

RACHELLE M. M. ADAMS

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Website: <http://www.megalomyrmex.com>

EDUCATION

The University of Texas, Austin, TX (December 2008)

Ph.D., Section of Integrative Biology, Ecology, Evolution, and Behavior

Title: Unraveling the Origins of Social Parasitism in *Megalomyrmex* Ants

Advisors: Profs. Ulrich Mueller and Mike Ryan

The University of Montana, Missoula, MT (May 1997)

B.A., Division of Biological Sciences

PROFESSIONAL EXPERIENCE

Postdoctoral Positions

Postdoctoral Researcher/Instructor (April 2012–Present)

University of Copenhagen, Department of Biology, Denmark

Smithsonian Institution Molecular Evolution Postdoctoral Fellow (2009, 2013)

Smithsonian Institution, Department of Entomology, Washington, D.C.

Marie Curie International Incoming Fellow (March 2010–March 2012)

University of Copenhagen, Department of Biology, Denmark

Graduate Student Research Assistant for the University of Texas at Austin

Microsatellite development (Fall 2004)

Taxonomic work at the Smithsonian Institution, Washington D.C. and Museu de Zoologia,
Universidade de São Paulo, Brazil (Spring 2002)

Full-time Pre-graduate Work

Research Technician/Lab Manager (Jan. 1998–Jan. 2002)

Prof. Ulrich G. Mueller, University of Maryland, College Park, MD¹ and The University of
Texas, Austin, TX

Research Technician (Jan. 1998–Sept. 1999)

Dr. Ted R. Schultz, Department of Entomology, National Museum of Natural History,
Smithsonian Institution, Washington D.C.¹

Field Researcher in Australia (Dec. 1998–Jan. 1999)

Dr. Penny Kukuk, The University of Montana, Missoula, MT²

Research Technician (May–Dec. 1997)

Dr. Steve Forbes, The University of Montana, Missoula, MT

Part-time Undergraduate Work

Undergraduate Research Assistant (May 1996–April 1997)

Drs Penny Kukuk, Del Kilgore, Stephen Forbes, and Jerry Bromenshenk
The University of Montana, Missoula, MT

Undergraduate Research Assistant, Apiculture Supervisor (Sept. 1993–Dec. 1995)

Dr. Jerry Bromenshenk, The University of Montana, Missoula, MT

¹ While working at the Univ. of Maryland, I worked at the Smithsonian on the same NSF funded project

² This work was conducted while on leave from the Smithsonian and the University of Maryland

PUBLICATIONS, PRESENTATIONS, AND MANUSCRIPTS**Publications Accepted to Refereed Journals**

Student authors: §Graduate and *Bachelor

**As of the 22 Aug. 14, my work has been cited 615 times with an h-index of 10 ([Google Scholar](#))

17. Adams, RMM, §Liberti, J, §Illum, A, Jones, TH, Nash, D, Boomsma, J J (2013) Chemically armed mercenary ants protect fungus-farming societies. **Proceedings of the National Academy of Sciences USA** 110(39): 15752–7 [[YouTube LINK](#)] (Featured in PNAS: *In This Issue* doi: [10.1073/jiti3913110](#); and Video Library <http://www.pnas.org/site/media/videolibrary.xhtml>) (> 230 international media 14 days following the publication)
16. *Boudinot, BE, §Sumnicht, TP, Adams, RMM (2013) Central American ants of the genus *Megalomyrmex* Forel (Hymenoptera: Formicidae): six new species and keys to workers and males. **Zootaxa** 3732(1):1–82 [[YouTube LINK1](#) & [LINK2](#)]
15. Adams RMM, *Shah K, §Antonov LD, Mueller UM (2012) Fitness consequences of nest infiltration by the mutualist-exploiter *Megalomyrmex adamsae*. **Ecological Entomology** 37: 453–462 [[YouTube LINK1](#)]
14. Jones TH, Adams RMM, Spande TF, Garraffo HM, Kaneko T, Schultz TR (2012) Histrionicotoxin alkaloids finally detected in an ant. **Journal of Natural Products** 75:1930–1936
13. Adams RMM, Jones TH, *Jeter AW, §De Fine Licht HH, Schultz TR, Nash DR (2012) A comparative study of exocrine gland chemistry in *Trachymyrmex* and *Sericomyrmex* fungus-growing ants. **Biochemical Systematics and Ecology** 40:91–97
12. Adams RMM, Jones TH, *Jeter AW (2010) Male specific tyramids from three additional myrmicine genera. **Biochemical Systematics and Ecology** 38:454–456
11. Adams RMM, Longino J (2007) Nesting biology of the arboreal fungus-growing ant *Cyphomyrmex cornutus* and its social parasite *Megalomyrmex mondabora*. **Insectes Sociaux** 54(2):136–143
10. Villesen P, Mueller UG, Schultz TR, Adams RMM, *Bouck AC (2004) Evolution of ant-cultivar specialization and cultivar switching in *Apterostigma* fungus-growing ants. **Evolution** 58(10):2252–2265
9. Mueller UG, *Poulin J, Adams RMM (2004) Symbiont choice in a fungus-growing ant (Attine, Formicidae). **Behavioral Ecology** 15(2):357–364
8. Dearborn D, Schreiber BA, Anders A, Adams RMM, Mueller UG (2003) Inter-island movements and population differentiation in a pelagic seabird. **Molecular Ecology** 12(10):2835–2843
7. Forbes SH, Adams RMM, *Bitney C, Kukuk PF (2002) Extended parental care in communal social groups. **Journal of Insect Science** 2(2):1–6
6. *Green AM, Mueller UG, Adams RMM (2002) Extensive exchange of fungal cultivars between sympatric species of fungus-growing ants. **Molecular Ecology** 11:191–195
5. Pröhl H, Mueller UG, Ryan MJ, Adams RMM, Rand S (2002) Polymerase chain reaction primers for polymorphic microsatellite loci from the túngara frog *Physalaemus pustulosus*. **Molecular Ecology Notes** 2:341–343
4. Schultz TR, *Solomon SA, Mueller UG, Villesen P, Boomsma JJ, Adams RMM, Norden B (2002) Cryptic speciation in the fungus-growing ant *Cyphomyrmex longiscapus* Weber and *Cyphomyrmex muelleri* Schultz and Solomon, new species (Formicidae, Attini). **Insectes Sociaux** 49:331–343
3. Mueller UG, Schultz TR, Currie CR, Adams RMM, Malloch D (2001) The origin of the attine ant-fungus mutualism. **The Quarterly Review of Biology** 76:169–197
2. Adams RMM, Mueller UG, *Holloway AK, *Green AM, *Narozniak J (2000) Garden sharing and garden stealing in fungus-growing ants. **Naturwissenschaften** 87:491–493
1. Adams RMM, Mueller UG, Schultz TR, Norden B (2000) Agro-predation: usurpation of attine fungus gardens by *Megalomyrmex* ants. **Naturwissenschaften** 87:549–554

Presentations for Professional Meetings

18. §Liberti J, Sapountzis P, Hansen LH, Sørensen, SJ, **Adams RMM**, Boomsma JJ. Microbiomes of *Megalomyrmex* social parasites and their fungus-growing ant hosts. 16th Congress of International Union for the Study of Social Insects, Cairns, Australia (July 13–18, 2014)
17. **Adams RMM**, § Illum A, §Liberti J, Nash D, Jones T, Boomsma JJ. Chemically armed mercenary ants protect fungus-farming societies Fourth Annual Yosemite Symbiosis Workshop, Sierra Nevada Research Institute, Yosemite National Park, CA (May 3–4, 2014)
16. Poulsen M, Sapountzis P, §Liberti J, §Otani S, **Adams RMM**, Schiøtt M, Boomsma JJ. Exploring the roles of microbiomes in the guts of fungus-farming social insects. Danish Microbiological Society Annual Symposium, Copenhagen, Denmark (Nov. 5, 2012)
15. **Adams RMM**, § Illum A, §Liberti J, Nash D, Jones T, Boomsma JJ. Parasites or mercenaries? Shifts on the symbiosis continuum. North American section of International Union for the Study of Social Insects, Greensboro, NC (Oct. 5–7, 2012)
14. **Adams RMM**, § Illum A, §Liberti J, Nash D, Boomsma JJ. With a little help from my parasite: The social parasite ant *Megalomyrmex symmetochus* protects its fungus farming host against a lethal predator. 14th International Society for Behavioral Ecology, Lund University, Lund, Sweden (Aug. 12–18, 2012)
13. **Adams RMM**, § Illum A, §Liberti J, *Shah S, §Antonov L, Mueller UG, Boomsma JJ. Mercenaries against Genghis Khan in the world of ants: The evolution of life history strategies in *Megalomyrmex* ants. North-West European section of International Union for the Study of Social Insects, Brighton, England (Dec. 15–16, 2011)
12. §Liberti J, Boomsma JJ, **Adams RMM**. Garden stealing in fungus-growing ants. North-West European section of International Union for the Study of Social Insects, Brighton, England (Dec. 15–16, 2011)
11. **Adams RMM**. Mercenaries against Genghis Khan in the world of ants: A Marie Curie Fellow's rainforest discovery. European Association for International Education, Copenhagen, Denmark (Sept. 13–16, 2011)
10. **Adams RMM**, Schultz TR, Brady SG, Jones TH, Longino JT. Phylogeny of the tribe Solenopsidini and cryptic social parasitic species, an eclectic approach to species delineation. 15th Congress of International Union for the Study of Social Insects, Copenhagen, Denmark (Aug. 8–13, 2010) pg. 161
9. **Adams RMM**, *Nguyen D, Mueller UG, Schultz TR. Phylogeny of the ant genus *Megalomyrmex*: Implications for the evolution of social parasitism. Evolution, Moscow, Idaho, USA (June 12–16, 2009)
8. **Adams RMM**. Infiltration behavior & fitness impacts: A one-year study of the social parasite *Megalomyrmex symmetochus* and its fungus-growing ant host. Evolution, Christchurch, New Zealand (June 16–20, 2007)
7. **Adams RMM**, *Dewitz S. Experimental test of fitness: Impacts of *Megalomyrmex symmetochus* ants on their fungus-growing ant host. 15th Congress of International Union for the Study of Social Insects, Washington, D.C., USA (July 30–Aug. 5, 2006)
6. **Adams RMM**. Unraveling the origin of social parasitism in *Megalomyrmex* ants. North American Section Meeting for the International Union for the Study of Social Insects, Arizona State University, Arizona (Oct. 7–9, 2004)
5. **Adams RMM**. Unraveling the origin of social parasitism in *Megalomyrmex* ants. Integrative Studies of Social Evolution: The closing symposium of the INSECTS network, Helsingør, Denmark (Sept. 2–6, 2004)
4. Villesen P, Mueller UG, Schultz TR, **Adams RMM**, §Bouck AC. The cophylogenetics of the fungus-growing ant genus *Apterostigma* and its fungal symbionts. 15th Congress of International Union for the Study of Social Insects, Sapparo, Japan (July 27–Aug. 3, 2002)
3. **Adams RMM**. Agro-predation: a new form of social parasitism in a fungivorous usurper-ant of attine fungus gardens. North American Section Meeting for the International Union for the Study of Social Insects, Huntsville, Arkansas (Oct. 5–8, 2000)
2. **Adams RMM**, Mueller UG, Schultz TR, Norden B. Usurpers and marauders: The social predator *Megalomyrmex sp. nov.* (Formicidae: Solenopsidini) pillages both garden and

brood from fungus-growing ants (Attini). XXI International Congress of Entomology, Iguassu Falls, Brazil (Aug. 20–26, 2000)

1. Kukuk PF, Forbes SH, **Adams RMM**, *Bitney CM. Reproductive skew in a communal bee: Evolution of cooperation among non-kin. North American Section Meeting for the International Union for the Study of Social Insects, Nashville, Colorado (Dec. 14–18, 1997)

Posters for Professional Meetings

9. **Adams RMM**, §Illum A, §Liberti J, Nash D, Jones T, Boomsma JJ. Conditional mutualism emerges from a largely antagonistic species network. 16th Congress of International Union for the Study of Social Insects, Cairns, Australia (July 13–18, 2014)
8. §Liberti J, Sapountzis P, Hansen LH, Sørensen SJ, **Adams RMM**, Boomsma JJ. Specificity and transmission of bacterial symbionts in socially parasitic ants and their fungus-growing ant hosts. 14th Congress of the European Society for Evolutionary Biology, Lisbon, Portugal (Aug. 19–24, 2013). Poster D23SY4PS1389 (<http://www.eseb2013.com/delegates/iliberti>)
7. Poulsen M, Sapountzis P, §Liberti J, §Otani S, **Adams RMM**, Schiøtt M, Boomsma JJ. Exploring the roles of microbiomes in the guts of fungus-farming social insects. Copenhagen Microbiology Center Symposium 2012, Copenhagen, Denmark (October 5, 2012)
6. **Adams RMM**, §Shah K, Schultz TR, Brady S, Mueller UG, §Antonov LD, §Illum A, §Liberti J, Boomsma JJ. Parasitic attack on two mutualistic partners: The evolution of social parasite strategies and the coevolutionary consequences. 13th Congress of the European Society for Evolutionary Biology, Tübingen, Germany (Aug. 20–25, 2011) Poster B5-Sy05-i001-R
5. **Adams RMM**, Jones TH. The evolution of venom alkaloids in *Megalomyrmex* ants, from predators to social parasites. 26th International Society of Chemical Ecology, Tours, France (July 31–Aug. 4, 2010) Poster P110, pg. 301 (Honorable mention for best poster)
4. *Tseng, A, **Adams RMM**. *Megalomyrmex symmetochus* and *Trachymyrmex zeteki*: Behavioral interactions from infiltration to cohabitation. 15th Congress The International Union for the Study of Social Insects, Washington, D.C., USA (July 30–Aug. 5, 2006)
3. **Adams RMM**, Mueller UG, Schultz TR. Nest usurpation and fungivory in *Megalomyrmex sp. nov.* interactions with the fungus-growing ant *Cyphomyrmex longiscapus*. 14th Congress of International Union for the Study of Social Insects, Adelaide, Australia (Dec. 29, 1998–Jan. 3, 1999)
2. *Narozniak, JM, **Adams RMM**, Mueller UG. Behavioral observations on the transfer of fungal symbionts between species of fungus-growing ants: Implications for species and kin recognition. Proceedings of the XIII Congress of International Union for the Study of Social Insects, Adelaide, Australia (Dec. 29, 1998–Jan. 3, 1999)
1. **Adams RMM**, King BE, Seccomb RA, Kukuk PF, Bromenshenk JJ. Underground artificial nest cavities with bidirectional counters used to monitor the flight activity of *Bombus occidentalis*: A comparative study on *B. occidentalis* and *Apis mellifera*. International Union for the Study of Social Insects, North American Section, Nashville, Colorado (Dec. 14–18, 1997)

Invited Speaker/Guest Lectures

18. **Smithsonian Natural History Museum** (Forthcoming Nov. 7, 2014) **Department of Entomology Seminar** Paths to and from parasitism: Behavioral and chemical transitions of predators, parasites and protective symbionts. Host: Dr. Ted Schultz, Washington D.C.
17. **Pennsylvania State University** (Forthcoming Nov. 5, 2014) **Department of Entomology Seminar** Paths to and from parasitism: Behavioral transitions of predators, parasites and protective symbionts. Host: Prof. Gary Felton, University Park, PA U.S.A.
16. **University of Copenhagen** (Forthcoming Sept. 22, 2014) **Guest Lecture: Evolutionary Ecology** Context-dependent outcomes in social parasite-host interactions. Course instructor: Dr. Michael Poulsen, Copenhagen, Denmark

15. **University of Copenhagen** (Aug. 24, 2014) **Guest Lecture: eurOants—Taxonomy, Identification, and Ecology of European Ants** Ant husbandry: Insights to keeping research colonies in the lab. Course instructor: Dr. David Nash, Copenhagen, Denmark
14. **Universität Konstanz** (June 3, 2014) **Guest Lecture: Current Research Topics in Neurobiology** Chemically armed mercenary ants pillage and protect fungus-farming societies. Course instructor: Dr. Christoph Kleineidam, Konstanz, Germany
13. **University of California-Riverside** (Feb. 25, 2014) **Department of Entomology** Chemically armed ants pillage and protect fungus-farming societies. Riverside, CA U.S.A.
12. **University of Cincinnati** (Feb. 20, 2014) **Department of Biological Sciences** Chemically armed ants pillage and protect fungus-farming societies. Cincinnati, OH U.S.A.
11. **University of Copenhagen** (Jan. 2011) **Section of Ecology and Evolution**, Cracking the chemical communication code: The origin and evolution of social parasitic *Megalomyrmex* ants. Host: Koos Boomsma, Copenhagen, Denmark
10. **Swedish University of Agricultural Sciences** (Dec. 2010) **Plant Protection Biology Chemical Ecology Seminar** Cracking the chemical communication code: The origin and evolution of social parasitic *Megalomyrmex* ants. Host: Prof. Peter Witzgall, Alnarp, Sweden
9. **University of Copenhagen** (June 2008) **Section of Ecology and Evolution**, Unraveling the origins of social parasitism in *Megalomyrmex* ants. Host: Koos Boomsma, Copenhagen, Denmark
8. **Laboratoire d'Ecologie Université** (Summer 2006) **Ecology and Evolution Seminar** Unraveling the origin of social parasitism in *Megalomyrmex* ants. Host: Prof. Christian Peeters, Paris, France
7. **The University of Texas** (Dec. 2005) **UT Population Biology Departmental Seminar** Evolution of behavior in *Megalomyrmex* ants. Host: Ulrich Mueller, Austin, TX U.S.A.
6. **The University of Texas** (Nov. 2005) **Guest Lecture: Principles of Animal Behavior** Social parasitism in ants: Behaviors and chemical weaponry. Course instructor: Dr. Molly Cummings, Austin, TX U.S.A.
5. **Smithsonian Natural History Museum** (Dec. 2004) **Department of Entomology** Unraveling the origins of social parasitism in *Megalomyrmex* ants. Host: Dr. Ted Schultz, Washington D.C. U.S.A.
4. **Museu de Zoologia, Universidade de São Paulo** (Oct. 2004) **Department of Entomology** Unraveling the origins of social parasitism in *Megalomyrmex* ants. Host: Prof. Roberto Brandão, São Paulo, Brazil
3. **The University of Texas** (Spring 2004) **NSECTS Club Meeting** Fungus growing ants and their social parasites. Austin, TX U.S.A.
2. **The University of Texas** (Sept. 2002) **UT Population Biology Departmental Seminar** Evolution of social parasitism in the omnivorous ant genus *Megalomyrmex*. Host: Ulrich Mueller, Austin, TX U.S.A.
1. **The University of Texas** (Spring 2002) **SURGe (Students Undergraduate Research Group) Club Meeting** Opportunities after graduation: Experiences and advice from a research technician in biology. Austin, TX U.S.A.

My Work Discussed in Popular Books

- Hölldobler B, Wilson EO (2011) Agropredators and Agroparasites. Chapter 11 of *The Leafcutter Ants: Civilization by Instinct*, W.W. Norton & Company, Inc., New York, NY
- Hölldobler B, Wilson EO (2008) The attine leafcutters: the ultimate superorganisms. Chapter 9 of *The Superorganism: The Beauty, Elegance, and Strangeness of Insect Societies*, W.W. Norton & Company, Inc., New York, NY

POPULAR MEDIA◆ *Personal Interviews***TV, Radio, and Podcasts**

- Jim Dury (Dec. 3, 2013) Three-way ant warfare a lesson in co-existence **Reuters TV: Sciencedaily.com, scientificamerican.com, msn.com, ≥13 additional websites** (<http://uk.reuters.com>) ◆
- Bob McDonald (Sept. 14, 2013) Mercenary Ants **Quirks & Quarks** on CBC Radio (http://www.cbc.ca/quirks/media/2013-2014/qq-2013-09-14_02.mp3) ◆
- Thane Maynard (Oct. 21, 2013) Mercenary Ants. **90-second Naturalist Podcasts: NPR, Cinninnatizoo.org** (<http://www.xu.org/90-second-naturalist-archive>)
- Bob McDonald (Jan. 2001) **Quirks & Quarks** on CBC Radio ◆

Articles**Selected Media Coverage (> 20 original articles in 14 different languages)**

- Servick K (Sept. 9, 2013) ScienceShot: 'Mercenary' Ant Is Both Scourge and Savior. **Science Magazine** (<http://news.sciencemag.org/plants-animals/2013/09/scienceshot-mercenary-ant-both-scourge-and-savior>) ◆
- Yong E (Sept. 9, 2013) Not Exactly Rocket Science: Mercenary Ants Protect Farmers with Chemical Weapons. **National Geographic** (<http://phenomena.nationalgeographic.com>) [as of Sept. 27, 2013: 104 Tweets; 521 fLikes; 10 g⁺¹] ◆
- Crossing D (Sept. 9, 2013) From Parasites to Protectors. **The Scientist** (<http://www.the-scientist.com/?articles.view/articleNo/37410/title/From-Parasites-to-Protectors/>) ◆
- Choi CQ (Sept. 9, 2013) Parasite Ants Drafted as Mercenaries. **LiveScience: Yahoo News, RichardDawkins.net, Oregon Herald, NBC News Science, MSNBC Science, >20 links from websites** (<http://www.livescience.com/39501-parasite-ants-drafted-as-mercenaries.html>) [as of Sept. 22, 2013: 262 fShares; 8 Tweets; 8 g⁺Shares] ◆
- Mohan G (Sept. 11, 2013) Chemically armed mercenary ant armies protect their host. **Los Angeles Times** (<http://www.latimes.com/science/sciencenow/la-sci-sn-mercenary-ant-armies-20130910,0,7578042.story>) [as of Sept. 22, 2013: 386 Shares; 19 Tweets; 367 fLikes; 24 g⁺¹] ◆
- Geremias D (Sept. 11, 2013) Formigas mercenárias desenvolvem estratégias para destruir inimigos [vídeo] **Mega Curioso** (<http://www.megacurioso.com.br/animais/39002-formigas-pacificas-se-unem-a-invasores-para-destruir-inimigos-video-.htm>) [as of 25 Sept. 2012: 128 fLikes, 11 Tweets, 5 g⁺¹] **(Czech)**
- Barinova A (Sept. 12, 2013) Муравьи-паразиты оказались защитниками **National Geographic Russia** (<http://www.nat-geo.ru/article/4289-muravi-parazityi-okazalis-zaschitnikami/>) **(Russian)**
- Runz-Jørgensen A (Sept. 12, 2013) Myrekrig kan forklare menneskelig adfærd **Politiken** (<http://politiken.dk/videnskab/ECE2073699/myrekrig-kan-forklare-menneskelig-adfaerd/>) ◆
- Sjøgren K (Sept. 9, 2013) Myrer i gladiatorkamp beviser unikt samarbejde. **Videnskab** (<http://videnskab.dk/miljo-naturvidenskab/myrer-i-gladiatorkamp-beviser-unikt-samarbejde>) ◆
- Sjøgren K (Sept. 11, 2013) Ants in gladiatorial combat reveal unique collaboration. **Science Nordic** (<http://sciencenordic.com/ants-gladiatorial-combat-reveal-unique-collaboration>)
- Larsen H (Jan. 2, 2011) Kemiske kneb når insekter går på rov. **Politiken** (http://www1.bio.ku.dk/forskning/oe/cse/formidling/pressen/Politiken_20110102.pdf/) ◆
- Weir K L (May 2001) Poached fungi. **Natural History** ◆
- Milius S (Jan. 6, 2001) New ant species plunders other ants' farm. Vol. 159, No. 1 **Science News** ◆
- Ariniello L (1999) Protecting paradise: Fungus-farming ants ensure crop survival with surprising strategies and partnerships 49(10):760–763 **BioScience** ◆

FELLOWSHIPS, STIPENDS, AND GRANTS

<u>YEAR</u>	<u>TYPE OF AWARD</u>	<u>AMOUNT</u>
Postdoctoral		
2010–2012	Marie Curie International Incoming Fellowship Title: evolutionAry traNsitions: CChemical EEcology of PParasitic S Societies (ANCEPS)	€215,851
2009–2012	Smithsonian Institution Molecular Evolution Fellowship Title: The molecular phylogenetics of the tribe Solenopsidini: Why are there so many wingless queens and social parasites?	\$80,000
2010–2012 (awarded but declined)	National Science Foundation (International Research Fellowship) Title: Evolutionary transitions of chemical communication in a parasitic system: Mechanisms of parasite infiltration, host-manipulation, and integration	\$174,918
2009 (awarded but declined)	Smithsonian Institution Postdoctoral Fellowship	\$40,000
		<u>Total postdoc support: \$586,563 or €433,662</u>

Graduate School (The University of Texas)*National Competitions*

2006–2007	P.E.O. Scholar Award	\$10,000
Summer 2005	National Science Foundation Dissertation Improvement Grant Title: Unraveling the Origin of Social Parasitism in <i>Megalomyrmex</i> Ants	\$12,155
2004–2005	Mellon Research Exploration Awards In Tropical Biology	\$3,000
Summer 2004	Sigma Xi Research Fellowship	\$112
Summer 2004	Amazon Conservation Association Field Research Grant	\$1,930
Summer 2004	Society of Systematic Biologists Graduate Student Award	\$2,000
Summer 2002	The Explorers Club Exploration Fund	\$1,000

The University of Texas Competitions

Summer 2008	Hartman Summer Merit Stipend	\$2,500
Summer 2008	UT Bair Graduate Student Professional Development Award	\$280
Summer 2007	Hartman Summer Merit Stipend	\$1,400
Summer 2007	UT Bair Graduate Student Professional Development Award	\$800
Fall 2006	UT Bruton Fellowship, College of Natural Sciences	\$1,000
Summer 2006	Hartman Summer Merit Stipend	\$2,500
Summer 2006	UT Bair Graduate Student Professional Development Award	\$2,000
Spring 2006	UT Special Fellowship, College of Natural Sciences	\$1,000
Summer 2005	Hartman Summer Merit Stipend	\$2,500
Fall 2004	Terrell H. Hamilton Graduate Research Fellowship	\$680
Summer 2004	Dorothea Bennett Memorial Graduate Research Fellowship	\$2,690
Fall 2003	Hartman Research Fellowship	\$2,880
Spring 2003	Hartman Research Fellowship	\$1,800
Fall 2002	Dorothea Bennett Memorial Graduate Research Fellowship	\$450
Spring 2002	Hartman Research Fellowship	\$250

Total graduate support: \$52,927 or €39,129**Undergraduate School (The University of Montana)**

1997	Flora & Fauna Society Undergraduate Research Award	\$350
1996	Honors College Undergraduate Research Award	\$1,000

TEACHING AND MENTORING EXPERIENCE**University of Copenhagen, Course Designer and Organizer**

- Tropical Behavioral Ecology and Evolution (May 2011, 2013, *forthcoming* Spring 2015)
15 ECTS credit Panama-based graduate-level field course
Symbioses Reading Group (2010–present)
Attended by Master's students, PhD students and faculty

Guest Lectures (see Invited Speakers for details)

- Evolutionary Ecology, (Spring 2014)
University of Copenhagen
eurOants: Taxonomy, Identification, and Ecology of European Ants, (Spring 2014)
University of Copenhagen
Current Research Topics in Neurobiology, (Summer 2014)
Universität Konstanz
Principles of Animal Behavior, (Fall 2005)
The University of Texas

The University of Texas Teaching Assistantships (20 hr/week for 14 weeks)

I gave weekly lectures four times a week to 60-130 students or led discussions on current literature and wrote and graded exams.

- Evolution, Ecology, and Society (Fall 2005, Fall 2006)
Evolution (Spring 2004, Spring 2005)
Evolutionary Ecology (Spring 2003)
Biology for Business, Law, and Liberal Arts (Fall 2003)
Molecular Methods (Spring 2002)

Teaching Awards and Workshops

- 11th Annual Wakonse South Conference on College Teaching, Texas (2008)
- W. S. Livingston Outstanding Graduate Student Academic Employee Award (2007 nominee)
- The University of Texas Teaching Assistant Workshop and Congress, Austin, Texas (2003)

Mentoring and SupervisionUniversity of Copenhagen

I mentor and supervise Bachelor's and Master's students.

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| Joanito Liberti | (MSc thesis defended April 2013) | Bacterial symbionts of sociality parasitic ants and their host |
| Mia Hegelund | (Guided Project) | The life history and morphometric analysis of |
| Hylde | 7.5 ECTS credits defended April 2012) | <i>Megalomyrmex foreli</i> (Formicidae: Myrmicinae: Solenopsisini) from Costa Rica |

University of Maryland/The University of Texas

Hired and mentored 27 undergraduates (20 women). Most have gone on to graduate school, medical school, or professional jobs in industry. Five undergraduate assistants received funding to conduct independent research projects under my direction and four presented posters at professional meetings or The University of Texas Undergraduate Conference.

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| Diana Nguyen | (Spring 2008) | \$900 |
| Komal Shah | (Fall 2007) | \$300 |
| Jennifer Mir | (Fall 2007) | \$425 |
| Andrew Tseng | (Fall 2006) | \$1000 *paid expenses to international congress |
| Chris Roesel | (Spring 2004) | \$900 |

Intellectual Entrepreneurship: Pre-graduate Student Internship (Spring 2006)

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| Andrew Tseng | (Spring 2006) |
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