

2017 CURRICULUM VITAE

NAME: Anurag Agrawal
COLLEGE: Agriculture and Life Sciences
DEPARTMENT/UNIT: Ecology and Evolutionary Biology
TITLE: Professor
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WEB PAGE: <http://www.herbivory.com>

BACKGROUND

EDUCATION

<u>Year</u>	<u>Degree</u>	<u>Institution</u>
1999	Ph.D., Population Biology	University of California at Davis (Advisor: Dr. Richard Karban)
1995	Organization for Tropical Studies field course: <i>Tropical Biology</i> 95-3	
1994	M.A., Conservation Biology	University of Pennsylvania
1994	B.A., Biology <i>Magna Cum Laude</i>	University of Pennsylvania

ACADEMIC RANKS

Professor: 2010, Cornell University
Associate Professor: 2005, Cornell University
Assistant Professor: 2004, Cornell University
Assistant Professor: 2000, University of Toronto

PRIMARY DEPARTMENTAL/Unit PROGRAM AREA

Population and community ecology, evolutionary ecology, plant-insect interactions

AREAS OF EXPERTISE

Community and evolutionary ecology of plant-animal interactions: interspecific interactions, genotypic and environmental influences on insect communities, phenotypic plasticity, induced plant defense against herbivores, ecological genetics, evolutionary biology, phylogenetics, chemical ecology, and comparative biology.

PROFESSIONAL EXPERIENCE

<u>Year</u>	<u>Experience</u>
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, Associate Director for Environmental Programs, Cornell 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

SABBATICALS AND STUDY LEAVES

Fall 2017-Spring 2018,
Spring 2011, University of Arizona
Fall 2007, Michigan State University

HONORS AND AWARDS

Silverstein-Simeone Award, International Society of Chemical Ecology (2018)
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)

NAMED / HONORARY LECTURES

Silverstein-Simeone Lecture, International Society of Chemical Ecology (planned, Aug 2018)
Robert MacArthur Award Lecture, ESA, Portland (planned, Aug 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)

ACADEMIC RESPONSIBILITIES

ADMINISTRATIVE RESPONSIBILITIES

Associate Director, Cornell Center for a Sustainable Future, 2008-2010
Cornell Chemical Ecology Group, 2008- (www.chemicalecology.cornell.edu)

RESEARCH RESPONSIBILITIES

Current Postdoctoral Associates

Dr. Patricia Jones (2014-)

Past Postdoctoral Associates

Dr. Peter Van Zandt, 2001-2003, Currently Assistant Prof. at Birmingham Southern College
Dr. Kailen Mooney (Jan. 2005 - July 2007), Currently Associate Prof. at UC Irvine
Dr. John D. Parker (Jan. 2006 - Aug. 2007), Currently Senior Scientist at the Smithsonian ERC
Dr. Sergio Rassman (Feb. 2007 - Dec. 2010), Currently Professor at Neuchatel University

Dr. Gaylord Desurmont (August 2009 - Dec. 2010), Currently Research Entomologist, EBCL
Dr. Jared Ali (Sept 2011 – Mar. 2013), Currently Assistant Professor, Pennsylvania State Univ
Dr. Georg Petschenka (Oct 2012 - March 2015), Currently postdoc at University of Giessen
Dr. Karin Gustafsson (Jan. 2014 – Jan. 2015), Currently Associate Professor, Örebro University
Dr. Tobias Zuest (April 2012-2015), Currently postdoc at Bern University

Other Current Research Professionals Supervised

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

Other Past Research Professionals Supervised

Katalin Boroczky, Research Associate (2014-2017)
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)

Other Relevant Research Activities, Accomplishments, etc.

Funding

2017	IOS
2015	DEB-1513839, Genetic transformation of common milkweed, <i>Asclepias syriaca</i> : Creating a model plant for ecological investigations (\$307,000)
2013	John Templeton Foundation, Convergence and the origins of biodiversity. (\$1,035,000 split between Cornell (lead institution), University of Arizona, and University of 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 RESPONSIBILITIES

Courses Taught

BIOEE 1610 Ecology and the Environment (Fall 2013, Fall 2015, Spring 2016)
 BIOEE 3611 Field Ecology (Fall 2006, 2010, 2012, 2014, 2016)
 BIO G 2990 Introduction to Research Methods in Biology
 BIOEE 3690 Chemical Ecology (every spring since 2007)
 BIOEE 4580 Community Ecology (Spring 2006, 2008, 2010)
 BIO G 4990 Independent Undergraduate Research in Biology – Independent Study
 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)
 BIOEE 9990 Ph.D. Dissertation Research

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

Aliya Ali
 Zach Stoessel
 Jackson Seminara
 Isabella Sobalvarro

Current Undergraduate Advisees

Kimberly Adams
Varun Rathi
Daniel Iyayi
Daniel Arauz
Britney Thomson

Current Teaching Assistants (graduate & undergraduate) and Other Teaching Support Professionals Supervised

Other Relevant Teaching and Advising Activities, Accomplishments, etc.

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).

Participating mentor, Cornell teaching Partnership Program (2016-)

Undergraduate project students

(*indicates students were co-authors on published papers)

(†indicates students completed a senior thesis at Cornell University)

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)

GRADUATE FIELD MEMBERSHIPS

Ecology and Evolutionary Biology
Entomology

GRADUATE MAJORS

Current (names and expected date and field of degree including degree. For example, Ph.D., M.S., MPS, MAT, etc.)

Lina Arcila-Hernandez, E&EB, Ph.D., 2018
Jacob Elias, E&EB, Ph.D., 2020
Katherine Holmes, E&EB, Ph.D., 2020

Total Completed

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

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

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

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

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

Alexis C. Erwin, (2006-2013) primary advisor, 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) primary advisor, PhD EEB, Cornell University.
The evolution of mutualistic defensive traits in plants
Currently Assistant Professor, Michigan State University

GRADUATE MINORS

Current (names and expected date and field of degree)

Annise Dobson, DNR, Ph.D., 2018
Renee Petipas, E&EB, Ph.D., 2016
Kristen Brochu, Ph.D. Entomology 2017
Geoffrey Broadhead, Ph.D. Neurobiology and Behavior 2018
Aubrie James, E&EB, Ph.D., 2018
Jacob Berv, E&EB, Ph.D., 2019
Ellie Goud, E&EB, Ph.D., 2019
Collin Edwards, E&EB, Ph.D., 2018
Zoe Getman-Pickering, Entomology, Ph.D., 2019
Katherine Eisen, E&EB, Ph.D., 2019
Gregor Fausto Siegmund, E&EB, Ph.D., 2019
Lauren Brzozowski, Horticulture, Ph.D., 2019
Alexander Chautá, E&EB, Ph.D., 2020

Total Completed

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 Mississauga
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., 2014 (not completed)
Laura J. Martin, DNR, Ph.D., 2015
Ben Freeman, E&EB, Ph.D., 2016

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

OTHER CURRENT PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES & ACTIVITIES

American Society of Naturalists (2010-)
 Executive committee (2015-2017)
 Vice president (2016)
Ecological Society of America (1994-)
 Mercer Award Committee (2013-2015)
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-)

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)

581 Ad hoc manuscripts, grants and external promotion files reviewed since 1996 (not including papers handled as an editor): American Journal of Botany (1), American Midland Naturalist (1), American Naturalist (16), 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 (6), BioScience (3), Biotropica (5), Blackwell book: Insect Ecology (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 (3), Cornell Hatch Proposal (5), Current Biology (2), Czech Republic Academy of Sciences (1), Dutch SF (2), Ecography (1), Ecological Applications (1), Ecological Entomology (15), Ecological Monographs (2), Ecology (22), Ecology Letters (42), Écoscience (6), Ecosphere (1), Ecosystems (1), eLife (1), Entomologia Experimentalis et Applicata (5), Environmental Entomology (3), Evolution (21), Environmental Epigenetics (1), Evolutionary Ecology (3), 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 (1), 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 Ecology (5), Journal of Chemical Ecology (23), Journal of Ecology (21), Journal of Evolutionary Biology (5), Journal of Experimental Botany (1), Journal of Insect Science (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 Plants (2), NERC-England (5), New Phytologist (25), NSERC (5), NSF (46), 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 (19), Princeton Monograph proposal (3), Princeton monographs (2), Proceedings of the Royal Society of London - B (12), Promotion to tenured faculty or full professor (31), Quarterly Review of Biology (3), Science (14), Sinauer text book (1), Swiss ETH (3), Swiss National Science Foundation (3), Trends in Ecology & Evolution (4), Trends in Plant Science (2), UMass Hatch proposals (2), University of Chicago Book proposals (2), USDA (9), US-Israel Binational Science Foundation (1), Wallenberg Foundation Grant (2).

COMMITTEE ASSIGNMENTS

State/Local (including state and local government agencies):

Jeffrey P. LaFage Graduate Student Award Committee, Eastern Branch of the Entomological Society of America (2010-2015)

University*:

Lab of Ornithology, Administrative Board (2017-)

University Appeals Panel (2014-)

Faculty Advisory Board, Atkinson Center for a Sustainable Future (2008-)

Natural Areas Committee, Cornell Plantations (2006-)

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*:

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:

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)
Graduate Admissions Committee, Field of E&EB, (2005-2007, 2011, 2013)
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)

OTHER CURRENT PROFESSIONAL CONTRIBUTIONS

CONFERENCES/WORKSHOPS

Papers presented

2016 American Society of Naturalists meeting, Austin, TX (1 additional paper co-authored)
 2016 American Society of Naturalists, Asilmoar meeting
 2015 Ecological Society of America annual meeting (3 additional papers co-authored)
 2014 Entomological Society of America annual meeting (1 paper co-authored)
 2013 Entomological Society of America annual meeting (2 additional papers co-authored)
 2013 Society for the Study of Evolution annual meeting (1 additional paper co-authored)
 2012 Ecological Society of America annual meeting (2 additional papers co-authored)
 2012 Monarch Biology and Conservation Meeting, University of Minnesota
 2011 Ecological Society of America annual meeting 1 co-authored presentation
 2010 Ecological Society of America annual meeting (5 additional papers co-authored)
 2009 Ecological Society of America annual meeting (6 additional papers co-authored)
 2007 Ecological Society of America annual meeting (3 additional papers co-authored)
 2007 13th International Symposium Insect-Plant-Interactions, Uppsala, Sweden
 2006 Ecological Society of America annual meeting (4 additional papers co-authored)
 2005 Ecological Society of America annual meeting (3 additional papers co-authored)
 2004 Ecological Society of America annual meeting (3 additional papers co-authored)
 2003 Ecological Society of America annual meeting (2 additional papers co-authored)
 2002 Ontario Ecology and Ethology Colloquium
 2002 Ecological Society of America annual meeting (2 additional papers co-authored)
 2001 Ecological Society of America annual meeting (1 additional paper co-authored)
 2001 Gordon Research Conference on plant-herbivore interactions
 1999 Ecological Society of America annual meeting
 1998 Ecological Society of America annual meeting
 1998 Gordon Research Conference on plant-herbivore interactions
 1997 Ecological Society of America annual meeting

Workshops/other university service

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).

INVITED PRESENTATIONS

Planned: Ecological Society of America, MacArthur Award lecture (Portland, OR, August 2017)

Houston Museum of Natural Science

Royal Ontario Museum

Cornell University, Chats in the stacks

Lady Bird Johnson Wildflower Center

California Academy of Sciences

Seattle Town Hall

San Antonio Book Festival

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

RESEARCH AND EXTENSION GRANT REVIEW PANELS (please provide detail)

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.

RESOURCE FOR MEDIA (i.e., called upon as an expert for electronic or print media)

Many outlets for comment on 2016 monarch article
Ithaca.com (2015 article on monarch butterflies and pollinators)
Ithaca Journal (2014 article on deer impact on the environment)
Chronicle of Higher Education (2012, article on journal impact factors)
Science (2008, article on mutualism and community structure)
Science News (2007, article on community genetics)
Nature (2006, article on the ecological consequences of genetic diversity)
Discover (Nov. 2006, article on epigenetic inheritance)
Science (2005, article on extrafloral nectar of *Acacias*)
Chronicle of Higher Education (2005, article on journal impact factors, live on-line chat)
Science News (2004, article on scaling laws in biology)

PUBLICATIONS

Books

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

Submitted papers

Gustafsson, K., S.A. Wolf, and A.A. Agrawal. Science, citizen science, and the monarch butterfly. A study of knowledge production and social change. *Environmental Policy and Governance*.

Maron, J.L., M.T.J. Johnson, A.P. Hastings, and A.A. Agrawal. Fitness benefits of sexual reproduction: a multigenerational field experiment.

Agrawal, A.A., S. Altizer, P.P. Marra, and S.A. Wolf. Renewing our commitment to the conservation of migratory species. *Frontiers in Ecology and the Environment*.

In Press

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

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*.

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*.

Refereed Papers

2017 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.

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.

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.
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- 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.

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- 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.
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- 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.
- Bingham, R.A. and A.A. Agrawal. Ecological genetics of herbivore-specific induced defenses in common milkweed. *Journal of Ecology* 98:1014-1028. (cover article)
- 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.
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- 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.

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