)
Microbial interactions search committee, University of Toronto Botany Department (2003)
Plant Ecologist search committee, University of Toronto Botany Department (2001-2002)
EcoLunch seminar series coordinator, University of Toronto Botany Department (2000-2001)
Botany seminar series coordinator, University of Toronto Botany Department (2000-2004)
EvoLunch seminar series, University of Toronto Botany Department (2001-2004)
Growth Facilities Committee, University of Toronto Botany Department (2003-2004)

CONFERENCES/WORKSHOPS

Workshops and other service

Cornell Institute for Biology Teachers, Monarch butterfly workshop, October, 2018
Monarch Butterfly Expert Elicitation Meeting, US Fish and Wildlife Service, Minneapolis, MN, June 12-15, 2017
How to get your NSF grant funded, Cornell University Panel, Spring 2017
Cayuga Nature Center, Summer Solstice Butterfly presentation, lecture and field walk, 2014, 2015
Cornell Institute for Biology Teachers, Summer workshop, July 2010, July 2011, 2013, two hour field trip with 25 secondary school instructors
How to Succeed in Graduate School, BEB Workshop, December 2009
Cornell Club visit and presentations, Washington DC, April 2009
CALS Alumni Presentation, Making a World of Difference, April 2009
Cornell Alumni Presentation, Boston, June 2008
Cornell Institute for Biology Teachers, Return to Campus event, 5 May 2007, two hour field lecture to 40 secondary school instructors
Cornell Institute for Biology Teachers, Summer workshop, July 2007, two hours field trip with 25 secondary school instructors
University & Industry Consortium, introductory talk on integrative biology at Cornell (April 17, 2007)
Workshop on Journal Citation Impact Factors, Mann Library, April 7, 2006
Participant in National Center for Ecological Analysis and Synthesis working group: Biotic Interactions and Invasions (2004-2005)
Participant in Ecological Society of America Workshop on How to succeed in ecology: Advice from current and aspiring eminent ecologists (August 2004)

Meetings and symposia organized

Symposium: Frontiers in the study of induced plant defense against pathogens and herbivores, joint meeting of the Phytopathological and Entomological Society of America. (Las Vegas, November 1998)
Symposium: Multi-Trophic Interactions Brainstorm Symposium, an international conference on emerging areas of research (Toronto, 2004). Funded by Connaught fund, US NSF, and University of Toronto Botany.

NSF Workshop: Frontiers in Ecology (Washington DC, Jan 2006): chaired 15 person workshop to assign priority areas for NSF base-budget funding in ecology.
Workshop: Cornell Center for the Environment, Forum on Invasive species (chair and organizer), Cornell University, May 2006.
Pennsylvania State University – Cornell University joint symposium in Chemical Ecology (co-organizer), State College, PA, May 2007.
Symposium: Phylogenetic approaches to the study of plant resistance and insect host range. International Society for the Study of Chemical Ecology. (Pennsylvania State University, August 2008).
Symposium: Evolutionary Ecology of Plant Defense Against Insects: Novel Approaches to Classic Questions, Ecological Society of America (Albuquerque, NM, August 2008).
New Phytologist 7th Annual Workshop, Frontiers in the Chemical Ecology and Coevolution. (Ithaca, NY September 2013).
Symposium: Evolutionary Chemical Ecology, International Society of Chemical Ecology (Urbana, IL, July 2014).
ASN VP Symposium, ASN/SSE: Convergence, Natural History, and the big questions in biology (Austin, TX, 2016).
Symposium: Tibor Jermy's Legacy in Plant-Insect Evolution, International Society of Chemical Ecology (Budapest, Hungary, August 2018).
Oak Springs Garden Foundation – Of Milkweeds & Monarchs - Workshop (June 2019)

INVITED PRESENTATIONS

Planned:	Ladew Topiary Gardens, Monkton, MD
	Frederik Meijer Gardens, Grand Rapids, MI
	Point Pelee National Park, Ontario, Canada
	University of Texas, Austin
	University of Wyoming, L. Floyd Clarke Lecture
2019	University of Nevada, Reno
	J.N. Ding Darling National Wildlife Refuge, Sanibel Island, FL (2 talks)
	Oak Springs Garden Foundation, Upperville, VA
	Boyce Thompson Institute of Plant Sciences, Ithaca, NY
2018	Cary Institute for Ecosystem Studies, Millbrook, NY
	Cornell Botanic Gardens, Ithaca, NY
	North American Butterfly Association, Keynote talk
	Silverstein-Simeone Lecture, Int. Soc. Chemical Ecology, Budapest, Hungary
	Interdisciplinary Research Center for Regional Development, Oaxaca
	Oaxaca Lending Library, public lecture
	UNAM, Mexico City, Institute of Ecology
	UNAM, Morelia, Institute of Research in Ecosystems and Sustainability
	5th Annual WWF International Symposium on Monarch Butterfly Research and Conservation, Morelia, Mexico.

2017	Arnold Arboretum, Harvard University (two talks) Montana Natural History Center / Missoula Insectarium, Missoula, MT Ecological Society of America, Robert H. MacArthur Award lecture Houston Museum of Natural Science, Houston, TX Royal Ontario Museum, Toronto, Ontario Cornell University, Chats in the stacks Lady Bird Johnson Wildflower Center, Austin, TX California Academy of Sciences, San Francisco, CA Seattle Town Hall, Seattle, WA San Antonio Book Festival, San Antonio, TX
2016	Integrative Biology, Michigan State University Department of Natural Resources, Cornell University Fish & Wildlife Service Webinar, Conservation Series Science and Suds, Public talk in Cortland, NY
2015	University of Massachusetts, Alexander Entomology Lecture Princeton University, Department of Ecology and Evolutionary Biology Ecological Society of America, Ignite session: Advances, Frontiers, Applications, and Challenges within and across Ecological Disciplines: A Celebration of ESA's Centennial, and a Roadmap for the Next 100 Years Duke University, Program in Ecology
2014	University of Montana, distinguished speaker (2 talks) Rocky Mountain Biological Laboratory (2 talks) International Society of Chemical Ecology, Keynote talk University of Minnesota, Department of Ecology and Evolution Finger Lakes Native Plant Society Boyce Thompson Institute for Plant Sciences Yale University, Department of Ecology & Evolutionary Biology
2013	Dartmouth College, Department of Biological Sciences Founders Memorial Award Lecture, Ent Soc Annual Meeting, Austin, TX New Phytologist 7th Workshop: Chemical Ecology & Coevolution (Ithaca, NY).
2012	University of California, Davis, Department of Entomology University of Georgia, Department of Plant Biology University of South Carolina, Department of Biological Sciences University of Pittsburg, Department of Biological Sciences
2011	University of Wisconsin, Madison University of Washington, Jill Adams Memorial Lecture University of Colorado, Boulder, Department of Ecology and Evolution Stockholm-Cornell Bilateral Insect Symposium, Stockholm University

2010 David Starr Jordan Award Lecture, Cornell University
Department of Entomology, Cornell University, Geneva Campus
Indiana University, Department of Biological Sciences
Oklahoma State University, Department of Botany

2009 Entomological Society of America Symposium: Evolutionary Arms Race of Resistance in Herbivores to Novel Chemistries: Lessons from Native and Agricultural Systems (Indianapolis, IN).
Stony Brook University, Darwin's 150 anniversary of the Origin of Species
University of Michigan
University of British Columbia, Chitty Lecture
Syracuse University, Department of Biology
Mountain Lake Biological Station, Walton Lecturer
Ecological Society of America Symposium: Ecology of Plant Defense Against Insects: Novel Approaches to Classic Questions

2008 Stanford University, Department of Biological Sciences
University of California Davis, Ecology Series
University of California Irvine, Department of Ecology and Evolutionary Biology
Texas A&M, Ecology and Evolutionary Biology Program
University of Tennessee, Department of Ecology and Evolution

2007 Umeå University, Department of Ecology and Environmental Science (2 talks)
University of Kentucky, Department of Entomology
Northern Arizona University, School of Forestry
Penn State – Cornell Symposium in Chemical Ecology
Michigan State University, Ecology & Evolutionary Biology
Meet the greenhouse staff – Cornell University
Portland State University, Department of Biology

2006 Pennsylvania State University, Department of Entomology
Symposium on the ecological consequences of genetic diversity, at the Ecological Society of America annual meeting.
Kellogg Biological Station, Eminent Ecologist (2 talks over weeklong visit)
SUNY Stony Brook, GC Williams Lecture in Evolutionary Biology
Cornell CALS back to the classroom alumni lecture
UMass Amherst, Organismic and Evolutionary Biology Series
University of Rochester, Department of Biology

2005 Symposium in Honor of Erkki Haukioja, University of Turku, Finland
Geneva Experiment Station, Cornell University, Department of Entomology
Cornell University, Department of Entomology
NCCR Plant Survival International Conference, Leysin, Switzerland

2004 University of Pennsylvania, Biology Alumni Series (2 talks)
Georgia Institute of Technology, School of Biology
12th International Symposium Insect-Plant-Interactions, Berlin. Keynote speaker

Ecological Society of America, Symposium on ecological implications of phenotypic plasticity
Ontario Ecology and Ethology Colloquium, Plenary lecture
Cornell University, Biogeochemistry and biocomplexity series
University of South Carolina, Department of Biological Sciences
Gordon Research Conference: Plant-Herbivore Interactions, closing lecture

2003 Smithsonian Tropical Research Institute, BCI, Panama
University of Guelph, Department of Botany
Royal Canadian Institute, Toronto. Sunday Science Lectures
Brodie Club, Toronto. Natural history seminar series
North Dakota State University, Department of Entomology
University of Arizona, Center for Insect Science
Western Michigan State University, Biology Department

2002 Cornell University, Department of Ecology and Evolution
University of Pittsburgh, Department of Biology
University of Toronto (EcoLunch series)
Indiana University, Department of Biology

2001 University of Minnesota, Center for Community Genetics
Workshop: Plant-animal interactions in complex environments, Section for Landscape Ecology, SLU (Sweden)
Harvard University, Graduate class on plant-herbivore interactions
University of British Columbia, Centre for Biodiversity
Simon Fraser University, Department of Biology
UNAM, Institute for Ecology (Mexico)
University of Toronto (EcoLunch series)
University of Toronto at Mississauga, Department of Biology
Course in plant-animal interactions, Instituto de Ecología, A.C., Vera Cruz, Mexico. One week in the field with 2 talks.

2000 University of Leiden (Netherlands), Department of Plant Ecology
30 questions for the next century of ecology, Ecological Society of America
Wageningen University (Netherlands), Department of Entomology

1999 Workshop: Chemistry of resistance in woody plants - prospects for ecologically valid generalizations, University of Turku (Finland)
Imperial College at Silwood Park (UK)
Centre for Population Biology University of Amsterdam, Institute for Biodiversity
University of Arkansas, Department of Entomology
Keynote Symposium, Plant-Animal Interactions, XVI Int. Botanical Congress
Young Investigators Symposium, annual meeting of the Amer. Soc. of Naturalists
Merton Love Seminar in Ecology and Evolution, University of California, Davis
Vanderbilt University, Department of Biology (2 talks)
University of Chicago, Department of Ecology and Evolution (2 talks)

Duke University, Department of Botany
University of Illinois at Urbana-Champaign, School of Integrative Biology

1998 California Conference on Biological Control (Berkeley, CA)
Symposium on Induced Plant Defense, Joint annual meeting of Phytopathological and Entomological Societies of America
University of California – Santa Cruz, Department of Environmental Studies
North Carolina State University, Department of Zoology
Pennsylvania State University, Department of Biology
University of California – Berkeley, Department of ESPM
University of Toronto, Department of Botany (2 talks)

1996 Symposium on Ant-Plant Interactions at the Ecological Society of America annual meeting

REVIEW PANELS

Atkinson Center for a Sustainable Future, TNC-Collaborative proposals (2018)
Atkinson Center for a Sustainable Future, NatureNet Postdocs (2017)
Atkinson Center for a Sustainable Future, AVF Panel (2015, 2016)
NSF Population and Community Ecology panel II, April 21-23 2010

PUBLICATIONS

Books

Agrawal, A.A. 2017. Monarchs and Milkweed: A Migrating Butterfly, A Poisonous Plant, and their Remarkable Story of Coevolution. Princeton University Press. 296pp.

- *winner of the National Outdoor Book Award - Nature and Environment Category 2017*
- *One of Forbes's top 10 biology books of 2017*
- *Award of Excellence in Gardens, The Council on Botanical and Horticultural Libraries*
- *Honorable Mention 2018 PROSE Award in Popular Science, Assoc. American Publishers*
- *Longlisted for the 2018 AAAS/Subaru Prizes for Excellence in Science Books*

Submitted papers

L.M. Arcila-Hernández, S. Davis, and A.A. Agrawal. Variation in oviposition behaviors across a latitudinal gradient of a stem-boring weevil and implications for species divergence. Ecological Entomology.

Agrawal, A.A. and A.P. Hastings. Trade-offs constrain the evolution of an inducible plant defense within but not between species. Ecology.

Agrawal, A.A. and A.P. Hastings. Plant defense by latex: new data on the ecological genetics of inducibility in the milkweeds and a general review of mechanisms, evolution, and agriculture. Journal of Chemical Ecology (Silverstein-Simeone Award paper).

Tigreros, N. A.A. Agrawal, and J.S. Thaler. Genetic variation in parental effects contribute to the evolutionary potential of antipredator plasticity. Proceedings of the Royal Society B.

Karageorgi, M, S. Groen, F. Sumbul, J.N. Pelaez, K.I. Verster, J.M. Aguilar, A.P. Hastings, S.L. Bernstein, T. Matsunaga, M. Astourian, G. Guerra, F. Rico, S. Dobler, A.A. Agrawal, N.K. Whiteman. Genome editing retraces the evolution of toxin resistance in the monarch butterfly. Nature.

Ogran, A., J.K.Conner, A.A. Agrawal, and O. Barazani. Evolution of phenotypic plasticity: genetic differentiation and additive genetic variation for induced plant defense in wild arugula *Eruca sativa*. Journal of Evolutionary Biology.

Brzozowski, L.J., J. Gardner, M.P. Hoffmann, A. Kessler, A.A. Agrawal, M. Mazourek. Attack and aggregation of a major squash pest: parsing the role of plant chemistry and beetle pheromones.

Agrawal, A.A. A scale-dependent framework for trade-offs, syndromes, and specialization in organismal biology (MacArthur Award paper). Ecology.

In Press

Jones, P.A. and A.A. Agrawal. Beyond preference and performance: host plant selection by monarch butterflies, *Danaus plexippus*. Oikos.

Refereed Papers

2019 Maron, J. L., A. A. Agrawal, and D. W. Schemske. 2019. Plant–herbivore coevolution and plant speciation. Ecology 100(7):e02704. 10.1002/ecy.2704

Goud, E.M., J.P.Sparks, M. Fishbein, and A.A. Agrawal. Integrated metabolic strategy: a mechanistic framework for predicting the evolution of carbon gain and water loss tradeoffs within plant clades. Journal of Ecology 107:1633–1644.

A.A. Agrawal. Advances in understanding the long-term population decline of monarch butterflies. PNAS 116: 8093-8095.

Brzozowski, L.J., M. Mazourek, and A.A. Agrawal. Mechanisms of resistance to insect herbivores in isolated breeding lineages of *Cucurbita pepo*. Journal of Chemical Ecology 45: 313–325.

Jones, P.L., G. Petschenka, L. Flacht, and A.A. Agrawal. Cardenolide intake, sequestration, and excretion by the monarch butterfly along gradients of plant toxicity and larval ontogeny. Journal of Chemical Ecology 45: 264–277.

Hahn, P.G., A.A. Agrawal, K.I. Sussman, and J.L. Maron. Population variation, environmental gradients, and the evolutionary ecology of plant defense against herbivory. American Naturalist 193: 20–34.

Züst, T., G. Petschenka, A.P. Hastings, and A.A. Agrawal. Toxicity of milkweed leaves and latex: chromatographic quantification versus biological activity of cardenolides in 16 *Asclepias* species. Journal of Chemical Ecology 45: 50-60. (cover photo)

Boege, K., J.S. Thaler, and A.A. Agrawal. Ontogenetic strategies in insect herbivores and their impact on tri-trophic interactions. Current Opinion in Insect Science 32: 61-67.

2018 Petschenka, G., C.S. Fei, J.J. Araya, S. Schröder, B.N. Timmermann, and A.A. Agrawal. Structural variation in toxin-receptor interactions suggests a mechanism for how milkweed plants can selectively defend against herbivores. Frontiers in Plant Science 9:1424.

Züst, T, S. Mou, and A.A. Agrawal. What doesn't kill you makes you stronger: the burdens and benefits of toxin sequestration in an aphid. Functional Ecology 32:1972-1981.

Agrawal, A.A. and H. Inamine. Mechanisms behind the monarch's decline. Science 360:1294-1296.

Maron, J.L., M.T.J. Johnson, A.P. Hastings, and A.A. Agrawal. Fitness consequences of occasional outcrossing in a clonal plant (*Oenothera biennis*). Ecology 99: 464–473.

Agrawal, A.A., A.P. Hastings, D.M. Fines, S. Bogdanowicz, and M. Huber. Insect herbivory and plant adaptation in an early successional community. Evolution 72: 1020-1033.

Agrawal, A.A., A. Ali, M.D. Johnson, A.P. Hastings, D. Burge, M.G. Weber. Toxicity of the spiny thick-foot *Pachypodium*. American Journal of Botany 105: 677-686.

2017 Agrawal, A.A. Towards predictive framework for convergent evolution: integrating natural history, genetic mechanisms, and consequences for the diversity of life. American Naturalist 190: S1-S12.

Züst, T. and A.A. Agrawal. Trade-offs between plant growth and defense against insect herbivory: An emerging mechanistic synthesis. Annual Review of Plant Biology 68: 513-534.

Ali, J.G. and A.A. Agrawal. Trade-offs and tritrophic consequences of host shifts in highly specialized root herbivores. Functional Ecology 31:153-160.

Züst, T. and A.A. Agrawal. Plant chemical defense indirectly mediates aphid performance via interactions with tending ants. Ecology 98:601-607.

Cook-Patton, S.C., A.P. Hastings, A.A. Agrawal. Genotypic diversity mitigates negative effects of density on plant performance: a field experiment and life-cycle analysis of common evening primrose *Oenothera biennis*. Journal of Ecology 105:726–735.

Groen, S., E.R. LaPlante, N.M. Alexandre, A.A. Agrawal, S. Dobler, N.K. Whiteman. Multidrug transporters and organic anion transporting polypeptides protect insects against the toxic effects of cardenolides. Insect Biochemistry and Molecular Biology 81:51-61.

Jones, P.L. A.A. Agrawal. Learning in insect pollinators and herbivores. Annual Review of Entomology 62:53–71.

Gustafsson, K., S.A. Wolf, and A.A. Agrawal. Science-policy-practice interfaces: Emergent knowledge and monarch butterfly conservation. Environmental Policy and Governance 27:521-533.

2016 Jones, P.L. A.A. Agrawal. Consequences of toxic secondary compounds in nectar for mutualist bees and antagonist butterflies. Ecology 97: 2570–2579. (cover photo)

Inamine, H., S.P. Ellner, J.P. Springer, and A.A. Agrawal. Linking the continental migratory cycle of the monarch butterfly to understand its population decline. Oikos 125:1081-1091. (cover photo)

Petschenka, G. and A.A. Agrawal. How herbivores coopt plant defenses: Natural selection, specialization, and sequestration. Current Opinion in Insect Science 14:17–24.

Pellissier, L., G. Litsios, M. Fishbein, N. Salamin, A.A. Agrawal, and S. Rasmann. Different rates of defense evolution and niche preferences in clonal and non-clonal milkweeds (*Asclepias* spp.). New Phytologist 209: 1230–1239.

Lewis, E.M., J.B. Fant, M.J. Moore, A.P. Hastings, E.L. Larson, A.A. Agrawal, and K.A. Skogen. Microsatellites for *Oenothera gayleana* and *O. hartwegii* subsp. *filifolia* (Onagraceae), and their utility in section Calylophus. Applications in Plant Science 4: 1500107

Züst, T. and A.A. Agrawal. Plant resistance to aphids: chemical defense, induced responses, and evolution. Nature Plants 2, 15206.

Züst, T. and A.A. Agrawal. Population growth and sequestration of plant toxins along a gradient of specialization in four aphid species on the common milkweed *Asclepias syriaca*. Functional Ecology 30: 547–556.

Tingle, J.L., S.C. Cook-Patton, and A.A. Agrawal. Spillover of a biological control agent (*Chrysolina quadrigemina*) onto native St. Johnswort (*Hypericum punctatum*). PeerJ 4:e1886; DOI 10.7717/peerj.1886.

2015 Agrawal, A.A., A.P. Hastings, G.S. Bradburd, E.C. Woods, T. Züst, J.A. Harvey, T. Bukovinszky. Evolution of plant growth and defense in a continental introduction. American Naturalist 186:E1-E15.

Agrawal, A.A. and M.G. Weber. On the study of plant defence and herbivory using comparative approaches: how important are secondary plant compounds? Ecology Letters 18: 985–991.

Petschenka, G. and A.A. Agrawal. Toxin resistance in the milkweed butterflies was driven by predation, not host plant use. Proceedings of the Royal Society B 282: 20151865. DOI: 10.1098/rspb.2015.1865

Fitzpatrick, C.R., A.A. Agrawal, N. Basiliko, A.P. Hastings, M.E. Isaac, M. Preston, and M.T.J. Johnson. The importance of plant genotype and contemporary evolution for terrestrial ecosystem processes. Ecology 96:2632–2642.

Züst, T., S. Rasmann, and A.A. Agrawal. Growth-defense trade-offs for two major anti-herbivore traits of the common milkweed *Asclepias syriaca* L. Oikos 124: 1404-1415.

Raguso, R.A., A.A. Agrawal, A.E. Douglas, G. Jander, A. Kessler, K.A. Poveda and J.S. Thaler. The raison d'être of chemical ecology. Ecology 96:617–630.

Martin, L.J., A.A. Agrawal, C.E. Kraft. Historically browsed jewelweed populations exhibit greater tolerance to deer herbivory than historically protected populations. Journal of Ecology 103:243-249. (Harper prize of the British Ecological Society, runner up paper)

Kariñho-Betancourt, E., A.A. Agrawal, R. Halitschke, and J. Núñez-Farfán. Phylogenetic correlations among chemical and physical plant defenses change with ontogeny. New Phytologist 206:796–806.

Gustafsson, K., A.A. Agrawal, B.E. Lewenstein, and S.A. Wolf. The monarch butterfly through time and space: the social construction of an icon. BioScience 65:112-122.

2014 Agrawal, A.A., A.P. Hastings, A.C. Knight, E.T. Patrick. Specificity of herbivore-induced hormonal signaling and defensive traits in closely related milkweeds (*Asclepias* spp.). Journal of Chemical Ecology 40:717–729.

Agrawal, A.A., E.T. Patrick, and A.P. Hastings. Tests of the coupled expression of latex and cardenolide plant defense in common milkweed (*Asclepias syriaca*). Ecosphere 5:126. http://dx.doi.org/10.1890/ES14-00161.1.

Ali, J.G. and Anurag A. Agrawal. Asymmetry of plant-mediated interactions between specialist aphids and caterpillars on two milkweeds. Functional Ecology 28: 1404-1412.

Weber, M.G. and A.A. Agrawal. Defense mutualisms enhance plant diversification. PNAS 111:16442-16447. (cover article)

Cook-Patton, S.C. and A.A. Agrawal. Exotic plants contribute positively to biodiversity functions but reduce native seed production and arthropod richness. Ecology 95: 1642-1650.

DiTommaso, A., S.H. Morris, J.D. Parker, C.L. Cone, A.A. Agrawal. Deer browsing delays succession by altering aboveground vegetation and belowground seed banks. PLoS One 9:e91155.

Desurmont, G.A., P.A. Weston, and A.A. Agrawal. Reduction of oviposition time cost and larval group feeding: two potential benefits of aggregative oviposition for the viburnum leaf beetle. Ecological Entomology 39:125–132.

Desurmont, G.A., A.E. Hajek, and A.A. Agrawal. Seasonal decline in plant defense is associated with relaxed offensive oviposition behavior in the viburnum leaf beetle *Pyrrhalta viburni*. Ecological Entomology 39: 589–594.

Erwin, A.C., T. Züst, J.G. Ali, and A.A. Agrawal. Aboveground herbivory facilitates above- and belowground conspecific insects and reduces fruit production. Journal of Ecology 102:1038–1047.

Desurmont, G.A. and A.A. Agrawal. Do plant defenses predict damage by an invasive herbivore? A comparative study of the viburnum leaf beetle. Ecological Applications 24: 759–769.

Bukovinszky, T., R. Gols, A.A. Agrawal, C. Roge, T.M. Bezemer, A. Biere, and J.A. Harvey. Reciprocal interactions between native and introduced populations of common milkweed, *Asclepias syriaca*, and the specialist aphid, *Aphis nerii*. Basic and Applied Ecology 15:444–452.

Stastny, M. and A.A. Agrawal. Love thy neighbor? Reciprocal impacts between plant community structure and insect herbivory in co-occurring Asteraceae. Ecology 95:2904–2914.

2013 Erwin, A.C., M.A. Geber, and A.A. Agrawal. Specific impacts of two root herbivores and soil nutrients on plant performance and insect-insect interactions. Oikos 122:1746–1756.

Wason, E.L., A.A. Agrawal, M.D. Hunter. A genetically-based latitudinal cline in the emission of herbivore-induced plant volatile organic compounds. Journal of Chemical Ecology 39:1101-1111.

Rafter, J.L., Agrawal, A.A., and E.L. Preisser. Chinese mantids gut toxic monarch caterpillars: avoidance of prey defense? Ecological Entomology 38:76–82.

Agrawal, A.A., M.T.J. Johnson, A.P. Hastings, J.L. Maron. Experimental evolution of plant life-history traits and its eco-evolutionary feedback to seed predator populations. American Naturalist 181:S135-D145.

Burge, D., K. Mugford, A.P. Hastings, and A.A. Agrawal. Phylogeny of the plant genus *Pachypodium* (Apocynaceae). PeerJ, DOI: 10.7717/peerj.70.

2012 Agrawal, A.A., A.P. Hastings, M.T. Johnson, J.L. Maron, J-P. Salminen. Insect herbivores drive real-time ecological and evolutionary change in plant populations. Science 338:113-116. (with perspectives article published in the same issue)

Abdala-Roberts, L., A.A. Agrawal, K.A. Mooney. Ant-aphid interactions on *Asclepias syriaca* are mediated by plant genotype and caterpillar damage. Oikos 121:1905–1913.

Agrawal, A.A., G. Petschenka, R.A. Bingham, M.G. Weber, and S. Rasmann. Toxic cardenolides: chemical ecology and coevolution of specialized plant-herbivore interactions (*Tansley Review*). New Phytologist 194:28–45.

Parker, J.D., J-P. Salminen, and A.A. Agrawal. evolutionary potential of root chemical defense: genetic correlations with shoot chemistry and plant growth. Journal of Chemical Ecology 38:992–995.

Weber, M.G. and Agrawal, A.A. Phylogeny, ecology and hypothesis testing: coupling comparative and experimental approaches. Trends in Ecology and Evolution 27:394-403.

Weber, M.G., W.L. Clement, M.J. Donoghue, and A.A. Agrawal. Phylogenetic and experimental tests of interactions among mutualistic plant defense traits in *Viburnum* (Adoxaceae). American Naturalist 180:450-463.

Woods, E.C., A.P. Hastings, N.E. Turley, S.B. Heard, and A.A. Agrawal. Adaptive geographical clines in the growth and defense of a native plant. Ecological Monographs 82:149–168.

Desurmont, G.A., F. Herard, and A.A. Agrawal. Oviposition strategy as a means of local adaptation to plant defense in native and invasive populations of the viburnum leaf beetle. Proc Royal Society Lond - Biological Sciences 279:952–958.

Rasmann, S., M. De Vos, C.L. Casteel, D. Tian, J.Y. Sun, A.A. Agrawal, G.W. Felton, and G. Jander. Transgenerational resistance against insect herbivory requires jasmonates and siRNA synthesis. Plant Physiology 158:854–863.

Ali, J.G. and A.A. Agrawal. Specialist versus generalist insect herbivores and plant defense. Trends in Plant Science 17:293-302. (cover article)

Dobler, S., S. Dalla, V. Wagschal, and A.A. Agrawal. Community-wide convergent evolution in insect adaptation to toxic cardenolides by substitutions in the Na,K-ATPase. PNAS 109:13040-13045. (cover article, with News and Views article published in Nature)

Agrawal, A.A., E.E. Kearney, A.P. Hastings, and T.E. Ramsey. Attenuation of the jasmonate burst, plant defensive traits, and resistance to specialist monarch caterpillars on shaded common milkweed (*Asclepias syriaca*). Journal of Chemical Ecology 38:893–901.

Agrawal, A. A. The monarch-milkweed arms race. American Butterflies 20(2):26-33.

Holeski, L.M., G. Jander, and A.A. Agrawal. Transgenerational defense induction and epigenetic inheritance in plants. Trends in Ecology and Evolution 27:618-626.

Manson, J.S., S. Rasmann, R. Halitschke, J.D. Thomson, A.A. Agrawal. Cardenolides in nectar are not a mere consequence of allocation to other plant parts: a phylogenetic study of milkweeds (*Asclepias*). Functional Ecology 26:1100–1110.

2011 Rasmann, S. and A.A. Agrawal. Evolution of specialization: a phylogenetic study of host range in the red milkweed beetle *(Tetraopes tetraophthalmus*). American Naturalist 177:728–737.

Rasmann, S., A.C. Erwin, R. Halitschke, and A.A. Agrawal. Direct and indirect root defense of milkweed (*Asclepias syriaca*): trophic cascades, tradeoffs, and novel methods for studying subterranean herbivory. Journal of Ecology 99:16–25.

Agrawal, A.A. Current trends in the evolutionary ecology of plant defense. Functional Ecology 25:420–432. (cover article)

Rasmann, S. and A.A. Agrawal. Latitudinal patterns in plant defense: macroevolution of cardenolides, their toxicity, and induction following herbivory. Ecology Letters 14:476–483.

Desurmont, G.A., M.J. Donoghue, W.L. Clement, and A.A. Agrawal. Evolutionary history predicts plant defense against an invasive pest. PNAS 108:7070–7074.

Cook-Patton, S.C., S.H. McArt, A. Parachnowicz, J.S. Thaler, and A.A. Agrawal. A direct comparison of the ecosystem and community impacts of genotypic and species diversity. Ecology 92:915–923.

Cook-Patton, S.C. and A.A. Agrawal. Relatedness predicts phenotypic plasticity in plants better than weediness. Evolutionary Ecology Research 13:527–542.

2010 Mooney, K.A., R. Halitschke, A. Kessler, and A.A. Agrawal. Evolutionary tradeoffs in plants mediate the strength of trophic cascades. Science 327:1642-1644.

Auld, J. R., A. A. Agrawal, and R. A. Relyea. Re-evaluating the costs and limits of adaptive phenotypic plasticity. Proceedings of the Royal Society of London – Series B 277:503–511.

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Nielsen, C., A. A. Agrawal, and A. E. Hajek. Ants defend aphids against lethal disease. Biology Letters 6:205-208.

Thaler, J. S., A. A. Agrawal, and R. Halitschke. Salicylate-mediated interactions between pathogens and herbivores. Ecology 91:1075–1082.

Parker, J., J.-P. Salminen, and A.A. Agrawal. Herbivory enhances positive effects of plant genotypic diversity. Ecology Letters 13:553 - 563.

Karonen, M., J. Parker. A.A. Agrawal, and J.-P. Salminen. First evidence of hexameric and heptameric ellagitannins in plants detected by liquid chromatography/electrospray ionization mass spectrometry. Rapid Communications in Mass Spectrometry 24:3151–3156.

Meyer, J.R., A.A. Agrawal, D.T. Dobias, R.T. Quick, D. Schneider, and R.E. Lenski. Parallel changes in host resistance to viral infection during 45,000 generations of relaxed selection. Evolution 64:3024–3034.

2009 Agrawal, A. A., J-P. Salminen, and M. Fishbein. Phylogenetic trends in phenolic metabolism of milkweeds (*Asclepias*): Evidence for escalation. Evolution 63:663–673. (cover article)

Rasmann, S., M.D. Johnson, and A.A. Agrawal. Induced responses to herbivory and jasmonate in three milkweed species. Journal of Chemical Ecology 35:1326-1334.

Futuyma, D. J. and A. A. Agrawal. Macroevolution and the biological diversity of plants and herbivores. PNAS 106:18054–18061.

Agrawal, A. A., M. Fishbein, R. Halitschke, A. P. Hastings, D. L. Rabosky, and S. Rasmann. Evidence for adaptive radiation from a phylogenetic study of plant defenses. PNAS 106:18067–18072.

Agrawal, A. A. and K. Konno. Latex: a model for understanding mechanisms, ecology, and evolution of plant defense against herbivory. Annual Review of Ecology, Evolution and Systematics 40:311-331.

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Johnson, M. T. J., A. A. Agrawal, J. L. Maron, and J-P. Salminen. Heritability, covariation and natural selection on 24 traits of common evening primrose (*Oenothera biennis*) from a field experiment. Journal of Evolutionary Biology 22:1295–1307.

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2008 Agrawal, A. A., A. C. Erwin, and S. C. Cook. Natural selection and predicted response for ecophysiological traits of swamp milkweed (*Asclepias incarnata*) in the field. Journal of Ecology 96:536-542. (cover article)

Agrawal, A. A. and M. Fishbein. Phylogenetic escalation and decline of plant defense strategies. PNAS 105:10057-10060.

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Larson, E. L., S. M. Bogdanowicz, A. A. Agrawal, M. T. J. Johnson, and R. G. Harrison. Isolation and characterization of polymorphic microsatellite loci in common evening primrose (*Oenothera biennis*). Molecular Ecology Resources 8:434-436.

Mooney, K. A. and A. A. Agrawal. Plant genotype shapes ant-aphid interactions: implications for community structure and indirect plant defense. American Naturalist 171:E195-E205.

Mooney, K. A., P. Jones, and A. A. Agrawal. Coexisting congeners: demography, competition, and interactions with cardenolides for two milkweed-feeding aphids. Oikos 117:450-458.

Rasmann, S. and A. A. Agrawal. In defense of roots: A research agenda for studying plant resistance to belowground herbivory. Plant Physiology 146:875-880. (cover article)

Smith, R. A., K. A. Mooney, and A. A. Agrawal. Coexistence of three specialist aphids on the common milkweed *Asclepias syriaca*. Ecology 89:2187-2196.

2007 Agrawal, A. A. Macroevolution of plant defense strategies. Trends in Ecology & Evolution 22:103-109. (cover article)

Agrawal, A. A., D. A. Ackerly, F. Adler, B. Arnold, C. Cáceres, D. F. Doak, E. Post, P. Hudson, J. Maron, K. A. Mooney, M. Power, D. Schemske, J. J. Stachowicz, S. Y. Strauss, M. G. Turner, E. Werner. Filling key gaps in population and community ecology. Frontiers in Ecology and the Environment 5:145-152.

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Morris, W. F., R. A. Hufbauer, A. A. Agrawal, J. D. Bever, V. A. Borowicz, G. S. Gilbert, J. L. Maron, C. E. Mitchell, I. M. Parker, A. G. Power, M. E. Torchin, and D. P. Vázquez. Direct and interactive effects of enemies and mutualists on plant performance: A meta-analysis. Ecology 88:1021-1029.

2006 Agrawal, A. A. and M. Fishbein. Plant defense syndromes. Ecology 87:S123-S149.

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PROFESSIONAL OVERVIEW AND OBJECTIVES

My research program addresses questions in the ecology and evolution of interactions between plants and animals. In particular, I focus on the generally antagonistic interactions between plants and insect herbivores and ultimately seek to understand the complexity of community-wide interactions. What ecological factors allow the coexistence of similar species? What evolutionary factors led to the diversification of species? In total, plants and insect herbivores comprise about one half of earth's macroscopic biodiversity and herbivory accounts for major losses in agriculture. Given that herbivory is the conduit through which most of plants' autotrophic energy is transmitted to the rest of the food web, the focus on plant-herbivore interactions is justifiably important. My approach to science in general involves 1) rigorous, manipulative field experiments to test for the importance of conceptually or theoretically developed interactions, 2) a comparative phylogenetic approach to describing deep evolutionary patterns which bear on long-standing hypotheses, 3) the search for novel interactions which may be pervasive in nature but have escaped our attention, and 4) a keen interest in teaching and mentoring students at all levels of education. My research is mostly conducted in northeastern old-field communities, although when appropriate I travel to other field sites (Costa Rica, Bahamas, and Finland). During the colder months, my lab conducts more mechanistic experiments in glasshouses and growth chambers.