

BERRY J. BROSI

WINSHIP DISTINGUISHED ASSOCIATE PROFESSOR
DEPARTMENT OF ENVIRONMENTAL SCIENCES • EMORY UNIVERSITY
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PROFESSIONAL EXPERIENCE

- Emory University**, Department of Environmental Sciences
Winship Distinguished Associate Professor in Natural Sciences & Mathematics Sept 2016- Sept 2019
Associate Professor Sept 2016 —
Assistant Professor Jan 2010-Sept 2016
- Georgia Institute of Technology (Georgia Tech)**, Department of Biology
Adjunct Professor Fall 2016 —
- Stanford University**, Department of Biology, Palo Alto, CA. October 2006-December 2009
Post-Doctoral Research Scholar, advisor: Gretchen C. Daily.
- The New York Botanical Garden**, Bronx, NY. June 2000-August 2002
Research Associate, Institute of Economic Botany

EDUCATION

- Ph.D. Stanford University**, Department of Biological Sciences, Palo Alto, CA **September 2002-October 2006**
Doctor of Philosophy, Biological Sciences. Advisor: Gretchen C. Daily.
- M.Sc. Yale University**, School of Forestry and Environmental Studies, New Haven, CT **August 1998-May 2000**
Master of Environmental Science.
- B.A. Wesleyan University**, Middletown, CT **September 1992-May 1996**
Bachelor of Arts with Honors. Double Major in Biology and Studio Arts.

SELECTED HONORS

- Winship Distinguished Professorship, Emory University College of Arts & Sciences Sept 2016- Sept 2019
Three-year award for faculty “demonstrating singular accomplishments in research;” sole recipient in the division of Mathematics and Natural Sciences in 2016; award carries additional salary and research funding
- Lead Author, IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services) 2014-2015
Thematic assessment of pollinators, pollination and food production
One of five lead authors from the US (out of 75 total); IPBES modeled after IPCC
- Yale-Stanford Junior Faculty Forum (Environmental Law category) 2010
One of two selected papers from a national competition among junior faculty; co-recipient with Eric Biber of UC-Berkeley
- Teresa Heinz Scholar for Environmental Research 2004-2005
- Stanford Excellence in Teaching Award Spring 2004
- Anne M. and Robert T. Bass Stanford Graduate Fellowship in Science and Engineering 2002-2005
- Doris Duke Conservation Fellow, Yale University 1998-2000
- Doris Duke/Yale Tropical Resources Institute Fellowship, Yale University Summer 1999
- Thomas J. Watson Fellowship, Finalist 1996
- The Arndt-Dana Grant, Wesleyan University Summer 1995
- Jackson Scholarship; McKenna Scholarship; Hedden Scholarship, Wesleyan University 1992-1996

EXTERNAL GRANT FUNDING

> **\$4.2 million total in federal research funding** at Emory, from NSF, NIH, USDA, and ARO

CURRENT EXTERNAL FUNDING: (reverse chronological order by end date)

- \$1,702,067** US National Institutes of Health, Institute of General Medical Sciences (NIGMS) 8/2013-7/2018
NSF-NIH Ecology and Evolution of Infectious Disease (EEID) program.
J. De Roode (Project Director), **B. Brosi**, M. Boots, K. Delaplane (co-PIs). \$830,385 total costs to Emory.
US-UK Collab: Understanding the effects of spatial structure on the evolution of virulence in the real world: honey bees and their destructive parasites
- \$496,996** US Department of Agriculture, Agriculture and Food Research Initiative (AFRI) 11/2012-11/2017
R. Fletcher (Project Director), **B. Brosi**, L. Smith, H. Ober (co-PIs). \$167,085 total costs to Emory
Evaluating the sustainability of bioenergy production in the Southeast on the basis of wildlife and pollinator responses across spatial scales
- \$570,686** US Army Research Office, Broad Agency Announcement (BAA) 9/2017-9/2020
B. Brosi (Project Director), Karen Bell, Tim Read (co-PIs). Full budget to Emory.
Quantitative DNA Metabarcoding of Pollen

COMPLETED EXTERNAL FUNDING:

- \$448,896** US Army Research Office, Broad Agency Announcement (BAA) 7/2013-7/2017
B. Brosi (Project Director), Kevin Burgess, Tim Read (co-PIs). Full budget to Brosi lab
Development of Mixed-Sample DNA Barcoding of Pollen
- \$500,000** US National Science Foundation, Population & Community Ecology program 8/2011-8/2015
B. Brosi (Project Director and sole PI). Full budget to Emory
Pollinator Diversity and Foraging Specialization
- \$490,900** US Department of Agriculture, Agriculture and Food Research Initiative (AFRI) 3/2011-2/2015
B. Brosi (Project Director), K. Delaplane and J. De Roode (co-PIs). \$275,580 total costs to Emory
Managing Varroa virulence in honey bees: transmission, virulence, and gene expression
- \$20,252** US National Science Foundation, Population & Community Ecology program DDIG 5/2015-5/2017
B. Brosi (Project Director), C. Ayers* (co-PI). Full budget to Emory. *Dissertation Research: The effect of cognitive disturbance on functionally relevant plastic behavioral responses.* *graduate student co-investigator
- \$6,250** US National Science Foundation, Population & Community Ecology program 5/2015-8/2015
B. Brosi (Project Director and sole PI). Full budget to Emory
Research Experiences for Undergraduates Supplement, to Pollinator Diversity & Foraging Specialization
- \$16,080** US National Science Foundation, Population & Community Ecology program DDIG 5/2014-5/2015
G. Gilbert (Project Director), H. Briggs*, B. Brosi (co-PIs). No Emory budget; covered some fieldwork costs
Dissertation Research: Testing how traits shape individual resource use in response to competition: implications for ecosystem functioning. *graduate student co-investigator
- \$139,896** US Army Research Office, Defense University Research Instrumentation Program 9/2013-8/2014
B. Brosi (Project Director and sole PI). Full budget to Emory
Equipment for the Development of Mixed-Sample DNA Barcoding of Pollen
- \$6,250** US National Science Foundation, Population & Community Ecology program 6/2013-8/2014
B. Brosi (Project Director and sole PI). Full budget to Emory
Research Experiences for Undergraduates Supplement, to Pollinator Diversity & Foraging Specialization
- \$6,250** US National Science Foundation, Population & Community Ecology program 6/2013-8/2013
B. Brosi (Project Director and sole PI). Full budget to Emory
Research Experiences for Undergraduates Supplement, to Pollinator Diversity & Foraging Specialization
- \$3,365** North American Pollinator Protection Campaign, Honey Bee Health Grants 5/2012-5/2013
B. Brosi (Project Director), Lydia McCormick*, Keith Delaplane (co-PIs). Full budget to Emory

- Honey hydrogen peroxide: Diet effects and use as a colony stress indicator.* *Emory undergraduate co-investigator
- \$7,500** US National Science Foundation, Population & Community Ecology program 6/2012-8/2012
B. Brosi (Project Director and sole PI). Full budget to Emory
Research Experiences for Undergraduates Supplement, to Pollinator Diversity & Foraging Specialization
- \$100,000** Moore Family Foundation 9/2007-9/2009
 G. Daily (Project Director) and **B. Brosi** (co-PI). Full budget to Brosi salary & project costs at Stanford
Sustaining bee communities and pollination services in agricultural landscapes

INTERNAL GRANTS FUNDED

- \$30,000** Emory University Research Council (URC) 5/2015-5/2016
B. Brosi (sole PI).
The Consequences of Species Extinctions for the Structure of Mutualistic Species Interaction Networks

PEER—REVIEWED JOURNAL ARTICLES IN REVIEW

† = post-doc advisee co-author; § = graduate student advisee co-author; * = undergraduate advisee co-author;
 ¶ = post-doc non-advisee co-author; • = graduate student non-advisee co-author; ° = undergraduate non-advisee
 coauthor

59. Lucas A, Bodger O, **Brosi BJ**, Ford C, Forman D, Greig C, Hegarty M, Neyland P, de Vere N. *In Review*. DNA metabarcoding reveals the role of Hoverflies (Syrphidae) in pollen transport in grasslands.
58. *Chu HC, **Brosi BJ**, †Bell KL. *In Review*. Removal of contaminating non-pollen material in palynological samples for DNA barcoding.
57. *Miljanic AS, §Loy X, §Gruenewald DL, Dobbs EK, •Gottlieb IGW, Fletcher, RJ, **Brosi, BJ**. *In Review*. Bee Communities and Biofuel Production: Interactive Effects of Local-Level Management and Landscape Context
56. §Briggs HM, **Brosi BJ**. *In Review*. Pollinator traits and competitive context shape dynamic foraging behavior in bee communities.
55. §Ayers CA, **Brosi BJ**, Armsworth PR. *In Review*. Statistically testing the role of individual learning and decision-making in trapline foraging behavior: a spatially explicit, individual-based null model approach.
54. •Rossetti B, §Dynes T, •Zhang X, **Brosi BJ**, de Roode JC, Kong J. *In Revision*. GRAPHITE: A Graphical Environment for Scalable Video Tracking of Animal Movement.

PEER—REVIEWED JOURNAL ARTICLES

53. ¶Lichtenberg E, ¶Mendenhall C, **Brosi BJ**. *In Press*. Diet breadth impacts tropical bee species' sensitivity to forest loss. *Journal of Animal Ecology*.
52. **Brosi BJ**¹, Delaplane KS, Boots M, De Roode JC¹. *In Press*. Ecological and evolutionary approaches to managing honey bee disease. *Nature Ecology and Evolution*. (¹BJB and JCdR contributed equally)
51. *Botsch JC, ¶Walter ST, Karubian J, González N, Dobbs E, **Brosi BJ**. *In Press*. Impacts of Forest Fragmentation on Species Diversity of Orchid Bees (Hymenoptera: Apidae: Euglossini) in the Chocó Biodiversity Hotspot of Northwest Ecuador. *Journal of Insect Conservation*.
50. **Brosi, BJ**, *Niezgoda K, §Briggs HM. 2017. Experimental species removals impact the architecture of pollination networks. *Biology Letters* 13: 20170243
49. •Gottlieb IGW, Fletcher RJ, •Nuñez-Regueiro MM, Ober H, Smith L, **Brosi BJ**. 2017. Alternative biomass strategies for bioenergy: implications for bird communities across the southeastern United States. *GCB Bioenergy* DOI: 10.1111/gcbb.12453

48. †Bell KL, *Fowler J, Burgess KS, Dobbs EK, §Gruenewald D, *Lawley B, §Morozumi C, **Brosi BJ**. 2017. Applying pollen DNA metabarcoding to the study of plant-pollinator interactions. *Applications in Plant Sciences* 5(6): 1600124.
47. †Bell KL, *Loeffler VM, **Brosi BJ**. 2017. An *rbcl* reference library to aid in the identification of plant species mixtures by DNA metabarcoding. *Applications in Plant Sciences* 5(3): 1600110.
46. Strauss SH, Jones KN, Lu H, Petit JH, Klocko AH, **Brosi BJ**, Betts MG, Needham MD, Fletcher RJ. 2017. Impacts of Flowering Modification on Biodiversity in Forest Plantations. *New Phytologist* 213: 1000–1021.
45. §Dynes, T.L., J.C. De Roode, J.I. Lyons, J.A. Berry, K.S. Delaplane, **B.J. Brosi**. 2017. Fine scale population genetic structure of *Varroa destructor*, an ectoparasitic mite of the honey bee (*Apis mellifera*). *Apidologie* 48(1): 93-101.
44. Dicks LV, Viana B, Bommarco R, **Brosi BJ**, del Coro Arizmendi M, Cunningham SA, Galetto L, Hill R, Lopes AR, Pires C, Taki H, Cooper D, Potts SG. 2016. Ten policies to protect pollinators. *Science* 354, 975–976.
43. †Bell, K.L., K.S. Burgess, N. De Vere, •A. Gousse, A. Keller, •R. Richardson, **B.J. Brosi**. 2016. DNA metabarcoding of pollen: progress and prospects. *Genome* 59(9): 629-640.
42. •Levine, R.S., D.G. Mead, G.L. Hamer, **B.J. Brosi**, D.L. Hedeem, M.W. Hedeem, •J.R. McMillan, ¶D. Bisanzio, and U.D. Kitron. 2016. Supersuppression: Reservoir Competency and Timing of Mosquito Prey Shifts Combine to Reduce Spillover of West Nile Virus. *American Journal of Tropical Medicine & Hygiene* 95(5): 1174-1184.
41. ¶Valdovinos, F.S., **B.J. Brosi**, §H.M. Briggs, P. Moisset de Espanés, R. Ramos-Jiliberto, N.D. Martinez. 2016. Adaptive foraging interacts with network structure to stabilize mutualistic networks. *Ecology Letters* 19: 1277–1286.
40. **B.J. Brosi**. 2016. Pollinator Specialization: from the Individual to the Community. *New Phytologist* 210: 1190–1194. DOI: 10.1111/nph.13951.
39. •Philipsborn, R., •S.M. Ahmed, **B.J. Brosi**, K. Levy. 2016. Climatic Drivers of Diarrheagenic *Escherichia coli* Incidence: A Systematic Review and Meta-analysis. *Journal of Infectious Diseases* 214 (1): 6-15. DOI: 10.1093/infdis/jiw081
38. †Bell, K.L., K.S. Burgess, K.C. Okamoto, R. Aranda, **B.J. Brosi**. 2016. Review and future prospects of DNA barcoding methods in forensic palynology. *Forensic Science International: Genetics* 21: 110-116.
37. §Briggs, H.M., *L.M. Anderson, *A.M. Delva, *L. Atalla, E.K. Dobbs, **B.J. Brosi**. 2015. Heterospecific pollen deposition in *Delphinium barbeyi*: linking stigmatic pollen loads to reproductive output in the field. *Annals of Botany* 10.1093/aob/mcv175
36. §Ayers, C.A., P.R. Armsworth, **B.J. Brosi**. 2015. Determinism as a statistical metric for trapline foraging and other recurrent behaviors. *Behavioral Ecology and Sociobiology* 69:1395–1404.
35. °Miller, A.E., L. Pejchar, **B.J. Brosi**, K. Magnacca, and G.C. Daily. 2015. Pollen carried by native and non-native bees in large-scale forest restoration in Hawaii: Implications for pollination. *Pacific Science* 69(1): 67-79.
34. Tallis, H., J. Lubchenco, ... **B.J. Brosi** ... et al. (>200 authors). 2014. A call for inclusive conservation. *Nature* 515(7525): 27–28.
33. *Anderson, L.M., §T.M. Dynes, J.A. Berry, K.S. Delaplane, *L.L.McCormick, and **B.J. Brosi**. 2014. Distinguishing feral and managed honey bees (*Apis mellifera*) using stable carbon isotopes. *Apidologie* 45(6): 653-663.
32. ¶Suni, S.S., J. Bronstein, and **B.J. Brosi**. 2014. Conservation genetics of the orchid bee *Euglossa championi*: analysis of spatio-temporal genetic structure reveals high dispersal over a fragmented area. *Biotropica* 46(2): 202–209.
31. §Briggs, H.M., I. Perfecto, and **B.J. Brosi**. 2013. The role of the agricultural matrix: coffee management and euglossine bee (Hymenoptera: Apidae: Euglossini) communities in southern Mexico. *Environmental Entomology* 42(6): 1210-1217.
30. ¶Bewick, S., **B.J. Brosi**, and P.R. Armsworth. 2013. Competition causes secondary extinctions in plant-pollinator networks. *Oikos* 122: 1710–1719.

29. **Brosi, B.J.**, and S.H.M. Briggs. 2013. Single pollinator species losses reduce floral fidelity and plant reproductive function. *Proceedings of the National Academy of Sciences* 110, 13044–13048.
*media coverage in *Nature*, *The New York Times*, *National Geographic*, *LA Times*, *Scientific American*, among several other media outlets in the US; additional coverage in Germany, Sweden, France, Spain, China, and New Zealand among other countries
*featured on the National Science Foundation website
28. †Hinojosa, I., and **B.J. Brosi**. 2013. First records and description of metallic red females of *Euglossa* (Alloglossura) *gorgonensis* Cheesman from the Pacific slope of southern Costa Rica (Hymenoptera: Apidae). *Zookeys* 335: 113-119.
27. •Gould, R.K., L. Pejchar, •S.G. Bothwell, **B.J. Brosi**, S. Wolny, •C.D. Mendenhall, G.C. Daily. 2013. If you build it, they will come: Forest restoration and parasitic wasp communities in montane Hawaii. *PLoS ONE* 8, e59356.
26. •Lichtenberg, E., and **B.J. Brosi**. 2012. Expanded ranges of two stingless bee (Hymenoptera: Apidae) species: *Aparatrigona isopterophila* and *Ptilotrigona occidentalis*. *Journal of the Kansas Entomological Society* 85(4): 374-377.
25. **Brosi, B.J.** and E.G. Biber. 2012. Citizen involvement in the US Endangered Species Act. *Science* 337(6096), 802–803.
*media coverage in the *New York Times*, *Nature*, *The New Scientist*, *Smithsonian*, *UPI*, *Greenwire* and several other news outlets and websites
24. †Sun, S.S., and **B.J. Brosi**. 2012. Landscape genetics of orchid bees in a fragmented tropical landscape. *Conservation Genetics* 13:323-332.
23. †Souza, R.O., M. A. Del Lama, M. Cervini, N. Mortari, T. Eltz, Y. Zimmermann, C. Bach, **B.J. Brosi**, †S.S. Sun, J.J.G. Quezada-Euán, R.J. Paxton. 2010. Conservation genetics of Neotropical pollinators revisited: microsatellite analysis suggests that diploid males are rare in orchid bees. *Evolution* 64(11): 3318–3326.
22. Biber, E.G., and **B.J. Brosi**. 2010. Official Intermeddlers or Citizen Experts? Petitions and Public Production of Information in Environmental Law. *UCLA Law Review* 58(2): 321-400.
*winner of the *Yale-Stanford faculty forum 2010, Environmental Law category* as one of the best two articles in environmental law written by junior faculty in 2010
*selected as one of the *top 10 publications in environmental law in 2010* and reprinted in volume 43 of *Land Use & Environmental Law Review*.
21. **Brosi, B.J.** 2009. The complex responses of social stingless bees (Apidae: Meliponini) to tropical deforestation. *Forest Ecology & Management* 258: 1830–1837.
20. **Brosi, B.J.**, G.C. Daily, M. Mills, and C.P. Chamberlain. 2009. Detecting changes in habitat-scale bee foraging using stable isotopes. *Forest Ecology & Management*. 258: 1846–1855.
19. **Brosi, B.J.**, and E.G. Biber. 2009. Statistical inference, Type II error, and decision-making under the US Endangered Species Act. *Frontiers in Ecology and Environment* 7(9): 487–494.
18. Tallis, H., R. Goldman, M. Uhl, and **B.J. Brosi**. 2009. Integrating conservation and development in the field: implementing ecosystem service projects. *Frontiers in Ecology and Environment* 7: 12–20.
17. **Brosi, B.J.** 2009. The effects of forest fragmentation on euglossine bee communities. *Biological Conservation* 142:414-423
16. **Brosi, B.J.**, P.R. Armsworth, and G.C. Daily. 2008. The optimal design of agricultural landscapes for pollination services. *Conservation Letters* 1: 27-36.
15. **Brosi, B.J.**, G.C. Daily, *T.M. Shih, F. Oviedo, and G. Durán. 2008. The effects of forest fragmentation on bee communities in tropical countryside. *Journal of Applied Ecology* 45(3): 773-783.
14. Fischer, J., **Brosi, B.J.**, Daily, G.C., Ehrlich, P. R., Goldman, R., Goldstein, J., Manning, A.D., Mooney, H.A., Pejchar, L., Ranganathan, J., and Tallis, H. 2008. Should agricultural policies encourage land sparing or wildlife-friendly farming? *Frontiers in Ecology and the Environment* 6(7): 380–385.
13. **Brosi, B.J.**, G.C. Daily, and P.R. Ehrlich. 2007. Bee community shifts with landscape context in a tropical countryside.

Ecological Applications 17:418–430.

12. Brosi, B.J., M. Balick, R. Wolkow, R. Lee, M. Kostka, W. Raynor, R. Gallen, A. Raynor, P. Raynor, and D. Lee Ling. 2007. Quantifying cultural erosion and its relationship to biodiversity conservation: canoe-making knowledge in Pohnpei, Micronesia. *Conservation Biology* 21(3): 875-879.

11. Brosi, B.J., A. Smith-Pardo and V.H. Gonzaléz. 2006. A new wood-nesting *Neocorynura* (Hymenoptera: Halictidae: Augochlorini) from Costa Rica, with notes on its biology. *Zootaxa* 1189: 55-68.

10. Bletter, N., J. Janovec, **B.J. Brosi**, & D. Daly. 2004. A digital base map for studying the Neotropical flora. *Taxon* 53(2): 469-477.

9. Purata, S.E., C.M. Peters, M.A. Montoya, **B.J. Brosi**, and A.M. Lopez. 2004. Los alebrijes de Oaxaca y el manejo de las selvas secas. *Ciencia y Desarrollo* 30(174): 52-60.

8. Peters, C.M., S.E. Purata, M. Chibnik, **B.J. Brosi**, A.M. Lopez, and M. Ambrosio. 2003. The life and times of *Bursera glabrifolia* (H.B.K.) ENGL. in Mexico: A parable for Ethnobotany. *Economic Botany* 57(4): 431-441.

7. Lee, R.A., M.J. Balick, D. Lee Ling, F. Sohl, **B.J. Brosi**, and W. Raynor. 2001. Cultural dynamism and change: an example from the Federated States of Micronesia. *Economic Botany* 55(1): 9-13.

6. Sultan, S.E., A.M. Wilczek, S.D. Hann, and **B.J. Brosi**. 1998. Contrasting ecological breadth of co-occurring annual *Polygonum* species. *Journal of Ecology* 86(3): 363-383.

PEER—REVIEWED BOOK CHAPTERS

5. †Bell, K.L., K.S. Burgess, **B.J. Brosi**. *In Review*. DNA barcoding of pollen. In: *Plant DNA Barcoding: Methods and Protocols*. N. De Vere, editor. Springer Verlag, Berlin.

4. Brosi, B.J., *T. Shih, and *L. Billadello. 2008. Polinización biótica y cambios en el uso de la tierra en paisajes dominados por humanos. In: *Evaluación y Conservación de Biodiversidad en Paisajes Fragmentados de Mesoamerica*. C. Harvey and J. Saenz, editors. INBIO: Santo Domingo de Heredia, Costa Rica.

3. Brosi, B.J., G.C. Daily, and F. Davis. 2006. The conservation value of agricultural and urban landscapes. In: *The Endangered Species Act at Thirty: Conserving Biodiversity in Human-Dominated Landscapes*. J.M. Scott, D.D. Goble, F.W. Davis, and G. Heal, editors. Island Press, Washington, DC.

2. Purata, S.E., M. Chibnik, **B.J. Brosi**, and A.M. López. 2005. *Bursera* woodcarving in Oaxaca, Mexico. In: *Carving Out a Future: Forests, Livelihoods, and the International Woodcarving Trade*. A.B. Cunningham, B. Belcher, and B. Campbell, editors. Earthscan/James & James, London.

1. Purata, S.E., M. Chibnik, **B.J. Brosi**, and A.M. López. 2004. Figuras de madera de *Bursera* en Oaxaca, Mexico. Pages 415-437 in M.N. Alexiades and P.N. Shanley, editors: *Productos forestales, medios de subsistencia y conservación, Volumen 3-Latino America*. Bogor, Indonesia: CIFOR.

SELECTED OTHER PUBLICATIONS

Brosi, B.J., and P.R. Ehrlich. 2016. Charles Duncan Michener, 1918-2015. *Proceedings of the National Academy of Sciences* 113, 1963–1964.

Purata, S.E., **B.J. Brosi**, and M. Chibnik. 2005. Alebrijes. Pages 24-829 in: López, C., Chanfón, S., and G. Segura (eds.) *La riqueza de los bosques Mexicanos: más allá de la madera*. Mexico City: SEMARNAT, the Mexican Secretariat of the Environment and Natural Resources.

Purata, S.E., **B.J. Brosi**, and M. Chibnik. 2004. Alebrijes: wood carvings. Pages 77-80 in: López, C., Shanley, P., and A. C. Fantini (eds.) *Riches of the forest: Fruits, remedies and handicrafts in Latin America*. Bogor, Indonesia: CIFOR.

Peters, C.M. and **B.J. Brosi**. 2001. The New York Botanical Garden GIS Program. Pages 98-100 in C.L. Convis, ed.: *Conservation Geography: Case Studies in GIS, Computer Mapping, and Activism*. Redlands, CA: ESRI.

Brosi, B.J., C.M. Peters, S.E. Purata, M. Abrosio, and H. Aguirre-Díaz. 2002. Plan de Manejo Forestal de Copalillo, Bienes Comunales de San Juan Bautista Jayacatlán, Oaxaca. [Copalillo Forest Management Plan for the village of San Juan Bautista Jayacatlán, Oaxaca]. Mexico City: Mexican Secretariat of the Environment and Natural Resources (SEMARNAT).

**first dry forest management plan approved by the Mexican Government*

INVITED TALKS: UNIVERSITIES & RESEARCH CENTERS

Sveriges Lantbruksuniversitet (SLU, Swedish University of Agricultural Sciences), Department of Ecology (April 2017)

Western Carolina University, Department of Biology (February 2017)

University of Pittsburgh, Department of Biology (December 2016)

Georgia Institute of Technology (Georgia Tech), Department of Biology (October 2016)

North Carolina State University, Departments of Entomology and Applied Ecology (April 2016)

University of California-Berkeley, Energy and Resources Group (February 2016)

Dartmouth College, Department of Biological Sciences (December 2015)

Penn State University, Department of Entomology (November 2015)

Wesleyan University, Department of Biology (October 2015)

University of Minnesota, Department of Entomology (February 2015)

Montana State University, Department of Ecology and Evolutionary Biology (November 2014)

Kennesaw State University, Department of Biology (October 2014)

University of Arizona, Department of Ecology and Evolutionary Biology (September 2014)

Rocky Mountain Biological Laboratory (June 2014)

University of Georgia, Odum School of Ecology (September 2013)

University of Tennessee: Baker Center Energy and Environment Forum (November 2012)

**speakers in the previous year included David Tilman, Mercedes Pascual, Rob Jackson, and Paul Ehrlich*

University of California – Santa Cruz, Department of Environmental Studies (April 2012)

Joseph W. Jones Ecological Research Center at Ichauway (April 2011)

San Francisco State University, Department of Biology (November 2009)

University of Delaware, Department of Entomology & Wildlife Ecology (March 2009)

San Jose State University, Biodiversity Center, Department of Biology (February 2009)

Colorado State University, Department of Fish, Wildlife, and Conservation Biology (January 2009)

University of Victoria (British Columbia), School of Environmental Studies (January 2009)

University of California-Berkeley, Department of Environmental Science, Policy, and Management (December 2008)

University of California-Berkeley, Boalt Hall School of Law (November 2008)

University of California-Davis, Department of Entomology (December 2007)

Brown University, Department of Ecology & Evolutionary Biology (February 2007)

INVITED CONFERENCE / MEETING PRESENTATIONS

15th International Congress of Entomology: Orlando, FL (September 2016) Invited symposium speaker.

Entomological Society of America: Annual Meeting, Minneapolis, MN (November 2015) Invited symposium speaker.

2nd International Symposium on Ecological Networks, Bristol, UK (September 2015) Whole-conference presentation.

Defense Forensics Science Palynology Meeting, Forest Park, GA (April 2015) Invited whole-conference presentation.

Eastern Apicultural Society: Annual Meeting, Richmond, KY (July 2014) Invited plenary speaker

Western Section of the Wildlife Society: Annual Meeting, Plenary Talk invitation (Jan 2013) [*declined due to travel*]
*talk given instead by co-author Eric Biber; other plenary speakers included current and former US Congress members

North American Pollinator Protection Campaign (NAPPC): Annual Conference (October 2012)

The Nature Conservancy/Corporación Andina de Fomento, Workshop: Conservando los Servicios Ambientales para la Gente y la Naturaleza (Conserving Ecosystem Services for People and Nature). Santa Cruz, Bolivia (March 2007). Presentation in Spanish.

PRORENA (Smithsonian / Yale Tropical Native Species Reforestation Project) Annual Meeting, Panama City, Panama (November 2006). One of three whole-conference speakers. Presentation in Spanish.

Ecological Society of America: Annual Meeting, San Jose, CA (August 2007). Invited symposium speaker.

Sociedad Mesoamericana para la Biología y la Conservación (Mesoamerican Society for Conservation Biology) Annual Meeting, Tuxtla Gutierrez, Mexico (November 2003). Presentation in Spanish.

SYMPOSIUM ORGANIZATION

International Barcode of Life: Biannual Meeting, Guelph, Ontario, Canada (August 2015). Co-organizer of symposium on DNA barcoding of pollen, with K. Burgess, N. De Vere, and K. Bell.

CONTRIBUTED CONFERENCE / MEETING PRESENTATIONS

ECOLOGICAL SOCIETY OF AMERICA

presented talks: 2005, 2006, 2008, 2012, 2014

co-author on talks/posters (* = advisee presenter): 2007, *2012, *2013, *2014, *2015

ENTOMOLOGICAL SOCIETY OF AMERICA

presented talks: 2008, 2011, 2012, 2015

co-author on talks/posters (* = advisee presenter): *2011 (student winner of President's Award for best undergraduate poster), *2012 (four advisee presentations)

OTHER CONTRIBUTED CONFERENCE PRESENTATIONS

Diversitas (Biodiversity Science for Human Well-Being): poster, 2005

Society for Conservation Biology: presented talks: 2006, 2007

Association For Tropical Biology: presented talk, 2007

International Pollination Symposium: posters 2007, 2008

American Society of Naturalists, co-author on advisee presentation, 2014

British Ecological Society / French Ecological Society Joint meeting: co-author on advisee presentation, 2014

International Barcode of Life: presented talk 2015 plus co-author on advisee talk 2015

International Union for the Study of Social Insects (IUSSI): co-author 2016

International Congress of Entomology: presented talk, 2016

INVITED PUBLIC TALKS

Chattahoochee Nature Center, Roswell, GA (September 2016)

Emory University Reunion Class of 1966 (May 2016)

Emory University Board of Visitors, Atlanta GA (May 2016)

Pine Mountain Settlement School, Bledsoe, KY (November 2015)

Emory University Wise Heart Society, Roswell, GA, donor event (May 2015) *one of two faculty speakers*

Gwinnet County Beekeeper's Association, Dacula, GA (November 2014)

Clarks Hill Beekeeper's Association, Augusta, GA (October 2014)

Atlanta Science Festival, Atlanta, GA (March 2014) *approximately 150-200 attendees*

Kentucky State Beekeeper's Association Annual Meeting, Berea, KY (July 2014) *one of two keynote speakers*

Rocky Mountain Biological Laboratory, Crested Butte, CO, donor event (July 2013)

Metropolitan Atlanta Beekeeper's Association, Atlanta, GA (April 2012)

Golden Gate Audubon Society, Berkeley, CA, (April 2006)

Environmental Forum of Marin, Sausalito, CA, (December 2005)

POPULAR MEDIA CONTRIBUTIONS

K. Bell, B. Brosi, and K. Burgess, "Pollen genetics can help with forensic investigations" *The Conversation*, 5 Sept 2016
<http://theconversation.com/pollen-genetics-can-help-with-forensic-investigations-53426>

B. Brosi, "Curbing pesticide threats to bees", contributed Op-Ed, *Atlanta Journal-Constitution*, 3 September 2014
<http://www.myajc.com/news/opinion/curbing-pesticide-threats-bees/X52IFcpfQVRaYTcThMiVjM/>

WAMC Radio, Academic Minute, invited to write and deliver a nationally-syndicated radio piece on my research, 8 October 2013; <http://wamc.org/post/dr-berry-brosi-emory-university-flowers-and-bee-fidelity>

E. Biber and B. Brosi, "Trust the public: citizens can help save endangered species" *The Conversation* (theconversation.com), 26 September 2012

SELECTED MEDIA COVERAGE

WSB-TV Atlanta, on-camera interview on pollen forensics, 25 April 2017

WABE Radio: "A Closer Look" Live interview on the IPBES Thematic assessment of pollinators, pollination and food production, 29 February 2016

National Science Foundation website interview on pollinator declines, 27 July 2015
http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=135785&org=NSF&from=news

Featured in television piece on bee declines, *Georgia Outdoors*, Georgia Public Broadcasting, June 2015; available on <https://www.facebook.com/gpbgeorgiaoutdoors>

Coverage in *The New York Times*, *Nature*, *LA Times*, *National Geographic*, and other national and international outlets for *PNAS* article, August 2013

Coverage in *The New York Times*, *Nature*, *The New Scientist*, *Smithsonian*, and other national and international outlets for *Science* article, August 2012

On-camera interview on bee declines for NBC National News, September 6, 2007

Highlighted article in *Conservation Magazine's* Journal Watch, March 11, 2007 (Brosi et al. 2007, *Conservation Biology*)

Coverage of my research in "The Nature of Farms" (K. Ellison), *Frontiers in Ecology and Environment* 4(5): 280, June 2006

Quoted in "Billion Dollar Bugs" (D. Wolman), an article about ecosystem services, *Science & Spirit* 17(3), May-June 2006.

SELECTED TEACHING EXPERIENCE

EMORY UNIVERSITY

ENVS 260, QUANTITATIVE METHODS IN ENVIRONMENTAL SCIENCES

Introductory course on statistics, data visualization, research design, and critical consumption of quantitative data, for Environmental Science majors. Taught to Master's degree students in Emory's Master of Development Practice program in Spring 2014. Co-taught with William Size, Fall 2010 and Spring 2011; sole instructor since then.

ENVS 500, LANDSCAPE AND SPATIAL ECOLOGY

Seminar for graduate students and advanced undergraduates on spatial pattern and process in ecology with a focus on quantitative models and conservation applications. Sole instructor.

ENVS 444, ECOSYSTEMS OF THE SOUTHEAST

Undergraduate field ecology course with an emphasis on southeastern ecosystems and research design and data collection. Co-taught with Anthony Martin.

IBS 595, ECOLOGY

Graduate-level, multi-instructor ecology course with a focus on quantitative models; I teach the modules on metapopulation biology, biodiversity, and community ecology. Course director: Jacobus de Roode.

STANFORD UNIVERSITY

Stanford Graduate School of Business, Palo Alto, CA.

June 2007-Nov. 2009

Course Developer/Science Advisor, GSOIT 338: ENVIRONMENTAL SCIENCE FOR MANAGERS & POLICY MAKERS. Developed quantitative modeling and optimization exercises; contributed to general curriculum development and selection of course readings. Course director: Erica Plambeck.

SELECTED SCIENTIFIC & COMMUNITY SERVICE

Lead Author, IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services) Thematic assessment of pollinators, pollination and food production <i>*first assessment of IPBES, modeled after IPCC</i> <i>*one of ~75 lead authors worldwide, one of 5 from the USA</i>	2014-2015
Member, Education Committee, Trees Atlanta	May 2016-present
Working group member, North American Pollinator Protection Campaign	Fall 2012-present
Chair, Scientific Advisory Committee, Golden Gate Audubon Society	June 2006-Sept. 2009
Board of Directors, Golden Gate Audubon Society	Nov. 2005-Sept. 2009
Volunteer Instructor, Xerces Society for Invertebrate Conservation, Citizen Scientist Training	Summer 2007
Advisor, Canadian National Agri-Environment Standards Initiative (NAESI)	Feb. 2007
Volunteer GIS technician, World Trade Center emergency response effort, New York City	Sept.-Dec. 2001

UNIVERSITY SERVICE ACTIVITIES (EMORY)

Faculty Science Council, Environmental Sciences representative	Fall 2015-present
University Sustainability Advisory Committee	Sept. 2013-present
Emory Herbarium Advisory Committee	Sept. 2014-present
STEM (Science, Technology, Engineering, and Mathematics) Retention Advisory Board	December 2011-present
University Carbon Action Committee	Sept. 2010-Sept. 2013
Udall Scholarship Review Committee	Fall 2014

GRADUATE PROGRAM SERVICE ACTIVITIES

Executive Council, Graduate Program in Population Biology, Ecology, and Evolution (PBEE)	2011 – present
PBEE Recruitment Chair	beginning 2017
PBEE Seminar Series Committee, Chair	2015 – present
PBEE Seminar Series Committee, member	2011 – present

DEPARTMENTAL SERVICE ACTIVITIES

Search Committee Chair, Lecturer in Field Studies	2016-2017
ENVS Department Strategic Planning Committee (founding chair)	2016 – present
Curriculum Committee	2010 – 2013
Search Committee: Urban Ecology and Environmental Policy (two positions)	2011

Departmental Graduate Program Committee (new MS program; separate from PBEE activities above)	2011 – 2012
Departmental External Review Committee	2012
Honors Program Coordinator	Fall 2015 – present

SELECTED PROFESSIONAL TRAINING

Stable Isotope Ecology Short Course, University of Utah	June 2005
The Bee Course, American Museum of Natural History Southwest Field Station	Aug.-Sept. 2005

GRANT REVIEWING

US National Science Foundation: Panel service since 2009: *Population and Community Ecology* (and its predecessor, *Evolutionary and Population Ecology*; four panels plus multiple ad-hoc reviews); *Dimensions of Biodiversity* (one panel); *Geography and Spatial Sciences Program* (ad-hoc review); *Integrative Organismal Systems* (two ad-hoc review invitations, both declined due to conflicts of interest; panel invitation, declined due to travel conflict)

UK Biotechnology and Biological Sciences Research Council (BBSRC; NIH equivalent in UK; ad-hoc review)

French L'Agence Nationale de la Recherche (ANR; NSF equivalent in France; ad-hoc review; virtual pre-proposal panel service 2015)

Deutsche Forschungsgemeinschaft (DFG; NSF equivalent in Germany; ad-hoc review)

Leaders Opportunity Fund of the Canada Foundation for Innovation (ad-hoc review, *declined service due to fieldwork*)

US Department of Agriculture (ad-hoc reviews)

US Army Research Office (ad-hoc review)

National Geographic Society: *Conservation Trust* (ad-hoc reviews)

US-Israel Binational Agricultural Research & Development Fund (ad-hoc review)

American Association for the Advancement of Science: *India-US Science & Technology Forum* (ad-hoc review)

ETH (Eidgenössische Technische Hochschule) Zürich; Swiss Federal Institute of Technology: internal funding competition (ad-hoc review)

SELECTED MANUSCRIPT REVIEWING

<i>Agriculture, Ecosystems, & Environment</i>	<i>Ecological Applications</i>	<i>Journal of Ecology</i>
<i>Animal Behavior</i>	<i>Ecological Economics</i>	<i>Journal of Pollination Ecology</i>
<i>Australian Journal of Entomology</i>	<i>Ecology</i>	<i>Molecular Ecology</i>
<i>Biological Conservation</i>	<i>Ecology Letters</i>	<i>Oecologia</i>
<i>Biology Letters</i>	<i>Frontiers in Ecology & Environment</i>	<i>Oikos</i>
<i>Conservation Biology</i>	<i>Global Ecology & Biogeography</i>	<i>PLoS ONE</i>
<i>Current Biology</i>	<i>Israeli Journal of Ecology & Evolution</i>	<i>PNAS</i>
<i>Ecography</i>	<i>Journal of Applied Ecology</i>	<i>Proceedings of the Royal Society B</i>
	<i>Journal of Complex Networks</i>	<i>Trends in Ecology & Evolution</i>

RESEARCH MENTORING

POST-DOCTORAL RESEARCHERS

Dr. Ismael Hinojosa 2012-2014

**Assistant Professor, Universidad Autónoma de México (UNAM)*

Dr. Karen Bell, February 2014-2016

**Assistant Professor, University of Western Australia and CSIRO*

GRADUATE STUDENTS ADVISED, EMORY PBEE PROGRAM

Carolyn Ayers, Ph.D. student, 2012-2016

**NSF DDIG recipient; two-time NSF Graduate Fellowship Honorable Mention; PBEE scholar of the year '16*

David Gruenewald, M.S. student, 2012-2014
**currently at US Centers for Disease Control & Prevention*
 Travis Dynes, Ph.D. student, 2013-present (co-advised with Jacobus de Roode)
**NSF Graduate Fellow; declined National Defense Graduate Fellowship to accept NSF*
 Xingwen Loy, Ph.D. student, 2016-present
 Donna McDermott, Ph.D. student, 2016-present
**National Defense Science and Engineering Graduate Fellow*
 Connor Morozumi, Ph.D. student, 2016-present
**National Defense Science and Engineering Graduate Fellow*
 Trieste Musial, Ph.D. student, spring 2017-present (co-advised with Jacobus de Roode)

GRADUATE COMMITTEE MEMBERSHIP, EMORY PBEE PROGRAM (all Ph.D. students)

Eleanore Sternberg (Ph.D. 2013)
 Janelle Couret (Ph.D. 2014)
 Rebecca Levine (Ph.D. 2014)
 Justine Garcia (Ph.D. 2015)
 Sarah Guagliardo (Ph.D. 2015)
 Zachary Lynch
 Marissa Grossman
 Trieste Musial
 Signe White

PH.D. QUALIFYING EXAM COMMITTEE, EMORY PBEE PROGRAM (not including students for whom I also serve or served on the Ph.D. committee)

Johanna Salzer (Ph.D. 2015); Erica Harris; Kathryn Schaber

EXTERNAL OPPONENT FOR PH.D. DEFENSE

Sandra Lindström, Swedish University of Agricultural Sciences, Uppsala (in person at defense, April 2017)

EXTERNAL ASSESSOR OF PH.D. THESIS

Tobias Smith, University of Queensland, Australia (Ph.D. 2013)

GRADUATE COMMITTEE MEMBERSHIP, EXTERNAL (both Ph.D. students)

Heather Briggs, University of California-Santa Cruz (Ph.D. 2016)
**semester at Emory as QuanTM Fellow; NSF DDIG grant (Brosi as co-PI)*
**EPA STAR Graduate Fellowship for ecological modeling project with Brosi*
**currently post-doc, Harvard University*
 Laura Avila, University of Florida (Ph.D. candidate)

UNDERGRADUATE HONORS THESIS ADVISOR, EMORY

Allison Tammany, Emory 2011, ENVS High Honors
 Evan Crane, Emory 2011, ENVS Honors
**graduate school in Natural Resources & Environment, University of Michigan*
 Lucy Anderson, Emory 2013, ENVS/Chemistry Highest Honors
**Fulbright Research Scholar, India, 2013-2014*
**first-author publication from honors thesis*
 Holly Bok, Emory 2014, ENVS Honors
 Lydia McCormick, Emory 2014, Biology Highest Honors
**President's award for best undergraduate poster, Entomological Society of America Annual Meeting 2012*
**undergraduate co-PI on NAPPC grant*
 Brice Lawley, Emory 2015, ENVS Honors
 Laila Atalla, Emory 2016 ENVS Highest Honors
**Bobby Jones Scholar, St. Andrews University, Scotland, 2016-2017*
 Jamieson Botsch, Emory 2016 ENVS Highest Honors
 Hsini Chu, Emory 2016 ENVS Highest Honors
 Andriana Miljanic, Emory 2017 (in progress)

UNDERGRADUATE RESEARCH, EMORY (IN ADDITION TO HONORS THESES; ENVS MAJORS UNLESS NOTED)

current: Kelsey Alexander, Riley Book, Ellen Dymit, Kelly Endres, Julie Fowler, Virginia Loeffler, Anna Mayrand, Wenhao Sun

former: Claire Brisse, Eric Ruggieri (Computer Science), Morika Hensley, Elsa Lake (Biology + ENVS), Aaron Hopes, Bang Tran, Ian Fried, Kristen McCrae, Lindsay Thomas, Ashley Graham, Kaitlin Taylor, Zana Pouncey (*NSF site REU recipient, RMBL 2015*)

NOTABLE UNDERGRADUATE RESEARCH ADVISEES (IN ADDITION TO THE ABOVE), EMORY

André Delva, Emory 2014 (Biology, ENVS minor)

**NSF site REU recipient, RMBL*

**junior high science teacher in underserved communities in Bridgeport, CT and Newark, NJ*

**co-author on peer-reviewed publication with Brosi*

**selected Woodrow Wilson Science Teaching Fellow 2015-2017*

Kyle Niezgoda, Emory 2014 (ENVS + Mathematics)

**first generation college graduate*

**NSF REU supplement recipient*

**Luce Scholar 2014-2015, Indonesia and Singapore (one of 18 selected across the US)*

**pursuing a Ph.D. in climate science at Oregon State University*

Therese Lamperty, Emory 2011 (ENVS)

**pursuing a Ph.D. in ecology at Rice University*

UNDERGRADUATE HONORS COMMITTEE MEMBER, EMORY

Parisa Rinaldi, ENVS 2011; Miho Yoshioka, ENVS 2011; Daniel Gatch, Biology 2011; Jennifer Aronoff, ENVS 2012

NON-EMORY UNDERGRADUATES ADVISED, FIELD RESEARCH AT THE ROCKY MOUNTAIN BIOLOGICAL LABORATORY:

Julia Brokaw, Cornell University (summer 2011); Anna Jean Petroff, Denison University (summer 2012); Nelson Vila-Santana, Green Mountain College (summer 2012); Amanda Cooke, Colorado College (summer 2013); José Pablo Brenes-Coto, Wheaton College (summer 2014); Ellen Kerchner, Middlebury College (summer 2014); Renata Poulton, University of Chicago (summer 2016); Leandra Gonzalez, Florida International University (summer 2017)