

2012 CURRICULUM VITAE

NAME: Anurag Agrawal
COLLEGE: Agriculture and Life Sciences
DEPARTMENT/UNIT: Ecology and Evolutionary Biology
TITLE: Professor
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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, and Evolutionary ecology

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, phylogenetic and tropical ecology.

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 (year, project, location)

Spring 2011, University of Arizona
Fall 2007, Michigan State University

HONORS AND AWARDS

Jill Adams Memorial Lecture, University of Washington (2011)
David Starr Jordan Prize (2009)
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)
George Mercer Award, Ecological Society of America (2006)
NSF Early Career Award (2005)

Gordon Research Conference: Plant-Herbivore Interactions, Closing synthesis lecture (2004)
Ontario Ecology and Ethology Colloquium, Plenary lecture (2004)
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)

ACADEMIC RESPONSIBILITIES

CURRENT ADMINISTRATIVE RESPONSIBILITIES

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

RESEARCH RESPONSIBILITIES

Current Postdoctoral Associates

Dr. Jared Ali (Sept 2011-)
Dr. Tobias Zuest (April 2012)
Dr. Georg Petschenka (Nov 2012)

Past Postdoctoral Associates

Dr. Peter Van Zandt, 2001-2003, Currently Assistant Prof. at Birmingham Southern College
Dr. Kailen Mooney (Jan. 2005-July 2007), Currently Assistant Prof. at UC Irvine
Dr. John D. Parker (Jan. 2006-Aug. 2007), Currently Senior Scientist at the Smithsonian
Dr. Sergio Rassman (Feb. 2007-Dec. 2010), Currently Ambizione researcher, Univ. Lausanne
Dr. Gaylord Desurmont (August 2009- Dec. 2010), Currently postdoc, Univ. Neuchatel

Other Current Research Professionals Supervised

Amy Hastings, MSc, Research Support Specialists (2008-)

Other Past Research Professionals Supervised

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

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

Administrative Leadership (positions related to teaching/education/advising)

None

Courses Taught

BIOEE 263 Field Ecology (Fall 2006, 2010, 2012)

BIO G 299 Introduction to Research Methods in Biology – Independent Study – (most semesters)

BIOEE 369 Chemical Ecology (Spring 2007, 2008, 2009, 2010, 2012)

BIOEE 458 Community Ecology (Spring 2006, 2008, 2010)

BIO G 499 Independent Undergraduate Research in Biology – Independent Study (most semesters)

BIOEE 759 Special Topics in Evolution and Ecology: Plant-Insect Interactions Seminar (all semesters)

BIOEE 759 Special Topics in Evolution and Ecology: Professional Development in E&EB (Fall 2006, Fall 2011)

BIOEE 760 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 760 Special Topics in Evolution and Ecology: Biodiversity (Fall 2011 Eco-Evo Feedbacks)
BIOEE 999 Ph.D. Dissertation Research (all semesters)
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)

Educational Innovations Developed Including; Web-Based Materials; New Courses Developed, etc.

None

Current Undergraduate Students Mentored in Independent Research

Emily Kearney

Current Student Organizations for Which You Served as Faculty Advisor

None

Current Undergraduate Advisees (as of 12/31/08)

Kimberly Adams (Arts)
Varun Rathi (Arts)
Johnny Sa (CALs)
Anna Knight (CALs)
Nick Saleh (CALs)

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

Other Relevant Teaching and Advising Activities, Accomplishments, etc.

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)

(† 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)

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.)

Marjorie Weber, E&EB, Ph.D., 2014
Susan C. Cook, E&EB, Ph.D., 2012
Alexis C. Erwin, E&EB, Ph.D., 2013

Total Completed (names and dates)

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

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 Assistant 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 a Post Doc at the University of Florida.

GRADUATE MINORS

Current (names and expected date and field of degree)

Monica Kersch-Becker, E&EB, Ph.D., 2013; Scott McArt, Entomology, Ph.D., 2012; Sarah J. Reilly, E&EB, Ph.D., 2011; Joseph L. Simonis, E&EB, Ph.D., 2012, Annise Dobson, DNR, MSc, 2012

Total Completed (names and dates)

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

SABBATICAL VISITORS

Laurel Fox (University of California, Santa Cruz) Fall 2006
Robin Bingham (Western State College of Colorado), 2008-2009

OTHER CURRENT PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES

Ecological Society of America (1994-)
Society for the Study of Evolution (1996-)
American Association for the Advancement of Science (2005-)
Sigma Xi (1996-)
International Society for Chemical Ecology (2008-)

American Society of Naturalists (2010-)

PROFESSIONAL HONORARIES

None

EDITORIAL BOARDS

PLoS Biology, Editorial board (2006-)
Quarterly Review of Biology, Associate Editor (2007-)
American Naturalist, Associate Editor (2010-)
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)

425 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 (13), Annals of Botany (2), Annals of the Entomological Society of America (1), Arthropod-Plant Interactions (1), Australian Journal of Agricultural Research (1), Basic and Applied Ecology (1), Behavioral Ecology (3), Biological Conservation (1), Biological Reviews (1), Biology Letters (4), 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 (1), Czech Republic Academy of Sciences (1), Dutch SF (2), Ecography (1), Ecological Applications (1), Ecological Entomology (9), Ecological Monographs (1), Ecology (18), Ecology Letters (28), Écoscience (6), Ecosystems (1), Entomologia Experimentalis et Applicata (4), Environmental Entomology (3), Evolution (18), Evolutionary Ecology (3), Evolutionary Ecology Research (6), Experimental and Applied Acarology (5), Frontiers in Ecology and Environment (1), Functional Ecology (3), Global Change Biology (2), Global Ecology and Biogeography (1), Gordon Research Conference proposal (1), Heredity (2), Israel Science Foundation (1), Journal of Animal Ecology (3), Journal Applied of Ecology (5), Journal of Chemical Ecology (17), Journal of Ecology (15), Journal of Experimental Botany (1), Journal of Insect Science (1), Journal of Tropical Ecology (1), Journal of Tropical Forest Science (1), Maryland Agricultural Experiment Station Competitive Grants (1), Molecular Ecology (2), National Geographic Society Grants (2), Nature (2), NERC-England (5), New Phytologist (11), NSERC (5), NSF (39), Oecologia (29), Oikos (33), Physiological Entomology (1), Phytochemistry (1), Plant Biology (1), Plant Physiology (7), PLoS Biology (4), PLoS One (1), PNAS (11), Princeton Monograph proposal (3), Princeton monographs (2), Proceedings of the Royal Society of London - B (11), Promotion to tenured faculty or full professor (10), Quarterly Review of Biology (3), Science (8), Swiss ETH (3), Swiss National Science Foundation (2), Trends in Ecology & Evolution (3), Trends in Plant Science (1), UMass Hatch proposals (2), USDA (9).

COMMITTEE ASSIGNMENTS

International/National (including federal government agencies):

None

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

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

Commodity and other Stakeholder:

None

University*:

Environmental Sciences Planning Committee (2010)
CALS Dean Search Committee, 2009-2010
Faculty Advisory Committee, Cornell Center for a Sustainable Future (2008-2010)
Natural Areas Committee, Cornell Plantations (2006-)
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*:

Agricultural Experiment Station, Culture of Sustainability Committee (2008-)
Ad hoc tenure committee (2008)
CALS Environmental Sustainability and Development Task Force (2007-2008)
Ad hoc tenure committee chair (2006)
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:

Executive Committee (2011-)
Seminar Committee Chair (2008-2010)
Chair, Faculty 3rd year review (2008-9)
Graduate Admissions Committee, Field of E&EB, (2005-2007, 2011-)
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

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

Cornell Institute for Biology Teachers, Summer workshop, July 2010, July 2011, 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 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).

INVITED PRESENTATIONS

planned: University of California, Davis, Department of Entomology

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).
Stonybrook 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
- 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)

NSF Population and Community Ecology panel II, April 21-23 2010.

CONSULTING (please provide detail)

None

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

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

Submitted papers

Weber, M.G., W.L. Clement, M.J. Donoghue, and A.A. Agrawal. A bed and breakfast hypothesis for the evolution of mutualistic plant defense traits: phylogenetic and experimental tests. *American Naturalist*.

Dobler, S., M. Götting, I. Narberhaus, V. Wagschal, and A.A. Agrawal. Community-wide convergent evolution in insect adaptation to plant toxins: Altering sensitivity to cardenolides by substitutions in the Na/K-ATPase. *Evolution*.

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

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*.

Ali, J.G. and A.A. Agrawal. Specialist versus generalist insect herbivores and plant defense. *Trends in Plant Science*.

Wason, E.L., A.A. Agrawal, M.D. Hunter. A genetically-based latitudinal cline in the emission of herbivore-induced plant volatile organic compounds. *Ecology Letters*.

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*.

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

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*.

In Press

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*.

Cook-Patton, S.C. and A.A. Agrawal. Relatedness is a better predictor of phenotypic plasticity than plant growth rate or continental origin. *Evolutionary Ecology Research*.

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*.

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*.

Refereed Papers

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)

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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, Finland). During the colder months, my lab conducts more mechanistic experiments in glasshouses and growth chambers.