

Sara Helms Cahan

Curriculum Vitae

Current Positions: Associate Vice President for Research, Office of the Vice President for Research;
Professor, Department of Biology; &
Curator, Thompson Zoological Collections
University of Vermont

University address: Department of Biology
Marsh Life Sciences 307A
University of Vermont
Burlington, VT 05405

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Education:

1999 Ph.D. Zoology, Arizona State University, Tempe, AZ
Co-advisors: Steven W. Rissing and Jennifer H. Fewell
Major field: Behavioral Ecology

1992 B.S. Biology, University of Michigan, Ann Arbor, MI

Areas of Specialization:

Social insect biology and evolution, ecological genetics, behavioral ecology, physiological ecology

Professional Employment:

2024 – current Professor, Department of Biology, University of Vermont
2023 – current Associate Vice President for Research, OVPR, University of Vermont
2022 - current Curator, Zadock Thompson Zoological Collection, University of Vermont
2010 - 2024 Associate Professor, Department of Biology, University of Vermont
2015 - 2021 Chair, Department of Biology, University of Vermont
2004 - 2010 Assistant Professor, Department of Biology, University of Vermont
2000 - 2004 Postdoctoral Research Associate (with Laurent Keller)
University of Lausanne, Switzerland
2000 Post-doctoral Research Associate (with S. Bradleigh Vinson)
Department of Entomology, Texas A&M University
1993 - 1999 Teaching Assistant
Department of Biology, Arizona State University

Grants:

2021-2023 National Science Foundation/EPSCoR, Minority-Serving Institution supplement to Track-2 award (\$200,000); established relationship with new collaborator at University of Nevada, Las Vegas.

- 2018-2023 National Science Foundation/EPSCoR, RII Track-2 FEC: From Genome to Phenome in a Stressful World: Epigenetic regulatory mechanisms mediating thermal plasticity in *Drosophila*. Awarded to S. Helms Cahan (PI), Seth Fietze, James Waters, Heather Axen, Nicholas Teets (co-PIs), Brent Lockwood (Faculty Associate) (\$4,771,722).
- 2016 -2018 National Institutes of Health R03: Chagas disease transmission: Genomic studies of the kissing bug *Triatoma infestans* to enhance control strategies for a neglected tropical disease. Awarded to L. Stevens and S. Helms Cahan (\$155,000).
- 2013-2014 National Science Foundation, Broadening Participation Research Experience for Undergraduates (REU) supplement to Dimensions of Diversity Program grant (\$20,000).
- 2012-2017 National Science Foundation, Ecology of Infectious Diseases Program. “Modeling disease transmission using spatial mapping of vector-parasite genetics and vector feeding patterns.” Awarded to L. Stevens, D. Rizzo, L. Morrissey, S. Helms Cahan (\$2,461,995).
- 2012-2015 National Science Foundation, Dimensions of Diversity Program. “Collaborative Research: The Climate Cascade: functional and evolutionary consequences of climate change on species, trait and genetic diversity in a temperate ant community.” Awarded to B. Ballif, R. R. Dunn, A. M. Ellison, N. J. Gotelli, S. Helms Cahan & N.J. Sanders (Total award \$1,997,320; UVM portion \$687,559).
- 2009-2013 National Science Foundation, Evolutionary Processes Program. “Genetic Architecture and Evolution of Reproductive Caste Determination in Harvester Ants.” (\$800,000)
- 2008-2011 National Science Foundation, Population Biology Cluster. “Evolution of Major Geographic Variation in Social Behavior of a Desert Ant.” Awarded to K. R. Helms and S. Helms Cahan (\$506,000).
- 2008-2009 Vermont Genetics Network Proteomics Facilities Award. “Pilot project: Regional variation in the behavior of ant queens as a model system.” Awarded to S. Helms Cahan and K. R. Helms (\$4,991)
- 2006 University of Vermont Faculty Research Award. “Linkage mapping of genes involved in worker development in ants: a pilot study.” (\$15,000)
- 2001-2006 Earthwatch Institute/Durfee Foundation Student Challenge Award Project grants (\$10,000 – \$12,000 awarded per annum)
- 2002 Field Research Grant, Swiss Society of Naturalists (\$3000)
- 1998 Travel Grant, International Union for the Study of Social Insects (\$1,450)
Travel Grant, Arizona State University Dept. of Biology (\$365)
Travel Grant, Arizona State University Graduate College (\$300)
- 1996 Dissertation Improvement Grant, National Science Foundation (\$9,980)
- 1994, 1995 Research Grants, Arizona State University Dept. of Zoology (\$360, \$300)

Teaching Experience:

- 2005 - current BioCore 012 Exploring Biology (4 credits), lecture and lab
BioCore 197 Undergraduate Teaching Assistantship program (1 credit)

Biology 095	First-year Teacher-Advisor-Program seminar “Natural History of the Family” (3 credits)
Biology 096	First-year Zoology seminar (1 credit)
Biology 2991	Internship: Natural History Collections (variable credit)
Biology 276	Behavioral Ecology (3 credits)
Biology 277	Sociobiology (3 credits)
Biology 3991	Advanced Natural History Collections (variable credit)
Biology 381	Ecological Genetics (graduate colloquium) Levels of Selection (graduate colloquium) Foundational Readings in Social Evolution (graduate colloquium)
Honors 086	First-year Honors seminar: Knowledge in the Age of Big Data (3 credits)
Honors 196	Sophomore Honors seminar: Natural History of The Family (3 credits)

Refereed, Peer-Reviewed Publications (* denotes graduate student co-author, † denotes undergraduate student co-author):

1. Helms Cahan, S., Goodman, P.†, Grauer, J.A.†, 2023. Ecological and genetic distinctiveness of socially hybridogenetic lineages of *Pogonomyrmex* harvester ants at regional and local scales. *Evolutionary Ecology* 37:645-667.
2. Helms Cahan, S., Nguyen, A. D.*, Zhou, Y. 2022. Population genomics supports multiple hybrid zone origins of social hybridogenesis in *Pogonomyrmex* harvester ants. *Evolution*, evo14481.
3. Lima-Cordon, R. A.*, Helms Cahan, S., McCann, C.,† Dorn, P., Justi, S., Rodas, A., Monroy, M. C., Stevens, L. 2021. Insights from a comprehensive study of *Trypanosoma cruzi*: a new mitochondrial clade restricted to North and Central America and genetic structure of TcI in the region. *PLoS Neglected Tropical Diseases* 15:e0010043. doi: 10.1371/journal.pntd.0010043
4. Stevens, L., Lima-Cordón, R. A.*, Helms Cahan, S., Dorn, P., Monroy, C., Axen, H. J., Nguyen, A. *, Hall, Y., Rodas, A., Justi, S. 2021. Catch me if you can: Under-detection of *Trypanosoma cruzi* (Kinetoplastea: Trypanosomatida) infections in *Triatoma dimidiata* s.l. (Hemiptera: Reduviidae) from Central America. *Acta Tropica* 224:106130. DOI: 10.1016/j.actatropica.2021.106130
5. Lecheta, M. C., Awde, D. N., O’Leary, T.*, Unfried, L. N.*, Jacobs, N. A., Whitlock, M. H., McCabe, E., Powers, B., Bora, K., Waters, J. S., Axen, H. J., Fietze, S., Lockwood, B. L., Teets, N. M., Helms Cahan, S. 2020. GWAS and transcriptomics to identify the molecular underpinnings of thermal stress responses in *Drosophila melanogaster*. *Frontiers in Genetics* 11: article 658.
6. Hanley, J.*, Rizzo, D., Stevens, L., Helms Cahan, S., Dorn, P., Morrissey, L., Rodas, A., Orantes, L.*, Monroy, M. C. 2020. Novel Evolutionary Algorithm Identifies Interactions Driving Infestation of *Triatoma dimidiata*, a Chagas Disease Vector. *Amer. J. Trop. Med. Hygiene* 103:735-744.
7. Helms Cahan, S., Orantes, L.C.*, Wallin, K., Rizzo, D. M., Stevens, L., Dorn, P. L., Rodas, A. G., Monroy, C. 2019. Residual survival and local dispersal drive

- reinfestation by *Triatoma dimidiata* following insecticide application in Guatemala. *Infection, Genetics and Evolution* 74:104000.
8. Nguyen, A. D.*, Brown, M.†, Zitnay, J.†, Helms Cahan, S., Gotelli, N. J., Arnett, A., Ellison, A. A. 2019. Trade-offs in cold physiology at the northern range edge of the common woodland ant *Aphaenogaster picea*. *The American Naturalist* 194:E151-163.
 9. Lau, M. K., Ellison, A. A., Nguyen, A. D.*, Penick, C., DeMarco, B. B., Gotelli, N. J., Sanders, N. J., Dunn, R., Helms Cahan, S. 2019. Draft *Aphaenogaster* genomes expand our view of ant variation across climate gradients. *PeerJ* 7:e6447.
 10. Orantes, L.*, C. Monroy, P. L. Dorn, L. Stevens, D. Rizzo, L. Morissey, J. P. Hanley*, B. Richards, A. G. Rodas, K. F. Wallin and S. Helms Cahan 2018. Uncovering vector, parasite, blood meal and microbiome patterns from mixed-DNA specimens of the Chagas Disease vector *Triatoma dimidiata*. *PLoS Neglected Tropical Diseases* 12:e0006730.
 11. Justi, S. A., L. Stevens, S. Helms Cahan, C. Monroy, R. Lima*, P. L. Dorn 2018. Vectors of Diversity: Genome wide diversity across the geographic range of the Chagas disease vector *Triatoma dimidiata* (Hemiptera: Reduviidae). *Molecular Phylogenetics and Evolution* 120:144-150.
 12. Waldron, A. L.*, S. Helms Cahan, C. S. Francklyn, A. M. Ebert 2017. A single *Danio rerio* *hars* gene encodes both cytoplasmic and mitochondrial Histidyl tRNA Synthetases. *PLoS One* 12:e0185317.
 13. Nguyen, A. D.*, K. Pinder†, S. Resendez†, J. D. Pustilnik†, N. J. Gotelli, J. D. Parker and S. Helms Cahan 2017. Effects of desiccation and starvation on thermal tolerance and the cellular stress response in forest ants. *Journal of Comparative Physiology part B* 187:1107-1116.
 14. Diamond, S. E., L. Chick*, C. A. Penick, L. M. Nichols, S. Helms Cahan, R. R., Dunn, A. A. Ellison, N. J. Sanders, N. J. Gotelli 2017. Heat tolerance predicts the importance of species interaction effects as the climate changes. *Integrative and Comparative Biology* 57:112-120.
 15. Helms Cahan, S. A. D. Nguyen*, J. Stanton-Geddes, C. Penick, Y. Hernáiz-Hernández, B. DeMarco and N. J. Gotelli, 2017. Modulation of the heat shock response is associated with acclimation to novel temperatures but not adaptation to climatic variation in the ants *Aphaenogaster picea* and *A. rudis*. *Comparative Biochemistry and Physiology - part A* 204:113-120.
 16. Diamond, S.E., L. M. Nichols, S. L. Pelini, C. Penick, S. Helms Cahan, G. Barber, R. R. Dunn, Aaron M. Ellison, N. J. Sanders, and N. J. Gotelli, 2016. Climate warming destabilizes forest ant communities. *Science Advances* 2:e1600842.
 17. Stanton-Geddes, J., A. D. Nguyen*, L. Chick*, J. Vincent, M. Vangala, R. R. Dunn, A. M. Ellison, N. J. Sanders, N. J. Gotelli, and S. Helms Cahan 2016. Thermal reactionomes reveal divergent responses to thermal extremes in warm and cool-climate ant species. *BMC Genomics* DOI: 10.1186/s12864-016-2466-z.
 18. Nguyen, A. D.*, N. Gotelli and S. Helms Cahan, 2016. Sequence, cis-regulatory evolution and expression profile of ant heat shock proteins. *BMC Evolutionary Biology* DOI: 10.1186/s12862-015-0573-0.

19. Muscedere, M., S Helms Cahan, K. R. Helms, and J. F. Traniello, 2016. Geographic and life-history variation in ant queen colony founding correlate with brain amine levels. *Behavioral Ecology* 27:271-278.
20. Smith, C. R., S. Helms Cahan, C. Kemena, S. G. Brady, W. Yang, E. Bornberg-Bauer, T. Eriksson, J. Gadau, M. Helmkamp, D. Gotzek, M. O. Miyakawa, A. Suarez, and A. Mikheyev, 2015. How do genomes create novel phenotypes? Insights from the loss of the worker caste in ant social parasites. *Molecular Biology and Evolution* 32:2919-2931.
21. Gotzek, D., H. J. Axen*, A. Suarez, S. Helms Cahan, and D. Shoemaker, 2015. Global invasion history of the Tropical Fire Ant, *Solenopsis geminata*: A stowaway on the first global trade routes. *Molecular Ecology* 24:374-388.
22. Herrmann, M.* and S. Helms Cahan 2014. Inter-genomic sexual conflict drives antagonistic coevolution in harvester ants. *Proceedings of the Royal Society of London B* 281:20141771.
23. Helms Cahan, S and K. R. Helms 2014. Variation in social structure alters queen body mass and productivity in the desert seed-harvester ant *Messor pergandei*. *Insectes Sociaux* 61:153-161.
24. Axen, H. J.*, A. Wildermuth† and S. Helms Cahan 2014. Environmental filtering of foraging strategies mediates patterns of coexistence in the fire ants *Solenopsis geminata*, *Solenopsis xyloni*, and their interspecific hybrids. *Ecological Entomology* 39:290-299.
25. Helms, K.R., N. J. Newman* and S. Helms Cahan 2013. Regional variation in queen and worker aggression in incipient colonies of the desert ant *Messor pergandei*. *Behavioral Ecology and Sociobiology* 67:1563-1573.
26. Helms Cahan, S. and E. Gardner-Morse† 2013. Emergence of reproductive division of labor in forced queen groups of the ant *Pogonomyrmex barbatus*. *Journal of Zoology* 291:12-22.
27. Abbott, R. *et al.* (I am one of 40 co-authors), 2013. Hybridization and Speciation. *Journal of Evolutionary Biology* 26:229-246.
28. Zhou, Y. and S. Helms Cahan 2012. A novel family of terminal-repeat retrotransposon in miniature (TRIM) in the genome of the red harvester ant, *Pogonomyrmex barbatus*. *PLoS One* 7:e53401.
29. Helms Cahan, S. and K. R. Helms 2012. Relatedness does not explain geographic variation in queen cooperation in the seed-harvester ant *Messor pergandei*. *Insectes Sociaux* 59:579-585.
30. Helms, K. R. & S. Helms Cahan 2012. Large scale regional variation in cooperation, conflict, group size, and cooperative breeding among queens of the desert ant *Messor pergandei*. *Animal Behaviour* 84:499-507.
31. Helms Cahan, S., Graves, C. J.†, Brent, C. S., 2011. Intergenerational effect of maternal juvenile hormone on offspring in *Pogonomyrmex* harvester ants. *Journal of Comparative Physiology B*.181:991-999.
32. Helms Cahan, S., Daly, A. M.†, Schwander, T., Woods, H. A. 2010. Genetic caste determination does not reduce colony growth rates in *Pogonomyrmex* harvester ants. *Functional Ecology* 24:301-309.

33. Helms Cahan, S., Julian, G. E. 2010. Shift in frequency-dependent selection across the life-cycle in obligately interbreeding harvester ant lineages. *Evolutionary Ecology* 24:359-374.
34. Helms, K. R. and S. Helms Cahan, 2009. Divergence in mating flight patterns of the seed-harvester ant *Pogonomyrmex rugosus* Emery, (1895) in the western Mojave Desert. *Myrmecological News* 13:15-17.
35. Schwander, T.*, Helms Cahan, S., S. Suni*, Keller, L. 2008. Mechanisms of reproductive isolation between an ant species of hybrid origin and its parents. *Evolution* 62:1635-1643.
36. Schwander, T.*, Humbert, J.-Y., Brent, C. S., Helms Cahan, S., Chapuis, L.†, Renai, E.†, Keller, L. 2008. Maternal effect on female caste determination in a social insect. *Current Biology* 18:265-269.
37. Schwander, T.*, Keller, L., Helms Cahan, S. 2007. Two alternate mechanisms contribute to the persistence of interdependent lineages in *Pogonomyrmex* harvester ants. *Molecular Ecology* 16:3533-3543.
38. Schwander, T.*, Helms Cahan, S., Keller, L. 2007. Characterization and distribution of *Pogonomyrmex* harvester ant lineages with genetic caste determination. *Molecular Ecology* 16:367-387.
39. Helms Cahan, S. Julian, G. E., Schwander, T.*, Keller, L. 2006. Reproductive isolation between the harvester ant *Pogonomyrmex rugosus* and two lineages with genetic caste determination. *Ecology* 87:2160-2170.
40. Julian, G. E., Helms Cahan, S. 2006. Behavioral differences between *Pogonomyrmex rugosus* and two dependent lineages (H1/H2). *Ecology* 87:2207-2214.
41. Schwander, T.*, Helms Cahan, S., Keller, L. 2006. Genetic caste determination in *Pogonomyrmex* harvester ants imposes costs during colony founding. *Journal of Evolutionary Biology* 19:402-409.
42. Helms Cahan, S., Rissing, S.W. 2005. Variation in queen size across a behavioral transition zone in the ant *Messor pergandei*. *Insectes Sociaux* 52:84-88.
43. Helms Cahan, S., Julian, G. E., Rissing, S. W., Schwander, T.*, Parker, J. D., Keller, L. 2004. Loss of phenotypic plasticity explains genotype-caste association in harvester ants. *Current Biology* 14: 2277-2282.
44. Parker, J. D., Ziemba, R. E., Helms Cahan, S., Rissing, S. W. 2004. An hypothesis-driven molecular phylogenetics exercise for college biology students. *Biomedical and Molecular Biology Education* 32:108-114.
45. Helms Cahan, S., Fewell, J. H. 2004. Division of labor and the evolution of task sharing in queen associations of the harvester ant *Pogonomyrmex californicus*. *Behavioral Ecology and Sociobiology* 56:9-17.
46. Helms Cahan, S., Keller, L. 2003. Complex hybrid origin of genetic caste determination in harvester ants. *Nature* 424:306-309.
47. Helms Cahan, S., Vinson, S. B. 2003. Reproductive division of labor between hybrid and non-hybrid offspring in a fire ant hybrid zone. *Evolution* 57:1562-1570.
48. Helms Cahan, S., Parker, J. D., Rissing, S. W., Johnson, R. A., Polony, T. S., Weiser, M.D., Smith, D.R. 2002. Extreme genetic differences between queens and workers in hybridizing *Pogonomyrmex* harvester ants. *Proceedings of the Royal Society of London, Series B* 269:1871-1877.

49. Helms Cahan, S., Blumstein, D.T., Sundström, L., Liebig, J. and Griffin, A. 2002. Social trajectories and the evolution of social behavior. *Oikos* 96:206-216.
50. Helms Cahan, S., 2001. Ecological variation across a behavioral transition zone in the ant *Messor pergandei*. *Oecologia* 129:629-635.
51. Helms Cahan, S. 2001. Co-operation and conflict in ant foundress associations: insights from geographical variation. *Animal Behaviour* 61:819-825.
52. Cahan, S. and Julian, G. E. 1999. Fitness consequences of cooperative colony founding in the leaf-cutter ant *Acromyrmex versicolor*. *Behavioral Ecology* 10:585-591.
53. Julian, G.E. and Cahan, S. 1999. Undertaking specialization in the desert leaf-cutter ant, *Acromyrmex versicolor*. *Animal Behaviour* 58:437-442.
54. Cahan, S., Carloni, E., Liebig, J., Pen, I. and Wimmer, B. 1999. Causes and consequences of sociality. *Ethology Ecology and Evolution* 11: 85-87.
55. Cahan, S., Helms, K. R. and Rissing, S. W. 1998. An abrupt transition in colony founding behaviour in the ant *Messor pergandei*. *Animal Behaviour* 55:1583-1594.

Work in progress:

Submitted manuscripts:

Price, D. K., West, K., Cevallos-Zea, M., Helms Cahan, S., Nunez, J. C. B., Longman, E. K., Medeiros, M. J., Yew, J. Y. Microbiome composition shapes temperature tolerance in a Hawaiian picture-winged *Drosophila*. To *Journal of Experimental Biology*.

Manuscripts in preparation:

O'Leary, T. S.*, Mikucki, E. E., Tangwancharoen, S., Helms Cahan, S., Fietze, S., Lockwood, B. L. Single-nuclei ATAC and RNA sequencing reveals the molecular basis of thermal acclimation in *Drosophila melanogaster* embryos. Draft completed, for *PNAS*.

Awde, D., Teets, N. J., Unfried, L.*, Helms Cahan, S., Lockwood, B. L. Plasticity and the nature of thermal stress: Review and synthesis. First draft completed, for *Functional Ecology*.

Helms Cahan, S., Stoloff, A.†, Bora, K., Brown, C.†, Flanagan, C.†, Lockwood, B. L. Costs of embryonic thermal stress and the evolution of developmental resilience in *Drosophila melanogaster*. Draft 50% completed, for *Journal of Experimental Biology*.

Invited Seminars/Papers:

2024	Full Professor Lecture, College of Arts and Sciences, University of Vermont
2022	International Congress of the International Union for the Study of Social Insects, San Diego, CA (symposium speaker, + co-author on student invited symposium presentation) University of California Riverside, Dept of Entomology (invited seminar)
2021	Animal Behavior Society Annual Meeting (invited symposium speaker, virtual conference)
2020	Duquesne University, Pittsburgh, PA (virtual, departmental seminar)
2018	International Union for the Study of Social Insects International

- Congress (invited symposium speaker)
University of New Hampshire
- 2017 Entomological Society of America Annual meeting, invited symposium speaker
Department of Plant Biology, University of Vermont
- 2014 Entomological Society of America Annual meeting, invited symposium speaker
- 2010 International Congress of the International Union for the Study of Social Insects, Copenhagen, Denmark (invited talk)
- 2009 Boston University
- 2008 University of Nevada, Las Vegas
- 2007 University of Massachusetts, Amherst
- 2006 Entomological Society of America Annual Meeting, Invited Symposium
- 2005 University of New Hampshire, Durham, NH
- 2004 University of Illinois, Champaign-Urbana, IL
- 2003 Entomological Society of America Annual Meeting,
Invited Symposium (G.E. Julian and S. Helms Cahan)
SUNY StonyBrook, NY
Vanderbilt University, Nashville, TN
- 2002 University of Copenhagen, Copenhagen, Denmark
- 2001 Animal Behavior Society Annual Meeting, Invited Symposium (J.H. Fewell and S. Helms Cahan)
- 2000 University of Würzburg, Germany
University of Lausanne, Switzerland
University of Houston, TX

Contributed papers:

- 2022 International Congress of the International Union for the Study of Social Insects (student poster)
- 2020 Society for Integrative and Comparative Biology annual meeting, Austin, TX (contributed talk)
- 2015 Conference on Biological Stoichiometry, Peterborough, Canada (poster)
Ecological Society of America annual meeting (poster)
- 2014 Entomological Society of America Annual meeting, Baltimore, MD (1 student oral presentation, 1 student poster)
Society of the Study of Evolution annual conference, Raleigh, NC (two contributed talks, two posters)
- 2013 Arthropod Genomics annual conference, South Bend, IN (poster)
- 2012 International Union for the Study of Social Insects North American section meeting, Greensboro, NC (1 talk: M. Herrmann & S. Helms Cahan; 3 posters: Y. Hernáiz-Hernández & S. Helms Cahan; A. Nguyen, S. Helms Cahan & N. Gotelli; S. Helms Cahan & E. Gardner-Morse)
- 2011 EU FRoSPECTS workshop: Hybridization and Speciation, Newtown, UK (contributed topic proposal, selected for inclusion in published manuscript).
- 2010 International Congress of the International Union for the Study of Social Insects, Copenhagen, Denmark (1 talk, with K. R. Helms, 1 poster, with H. J. Axen and L. Keller)

- 2009 Entomological Society of America Annual Meeting, Indianapolis, IN (S. Helms Cahan & K. R. Helms)
- Ant Genomics Consortium Workshop, Tempe, Arizona (oral presentation)
- 2008 International Union for the Study of Social Insects North American section meeting (2 talks: S. Helms Cahan, A. M. Daly, & T. Schwander; and H. J. Axen, C. Mallon & S. Helms Cahan)
- Society for the Study of Evolution Annual Meeting (H. Axen, C. Mallon, & S. Helms Cahan)
- Society for Mathematical Biology Annual Meeting (2 posters: P. S. Goodman, S. Helms Cahan & C. Danforth; and J. Glenister, C. Danforth & S. Helms Cahan)
- 2007 Society for Mathematical Biology Annual Meeting (P. S. Goodman, S. Helms Cahan & R. Rajbhandari)
- 2006 International Union for the Study of Social Insects International Congress (2 posters: K. P. O'Connor, S. Helms Cahan & K. R. Helms; Julian, G. E. & S. Helms Cahan)
- Society for the Study of Evolution Annual Meeting (T. Schwander, L. Keller & S. Helms Cahan)
- 2005 Entomological Society of America Annual Meeting
- 2003 Society for the Study of Evolution Annual Meeting
- INSECTS European Union Network Midterm Meeting, Germany
- 2002 International Union for the Study of Social Insects International Congress, Sapporo, Japan (with J. H. Fewell)
- 2000 International Society for Behavioral Ecology
- Social Systems and Population Genetics Conference, La Sage, Switzerland
- 1999 Animal Behavior Society Annual Meeting.
- Animal Behavior Society Annual Meeting (G.E. Julian and S. Cahan)
- Murray J. Littlejohn Symposium (with J.H. Fewell)

University Service

- Faculty representative, Federal Demonstration Partnership (2024 – current)
- Member of College of Arts and Sciences Academic Planning and Budget committee (Spring 2023)
- Member of search committee for TT faculty in Plant Biology (2022-23)
- Member of search committee for TT faculty in Environmental Engineering (2022-23)
- Member of College of Arts and Sciences Metrics Operationalization Working group (2022-23)
- Curator, Zadock Thompson Zoological Collection, University of Vermont (2022-current)
- Member of search committee for College of Arts and Sciences Business Operations Administrator staff position (2021)
- Chair, Department of Biology (2016 – 2021)
- Member of the University Incentive-based Budgeting Steering committee (2018 – 2019)
- Member of search committee for TT faculty in Environmental Engineering (2018, 2019)
- Member of the College of Arts and Sciences Diversity Taskforce (2017-2021)
- Member of search committee for TT faculty in Plant and Soil Science (2017)
- Member of the College of Arts and Sciences Academic Planning and Budget Committee (Spring 2016)

Member of the College of Arts and Sciences Faculty Standards committee, 2012 - 2015
(elected position)

Interim Chair, Department of Biology (Fall 2015)

Co-director of the Integrated Biological Sciences program, 2010 – 2016

Member of University Committee on Teacher Education, 2009-2011

Member of College of Arts and Sciences Honors Committee, 2008-2011 (elected
position)

Member of Faculty Research Awards committee, 2007-2008

Member of Faculty Development Awards committee, 2006-2008

Member of John Dewey Honors Program Advisory Council, 2005-2008

Member of Biology Department Advisory Committee, 2005-2006

Member of Biology Department Graduate Affairs Committee, 2005-2006

Faculty Advisor, Zoology, Environmental Sciences and Biology Network, 2005-2006

Faculty Advisor, tri-Beta National Biology Honors Society, 2006-2012

Post-doctoral advisor for:

Yihong Zhou (2010-2013)

John Stanton-Geddes (co-mentored with N. Gotelli, 2013-2014)

Ph.D. Advisor for:

Heather Axen (graduated August 2011)

Fernando Gelin (graduated May 2014)

Michael Herrmann (graduated May 2016)

Andrew Nguyen (co-advised with N. Gotelli, graduated May 2017)

Lucia Orantes (co-advised with K. Wallin, graduated October 2017)

Ben Camber

Daniel Munteanu

M.S. Advisor for:

Trevor Manendo (graduated May 2008)

Yainna Hernáiz-Hernández (graduated May 2015)

Katie Miller (NSF GRFP Fellow 2014-2016, graduated May 2018)

Jessica Cole (co-advised with A. Brody, graduated Dec. 2022)

Jacob Sorrentino (graduated October 2024)

Ben Recchia (co-advised with Kristin Bishop)

Current Ph.D. Committee Member for:

Thomas O'Leary, Biology

Maia Austin, Biology

Anna Schmidt, Biology

Jacqueline Guillemin, Biology

Ilaria Coero Borga, Biology

Emily Dombrowski, Biology

Current MS Committee member for:

Sydney Miller, Agroecology

Service to Scientific Community:

Chair, North American Section of the International Union for the Study of Social Insects

Social Media committee (2019 - 2023)

President, North American Section of the International Union for the Study of Social Insects (IUSSI; 2018-2019)

Associate Editor, *Evolutionary Ecology* (2006-current)

Member of Advisory Council of AMNH Southwestern Research Station (2005-2007)

Journal Referee for: *American Naturalist*, *Animal Behaviour*, *Behavioral Ecology and Sociobiology*, *Biological Reviews*, *Biology Letters*, *Current Biology*, *Ethology*, *Evolution*, *Insectes Sociaux*, *Journal of Theoretical Biology*, *Molecular Ecology*, *Molecular Biology and Evolution*, *Molecular Phylogeny and Evolution*, *Naturwissenschaften*

Member of NSF Evolutionary Ecology grant proposal review panel, spring 2010

Member of NSF Animal Behavior grant proposal review panel, fall 2010

Member of NSF Dimensions of Biodiversity grant proposal review panel, summer 2013

Member of NSF Evolutionary Processes pre-proposal review panel, spring 2014

Professional Memberships:

Animal Behavior Society

American Society of Naturalists

Entomological Society of America

Genetics Society of America

International Society for Behavioral Ecology

International Union for the Study of Social Insects