

# Jennifer Lynn Apple

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## I. EDUCATION

Ph.D. in Biology, University of Utah, Salt Lake City, Utah, May 2001.

Dissertation title: Consequences of resource environment for the interactions between ants, herbivores, and their host plants. Advisor: Donald H. Feener, Jr.

B.S. in Biology, University of Puget Sound, Tacoma, Washington, 1994. Graduated Summa Cum Laude with Honors in Biology

## II. ACADEMIC EMPLOYMENT

September 2013 – present Associate Professor, Department of Biology, SUNY Geneseo

August 2007 – August 2013 Assistant Professor, Department of Biology, SUNY Geneseo

June 2005 – August 2007 Postdoctoral Research Associate, Kansas State University  
Advisors: Anthony Joern and Samantha Wisely

August 2004 – May 2005 Visiting Assistant Professor, Biology Department, Willamette University

April 2002 – August 2004 Postdoctoral Researcher, Washington State University-Vancouver  
Advisor: John G. Bishop

August 2000 – April 2002 Postdoctoral Fellow, Smithsonian Environmental Research Center, Edgewater, Maryland  
Advisor: Ilka C. Feller

## III. COURSES TAUGHT

### SUNY Geneseo

Biology 203 – Principles of Ecology

Fall 2007 – present

Biology 204 – Ecology Lab

Fall 2007 – present

Biology 327 – Molecular Ecology

Spring 2009 – present

Biology 345 – Biology of Insects

Fall 2018 – present

Biology 348 – Plant Diversity

Fall 2021

Biology 116 – General Biology Lab	Fall 2020
Extreme Learning 188 – Natural History & Sustainability	Fall 2019
Biology 380 – Biology Seminar: Social Insects	Fall 2014
Biology 128 – Freshman Experience in Biology (fall terms)	Fall 2011, Fall 2012
Biology 380 – Biology Seminar: Speciation	Fall 2010
Biology 380 – Biology Seminar: Molecular Ecology	Spring 2008
Biology 188 – General Biology Labs (supervised two sections)	Fall 2007 – Spring 2008, S

Willamette University (Salem, OR): Visiting Assistant Professor

Biology 110 – Principles of Biology Lecture/Lab (nonmajors course)	Spring 2005
Biology 257 – Plant Ecology and Conservation Lecture/Lab	Fall 2004
Biology 125 – Ecology, Evolution, & Diversity (lab instructor only)	Fall 2004

#### IV. SCHOLARLY ACTIVITY

##### Publications

- Apple, J.L., S.L. Lewandowski,\* and J.L. Levine\*. 2014. Nest relocation in the slavemaking ants *Formica subintegra* and *F. pergandei*: a response to host nest availability that increases raiding success. *Insectes Sociaux* 61:347-356. (\* undergraduate co-authors)
- Apple, J.L., T. Grace, A. Joern, P. St. Amand, and S.A. Wisely. 2010. Comparative genome scan detects host-related divergent selection in the grasshopper *Hesperotettix viridis*. *Molecular Ecology* 19:4012-4028.
- Bishop, J.G., N. O'Hara, J.H. Titus, J.L. Apple, R.A. Gill, and L. Wynn. 2010. N-P co-limitation of primary production and response of arthropods to N and P in early primary succession on Mount St. Helens volcano. *PLoS ONE* 5:e13958.
- Apple, J.L., M. Wink, S.E. Wills, and J.G. Bishop. 2009. Successional change in phosphorus stoichiometry explains the inverse relationship between herbivory and lupin density on Mount St. Helens. *PLoS ONE* 4:e7087.
- Adamski, D.A., J.L. Apple, and J.G. Bishop. 2009. A new *Filatima* Busck (Lepidoptera: Gelechiidae) associated with lupine and early herbivore colonization on Mount St. Helens. *Proceedings of the Entomological Society of Washington* 111:293-304.
- Grace, T., A. Joern, J.L. Apple, S.J. Brown, and S.M. Wisely. 2009. Highly polymorphic microsatellites in the North American snakeweed grasshopper *Hesperotettix viridis*. *Journal of Orthoptera Research* 18:19-21.
- Apple, J.L., and D.A. Adamski. 2006. The biology of *Chionodes hibiscella* (Busck) with a description of the immature stages. *Proceedings of the Entomological Society of Washington* 108:575-582.

Gill, R.A., J.A. Boie, J.G. Bishop, L. Larsen, J.L. Apple, and R.D. Evans. 2006. Linking community and ecosystem development on Mount St. Helens. *Oecologia* 148:312-324.

Fagan, W.F., M.A. Lewis, M.G. Neubert, C. Aumann, J.L. Apple, and J.G. Bishop. 2005. When can herbivores slow or reverse the spread of an invading plant? A test case from Mount St. Helens. *American Naturalist* 166:669-685. *Recipient of the 2006 Presidential Award by the Society of American Naturalists for best paper published in American Naturalist the previous calendar year.*

Apple, J.L., and D.H. Feener, Jr. 2001. Ant visitation of extrafloral nectaries of *Passiflora*: the effects of nectary attributes and ant behavior on patterns in facultative ant-plant mutualisms. *Oecologia* 127: 409-416.

#### Pedagogical publications

Allen, J. A., Apple, J., Groh, K., Hamman, E., Jindal, P., Marsteller, P., Olins, H., Panvini, D., Pigg, R., Santos, G. R., Richardson, M. R., Vemu, S., Wade, J., Yang, S. (2021). Scientist Spotlights and Data Nuggets Workshop Materials (BIOME 2021). 2021 Biology and Mathematics Educators (BIOME) Institute, QUBES Educational Resources. doi:10.25334/HKS3-EY64

Apple, J. (2021). Lizard cold tolerance and extreme weather events: a scientist spotlight featuring Dr. Shane Campbell-Staton. Scientists Spotlights and Data Nuggets, QUBES Educational Resources. doi:10.25334/JP8C-JP93

Apple, J. (2021). Urban stream invaders: a scientist spotlight featuring Dr. Piatã Santana Marques. Scientists Spotlights and Data Nuggets, QUBES Educational Resources. doi:10.25334/PS3C-0T54

Apple, J. (2020). An introduction to population matrix models: a swirl lesson. Make Teaching with R in Undergraduate Biology Less Excruciating 2020, QUBES Educational Resources. doi:10.25334/X2D5-YG13.

Apple, J. (2017). Phenology and climate change. ESA Data Discovery FMN (2017), QUBES Educational Resources. doi:10.25334/Q4F59H

Apple, J. (2017). Exploring the population dynamics of wintering bald eagles through long-term data. ESA Data Discovery FMN (2017), QUBES Educational Resources.

#### Presentations at conferences (\*undergraduate researcher)

Apple, Jennifer L., and Stano Pekár. 2023. Does personality affect mimetic accuracy in the ant-mimicking spider *Leptorchestes berolinensis* (Salticidae)? Poster presentation. American Arachnological Society Meeting. Ithaca, NY.

- Apple, Jennifer L., \*Julia Brzezicki, \*Eliana Ontiveros-Oberg, \*Marlena Ridley, and \*Jacqueline Zhou. 2023. Phenology and mating behavior of the non-native ant-mimicking spider *Myrmarachne formicaria*. Poster presentation. American Arachnological Society Meeting. Ithaca, NY.
- Apple, Jennifer L., \*Cassidy Mills, \*Daniel Fleischman, and \*Eliana Ontiveros-Oberg. 2022. Natural history and genetic variation of an introduced European ant-mimicking spider (*Myrmarachne formicaria*) in western New York. Poster presentation. 33rd European Congress of Arachnology. Greifswald, Germany.
- Apple, Jennifer L., \*Alice Dipzinski, \*Daniel Fleischman, \*Cassidy Mills, Julia Ophals, \*Alanna Richman, \*Niaomi VanAlstine, and \*Jacqueline Zhou. 2021. Habitat, life history, phenology, and behavior of a non-native ant-mimicking spider, *Myrmarachne formicaria*. Oral presentation. American Arachnological Society Meeting (virtual).
- Apple, Jennifer L. 2021. Habitat, Life History, and Phenology of a Non-Native Ant-Mimicking Spider, *Myrmarachne formicaria*. Oral presentation. Northeast Natural History Conference (virtual).
- Apple, Jennifer L., \*Bea Dipzinski, \*Daniel Fleischman, \*Alanna Richman and \*Jacqueline Zhou. 2020. Habitat Preferences, Life History, and Behavior of a Non-Native Ant-Mimicking Spider, *Myrmarachne formicaria*. Poster presentation. Ecological Society of America Annual Meeting (virtual).
- Apple, J.L. 2019. Masquerading on eight legs: natural history of a non-native ant-mimicking spider in western New York. Oral presentation. Paleontological Research Institute Summer Symposium. Museum of the Earth, Ithaca, NY.
- Apple, J.L. 2019. A non-native ant-mimicking spider in western New York: habitat preferences, life history, and behavior. Oral presentation. American Arachnological Society Annual Meeting 2019. Lexington, VA.
- Apple, J.L. 2019. Natural history of a non-native ant-mimicking spider in western New York. Oral presentation. Northeast Natural History Conference, Springfield, MA.
- Apple, J.L. 2018. Raids and relocations: the exploits of slavemaking ants. Oral presentation. Paleontological Research Institute Summer Symposium. Museum of the Earth, Ithaca, NY.
- Apple, J.L. 2017. Dynamic use of space by slavemaking ants. Oral presentation. Middle State Division Annual Meeting of the American Association of Geographers. Geneseo, NY
- Apple, J.L., \*H.L. Doherty, and \*T.J. Mateer. 2017. Raids and relocations: insights from long-term monitoring of interactions between slavemaking ants and their hosts. Oral presentation. Ecological Society of America Annual Meeting, Portland, OR.
- Apple, J.L., \*H.L. Doherty, and \*T.J. Mateer. 2017. Raids and relocations: Insights from long-term

- monitoring of interactions between slavemaking ants and their hosts. Oral presentation. Northeast Natural History Conference, Cromwell, CT.
- Apple, J.L. 2014. Colony relocation and intraspecific raids by slavemaking ants: meeting demand for captive labor? Oral presentation. Northeast Natural History Conference. Springfield, MA.
- Apple, J.L., \*S.L. Lewandowski, \*J.L. Levine. 2013. Nest relocation of the slavemaking ants *Formica subintegra* and *F. pergandei*. Oral presentation. Northeast Natural History Conference. Springfield, MA.
- Apple, J.L., \*S.L. Lewandowski, \*S.A. Dzara, \*D.D. Kane, \*J.L. Levine, and \*B.E. Neary. 2012. Dynamics of interactions between slavemaking ants and their hosts: Spatial, temporal, and genetic patterns. Oral presentation. Ecological Society of America Annual Meeting, Portland, OR.
- Apple, J.L., \*S. Dzara, \*D. Kane, \*J. Levine, and \*S. Lewandowski. 2012. Raiding patterns of slavemaking ants and impacts on exploited host colonies. Oral presentation. Northeast Natural History Conference. Syracuse, NY.
- Apple, J.L., \*S.L. Lewandowski, \*S. Dzara, \*D. Kane, and \*B. Neary. 2011. Spatial and temporal dynamics of interactions between slavemaking ants and their hosts. Oral presentation. Northeast Natural History Conference. Albany, NY.
- Leary, C.C., and J.L. Apple 2010. UBM at Geneseo: Consistency and change. Oral presentation. Beyond Bio2010 Symposium. National Academy of Sciences, Washington, DC.
- Apple, J.L., and A. Joern. 2009. Effects of temperature and rainfall manipulation on insect herbivory in *Solidago canadensis*. Poster presentation. Society of America Annual Meeting, Albuquerque, NM.
- Apple, J.L., A. Joern, P. St. Amand, T. Grace, G.A. Sword, and S.M. Wisely. 2008. Divergence in host plant use and historical demography in the grasshopper *Hesperotettix viridis*. Poster presentation. Evolution 2008, joint annual meeting of the Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists, Minneapolis, MN.
- Apple, J.L., A. Joern, P. St. Amand, T. Grace, G.A. Sword, and S.M. Wisely. 2007. Adaptive divergence in host plant use and historical demography in the grasshopper *Hesperotettix viridis*. Poster presentation. Ecological Genomics Symposium, Kansas City, MO.
- Apple, J.L., A. Joern, and S.M. Wisely. 2006. Adaptive divergence, genetic drift, and incipient speciation in the grasshopper *Hesperotettix viridis*. Poster presentation, Ecological Genomics Symposium, Kansas City.
- Apple, J.L., A. Joern, and S.M. Wisely. 2006. Quaternary history, host plant use, and incipient speciation in the grasshopper *Hesperotettix viridis*. Poster presentation, American Genetics Association Annual Symposium: The Genetics of Speciation, Vancouver, BC.

Apple, J.L., and J.G. Bishop. 2004. Herbivore performance varies with host plant density and plant nutrients in primary successional habitat at Mount St. Helens. Oral presentation. The Second Annual Research Advances in Fisheries, Wildlife, and Ecology Symposium. Oregon State University, Corvallis, OR.

Apple, J.L., and J.G. Bishop. 2004. Herbivore performance varies with host plant density and plant nutrients in primary successional habitat at Mount St. Helens. Oral presentation. Ecological Society of America Annual Meeting, Portland, OR.

Hinds, T., J. Apple, and J. Bishop. 2004. Does plant tissue quality affect Mount St. Helens herbivores? Poster presentation, WSU-Vancouver Research Fair, Vancouver, WA.

Apple, J.L., J.G. Bishop, W.F. Fagan, J.D. Schade, and M. Wink. 2003. Successionally driven changes in leaf nutrients & spatial patterning of herbivory on lupines at Mount St. Helens. Oral presentation. Ecological Society of America Annual Meeting, Savannah, GA.

Apple, J.L., and D.H. Feener, Jr. 2001. Consequences of light environment for the interactions among ants, an ant-tended herbivore, and its host plant. Oral presentation, Ecological Society of America Annual Meeting, Madison, WI.

Apple, J.L., and D.H. Feener, Jr. 1999. The effects of host plant light environment on a facultative ant-caterpillar mutualism in Panama. Poster presentation, Ecological Society of America Annual Meeting, Spokane, WA.

### Invited seminars

Spider-Man vs. Ant-Man. SUNY Geneseo Phi Beta Kappa Colloquium. 30 November 2023. Geneseo, New York.

Masquerading on eight legs: natural history of a non-native ant-mimicking spider in western New York. 22 September 2023. Department of Zoology, Masaryk University, Brno, Czech Republic.

Raids & relocations: the exploits of kidnapper ants. 9 November 2023. Terrestrial Invertebrate Research Group, Masaryk University, Brno, Czech Republic.

Raids and relocations: the exploits of slavemaking ants. 11 March 2016. SUNY Buffalo State, Buffalo, NY.

Raids and relocations: the exploits of slavemaking ants. 9 December 2014. Houghton College Science and Math Colloquium, Houghton College, Houghton, NY.

Space, time, maps and molecules: dynamics of the interactions between slavemaking ants and their hosts. 7 November 2012. University at Buffalo Graduate Program in Ecology, Evolution and Behavior, Buffalo, NY.

Adaptive genetic divergence (and incipient speciation?) in a grasshopper. Fall 2008. Phi Beta

Kappa Fall Faculty Colloquium. Informal seminar. SUNY Geneseo.

Host plant variation and species interactions: tropical mutualisms, primary succession, and choosy grasshoppers. Spring 2008. SUNY Fredonia Department of Biology, Fredonia, NY.

Explaining patterns in insect herbivory in primary succession at Mount St. Helens: spatial heterogeneity and nutrient stoichiometry. 2005. Kansas State University, Manhattan, KS.

Shedding light on an ant-plant-herbivore interaction. 2002. Willamette University, Salem, OR.

Shedding light on an ant-plant-herbivore interaction. 2002. Washington State University, Vancouver, WA.

Consequences of light environment for the interactions among ants, an ant-tended herbivore, and its host plant. 2000. Smithsonian Environmental Research Center, Edgewater, MD.

#### External grants submitted

Preliminary Proposal: RUI: Interactions between slavemaking ants and their hosts: spatiotemporal dynamics, host responses, and parasite impacts. Submitted to NSF Division of Environmental Biology (Population and Community Ecology Cluster) as sole PI on 23 January 2013.

Preliminary Proposal: RUI: Spatial and temporal dynamics of interactions between slavemaking ants and their hosts. Submitted to NSF Division of Environmental Biology (Population and Community Ecology Cluster) as sole PI on 9 January 2012.

Historical demography, host plant use, and incipient speciation in the grasshopper *Hesperotettix viridis*. Submitted to the NSF Division of Environmental Biology (Evolutionary Processes Cluster) on 9 July 9 2007. PI: A. Joern, Co-PIs: J. Apple, S. Wisely.

#### Fellowships, grants, and awards

Roemer Summer Faculty Fellowship, 2019

Campus Sustainability Leadership Award, 2019

Drs. Carol & Michael Harter Faculty Mentoring Award, 2018

SUNY Geneseo Incentive Grant, Summer 2018 (for equipment and student assistance in studying behavior and habitat selection of ant-mimicking spiders)

SUNY Geneseo Incentive Grant, Summer 2016 (for attendance of native bee workshop in Maine)

2011-2012 Ambassador Apartments Endowed Faculty Excellence Award

SUNY Geneseo Incentive Grant, Summer 2011 (for attendance of ant identification workshop in Maine)

SUNY Geneseo Presidential Summer Faculty Fellowship, 2010

Bulk Fragment Analysis and Genotyping funding support through the Kansas State University Ecological Genomics Institute and Targeted Excellence. 2006. Total awarded: \$5000.

National Science Foundation Doctoral Dissertation Improvement Grant: The effects of variation in host plant quality on a facultative ant-caterpillar mutualism. 1999-2000. Total awarded: \$9500

Sigma Xi Grant-in-Aid of Research: The effects of variation in host plant quality on a facultative ant-caterpillar mutualism. 1999. Total awarded: \$890

Sigma Xi Grant-in-Aid of Research: The effects of variation in host plant quality on a facultative ant-caterpillar mutualism. 1998. Total awarded: \$1000

University of Utah Graduate Research Fellowship, 1998-1999

National Science Foundation Graduate Research Fellowship, 1994-1995, 1996-1998

## V. MENTORSHIP ACTIVITY

### Mentored student presentations

† undergraduate researcher and presenter (all work also presented at GREAT Day, Geneseo's campus-wide research symposium)

†Bulkley, Madison, †Hannah Reid, and Jennifer L. Apple. 2024. Investigating courtship, display behaviors, and personality of ant-mimicking spiders. Poster presentation. Northeast Natural History Conference, Albany, NY.

†Lemon, Daniel, †Emma Parker, †Carly Wick, and Jennifer L. Apple. 2024. Nesting patterns of cavity-nesting bees and wasps. Poster presentation. Northeast Natural History Conference, Albany, NY.

†Schell, Anna, †Brenna Dunn, and Jennifer L. Apple. 2024. Incidence of bacterial symbionts in the ant-mimicking spider, *Myrmarachne formicaria*. Poster presentation. Northeast Natural History Conference, Albany, NY.

†Mills, Cassidy, \*Daniel Fleischman, and Jennifer L. Apple. 2021. Genetic diversity in a non-native ant-mimicking spider in its invaded range. Poster presentation. American Arachnological Society Annual Meeting (virtual).



- †Ophals, Julia, †Niaomi VanAlstine, and Jennifer L. Apple 2021. Success of Batesian mimicry in the ant-mimicking spider *Myrmarachne formicaria*. Poster presentation. American Arachnological Society Annual Meeting (virtual).
- †Menendez, Allison A., and Jennifer L. Apple. 2021. Evaluating the use of artificial nests by native bees. Poster presentation. Northeast Natural History Conference (virtual). Earned Biology Department's Mark Diamond Research Award for Poster Presentation in GREAT Day.
- †Mills, Cassidy, and Jennifer L. Apple. 2021. Describing Genetic Diversity in a Non-Native Ant-Mimicking Spider. Poster presentation. Northeast Natural History Conference (virtual).
- †Ophals, Julia, †Niaomi VanAlstine, and Jennifer L. Apple. 2021. Success of Batesian Mimicry in the Ant-mimicking Spider *Myrmarachne formicaria*. Poster presentation. Northeast Natural History Conference (virtual). Earned second place for non-avian undergraduate poster in conference.
- †Richman, Alanna, †Bea Dipzinski, and J.L. Apple. 2020. Effectiveness of Batesian mimicry in the ant-mimicking spider *Myrmarachne formicaria*. Poster presentation. Northeast Natural History Conference. Conference cancelled due to Covid-19 concerns.
- †Fleischman, Daniel, and J.L. Apple. 2020. Genetic diversity of a non-native ant-mimicking spider, *Myrmarachne formicaria*, in the Great Lakes. Conference cancelled due to Covid-19 concerns.
- †Muscat, Samantha, and J.L. Apple. 2019. Herbivory and arthropod abundance on native and invasive understory shrubs. Poster presentation. Northeast Natural History Conference, Springfield, MA.
- †Richman, Alanna, and J.L. Apple. 2019. Relationship between the incidence of an ant-mimicking spider (*Myrmarachne formicaria*) and ant abundance and diversity. Poster presentation. Northeast Natural History Conference, Springfield, MA.
- †Schultz, Christine, and J.L. Apple. 2019. Exploration of fox den family dynamics using camera trap data. Poster presentation. Northeast Natural History Conference, Springfield, MA.
- †Zhou, Jacqueline, and J.L. Apple. 2019. Display behaviors in encounters between males of the ant-mimicking spider *Myrmarachne formicaria*. Poster presentation. Northeast Natural History Conference, Springfield, MA.
- †Heraghty, Sam, and J.L. Apple. 2018. Patterns in native bee diversity: effects of floral resources and habitat. Poster presentation. Northeast Natural History Conference, Burlington, VT.
- †Jones, Ally, and J.L. Apple. 2018. Interactions between beech blight aphids, sooty mold fungus, and forest invertebrates. Poster presentation. Northeast Natural History Conference, Burlington, VT.

- †Kluball, Aaron, and J.L. Apple. 2018. Impact of vegetation history on forest development in a heterogeneous secondary successional forest. Northeast Natural History Conference, Burlington, VT.
- †Lang, Jason, and J.L. Apple. 2018. Effect of habitat type on wasp abundance and diversity on the SUNY Geneseo Campus. Poster presentation. Northeast Natural History Conference, Burlington, VT.
- †Martin, Emily, and J.L. Apple. 2018. Extended leaf phenology of the invasive Amur honeysuckle. Poster presentation. Northeast Natural History Conference, Burlington, VT.
- †Zablonski, Kevin, and J.L. Apple. 2018. Genetic comparison of slavemaking ant colonies to complement assays of aggression between nests. Poster Presentation. Northeast Natural History Conference, Burlington, VT.
- †Coacci, John, and J.L. Apple. 2017. Comparing decomposition rates of nitrogen-fixing and non-nitrogen-fixing invasive species. Poster Presentation. Northeast Natural History Conference, Cromwell, CT.
- †Heraghty, Sam, and J.L. Apple. 2017. Patterns of native bee diversity: comparison of sampling methods and effects of floral resources and habitat. Poster presentation. Northeast Natural History Conference, Cromwell, CT
- †Murray, Frances, †Ryan Colling, and J.L. Apple. 2017. Documenting the extended leaf phenology of invasive shrubs using a citizen science approach. Poster presentation. Northeast Natural History Conference, Cromwell, CT.
- †Loo, Hannah, and J.L. Apple. 2017. Examination of multiple infections of *Wolbachia* in free-living, enslaved, and slavemaking *Formica* ants. Poster presentation. Northeast Natural History Conference, Cromwell, CT.
- †Nagel, Robina, and J.L. Apple. 2017. Identifying the fungal associates of honeydew deposits from the beech blight aphid. Poster presentation. Northeast Natural History Conference, Cromwell, CT.
- †Varghese, Merin, and J.L. Apple. 2017. Screening and optimizing microsatellite loci for genotyping *Formica* ants. Poster presentation. Northeast Natural History Conference, Cromwell, CT.
- †Backhaus, Josh, and J.L. Apple. 2016. The effect of invasive shrubs on soil carbon dioxide emission rates compared to native dogwood in Spencer J. Roemer Arboretum. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Koob, Julian, and J.L. Apple. 2016. Spatial and molecular ecology of the parasitic plant *Monotropa uniflora*. Poster presentation. Northeast Natural History Conference. Springfield, MA.

- †Mrakovcic, Hannah, and J.L. Apple. 2016. Herbivore damage on native vs. invasive shrubs in Roemer Arboretum. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Scandaglia, Gina, and J.L. Apple. 2016. Removal of fruits by birds from native vs. invasive shrubs in Roemer Arboretum. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Wu, Bowen, and J.L. Apple. 2016. Comparison of the genetic composition and colony structure of *Formica glacialis* nests over time. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Barrett, Meghan, and J.L. Apple. 2015. Determination of colony structure in *Formica pergandei* using microsatellite markers. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Doherty, Hannah, †Bowen Wu, and J.L. Apple. 2015. Genetic identity and colony structure of *Formica glacialis* colonies before and after slavemaker occupation. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Hart, John, and J.L. Apple. 2015. Brood-care behavior of free-living vs. enslaved *Formica glacialis* ants. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Mateer, Timothy, and J.L. Apple. 2015. Worker size variation in colonies of the ant *Formica glacialis*. Poster presentation. Northeast Natural History Conference. Springfield, MA. (Also recipient of Biology Department's Mark Diamond Award for poster presentation at GREAT Day)
- †Wenderlich, Carley, and J.L. Apple. 2015. Ant foraging activity, ant abundance, and *Formica glacialis* nest density. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Doherty, Hannah, and J.L. Apple. 2014. Dynamics of raid development and execution in the slavemaking ant *Formica subintegra*. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Leicht, Erica, and J.L. Apple. 2014. Influence of light environment on distribution and size of *Formica glacialis* nests. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Prendergast, Laura, and J.L. Apple. 2014. Using mitochondrial DNA to examine queen relatedness in a population of polygynous *Formica*. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Shares, Brianna, and J.L. Apple. 2014. Determining colony structure in recently founded *Formica glacialis* nests. Poster presentation. Northeast Natural History Conference. Springfield, MA.

- †Brodsky, Alexa, and J.L. Apple. 2013. Do pitfall traps reflect local ant colony density? Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †McGrath, Diana, and J.L. Apple 2013. Spatial ecology of slavemaking ants and their hosts: A GIS analysis. Poster presentation. Northeast Natural History Conference. Springfield, MA.
- †Stowell, Vincent, and J.L. Apple 2013. Assays for aggression and activity in a host species of the slavemaking ants *Formica subintegra* and *F. pergandei*. Northeast Natural History Conference. Springfield, MA.
- †Dzara, Sarah, and J.L. Apple. 2012. Using mitochondrial and nuclear DNA to assess *Formica glacialis* population structure and gene flow. Poster presentation. Northeast Natural History Conference. Syracuse, NY.
- †Hansen, Laura, and J.L. Apple. 2012. Survey of Collembola in an early successional forest in western New York: comparing sampling methods. Poster presentation. Northeast Natural History Conference. Syracuse, NY.
- †Levine, Jeffrey, and J.L. Apple. 2012. The migration and raiding patterns of slavemaking ants. Poster presentation. Northeast Natural History Conference. Syracuse, NY.
- †Marchese, Michael, and J.L. Apple 2012. A survey of ant diversity: seasonal effects on ant activity. Poster presentation. Northeast Natural History Conference. Syracuse, NY.
- †Lewandowski, Sara, and J.L. Apple 2011. Behavioral and spatial patterns of *Formica glacialis* ants in the context of parasitism by slavemakers. Oral presentation. Northeast Natural History Conference. Albany, NY.
- †Dzara, Sarah, and J.L. Apple. 2011. Using microsatellites to assess relatedness within and among *Formica subintegra* ant colonies. Poster presentation. Northeast Natural History Conference. Albany, NY.
- †Kulp, Alexander, and J.L. Apple 2011. A preliminary inventory of ant diversity in Roemer Arboretum, Geneseo, NY. Poster presentation. Northeast Natural History Conference. Albany, NY.
- †Lewandowski, Sara. 2010. Raid characteristics of two species of slavemaking *Formica* ants and their impact on spatial patterns of host nest distribution. Oral presentation. COPLAC Northeast Regional Undergraduate Research Conference. North Adams, MA.
- †Lewandowski, Sara, and J. L. Apple. 2009. Raiding activity of two species of slavemaking *Formica* ants. Poster presentation. Rochester Academy of Science Fall Paper Session, Rochester, NY. (Also recipient of Biology Department's Mark Diamond Award for poster presentation at GREAT Day)

Supervised honors theses

Christine Schultz ('19) – Exploration of fox den family dynamics using camera trap photos - Edgar Fellows Honors Thesis; to be presented at GREAT Day 2019

John Coacci ('17) - Comparing decomposition rates of nitrogen-fixing and non-nitrogen-fixing invasive species. Biology Honors Thesis; presented at GREAT Day 2017

Gina Scandaglia ('17) - Removal of fruits by birds from native vs. invasive shrubs in western New York - Edgar Fellows Honors Thesis; presented at GREAT Day 2016

Sara Lewandowski ('11) - Behavioral, spatial, and genetic characteristics of Geneseo's slavemaking ants and their hosts, Biology Honors Thesis; presented at GREAT Day 2011 and recipient of the Biology Department's Mark Diamond Memorial Research Award for oral presentation

Supervised undergraduate summer research fellowships

Allison Menendez ('21) – Evaluating the use of artificial nests by native bees. Geneseo Undergraduate Summer Research Fellowship, summer 2020

Sam Heraghty ('18) - Evaluating bee diversity, floral resource usage, and bee sampling methods in the Spencer J. Roemer Arboretum. Geneseo Undergraduate Summer Research Fellowship, summer 2017

Hannah Doherty ('15) - Dynamics of raid development and execution in the slavemaking ant *Formica subintegra*. Geneseo Undergraduate STEM Summer Research Award, summer 2013

Vincent Stowell ('14) - Developing behavioral assays of aggression and activity in *Formica glacialis* ants. Geneseo Undergraduate Summer Research Fellowship, summer 2012

Other mentored student research projects (not listed above under mentored student presentations)

‡ poster presented at GREAT Day – campus-wide research symposium

‡Anna Schell ('24) - Development of molecular markers from the transcriptome of an ant-mimicking spider for population genetic analyses; January 2023 – May 2023 (co-advised with Dr. Josie Reinhardt)

‡Julia Brzezicki ('23), ‡Marlena Ridley ('22), and Julia Cappiello ('23). Does male display behavior in an ant-mimicking spider depend on context and affect female response? September 2021 – May 2022.

‡Stephen Hoare ('23), ‡Rachel Williams ('24), and Kaitlyn Latorre ('22). Timing of use of artificial nests by exotic mason bees; September 2021 – May 2022.

- ‡Cassidy Mills ('22) – Developing resources for assessing genetic diversity in a non-native ant-mimicking spider; September 2021 – May 2022
- ‡Eliana Ontiveros-Oberg ('22) Distribution and phenology of nonnative *Myrmarachne formicaria* in its native and invaded range; January 2022 – May 2022
- ‡Chloe Cottone ('20) – Development of video monitoring methods to study ant-mimicking spider behavior (June 2018 – spring 2019)
- Nikki Winchester ('17) – Effects of abandoned ant nests on soil properties and plant diversity and cover; August 2015 – May 2016
- ‡Cole Gleason ('16) and Rachel Moore ('16) – Microsatellite analysis of adult and larval sea star populations; September 2014 – May 2016 (co-advised with Dr. Sid Bosch)
- Allie Tuchrello ('15) – Abiotic environmental correlates of *Formica glacialis* activity; June 2014 – December 2014
- ‡Nick Piedmonte ('14) and Rachel Moore ('16) – Microsatellite analysis of genetic diversity in clonal sea star larvae; September 2013 – May 2014 (co-advised with Dr. Sid Bosch)
- ‡Joe Aladeen ('13) and Joann Lam ('14) – Using mitochondrial DNA analysis to examine relatedness within polygynous *Formica glacialis* colonies; September 2012 – May 2013
- Daniel Kane ('12) – Improvement of a real-time PCR assay to compare expression of the foraging gene in the slavemaking ant *Formica subintegra* and its host *Formica glacialis*; September 2011 – May 2012
- ‡Bridget Neary ('10) – Measuring genetic relatedness in two slavemaking ant species; Summer 2009 – Spring 2010
- ‡Morgann Clark ('11) and Daniel Kane ('12) – Expression of the foraging gene in slavemaking ants and their hosts; Summer 2009 – May 2011
- ‡Peggy Reyes ('10) – Screening for *Wolbachia* infection in the ant *Formica glacialis*; Spring 2010
- Peggy Reyes ('10) – Seed predation by insects in red and white oaks; Fall 2009
- ‡Alexandra Truex ('09) – Testing microsatellite loci for amplification and polymorphism in local *Formica* mound-nesting ants; Fall 2008 – Spring 2009
- Aspen Ainsworth ('09) – Mitochondrial DNA variation in the grasshopper *Hesperotettix viridis*; Fall 2008 – Spring 2009
- ‡Stephanie Paladini ('09) – Screening for *Wolbachia* presence in the grasshopper *Hesperotettix viridis* and other Orthoptera; Summer and Fall 2008 – Spring 2009

‡Dillon Meier ('09) – Patterns in the spatial distribution of *Formica* slavemaker ants and their hosts; Summer 2008 and Fall 2008 – Spring 2009; recipient of the Biology Department's Mark Diamond Memorial Research Award for poster presentation

‡Aspen Ainsworth ('09) – The effects of *Brassica rapa* trichomes on feeding choice and growth in cabbage white butterfly larvae; Spring 2008

## VI. SERVICE

### Department service

Biology DEI Committee	Fall 2023 – present (co-chair)
Biology Student Research Committee	2021 - present
Biology Search Committee for Assistant Professor (chair)	Spring 2023
Biology Personnel Committee	2013-15, spring 2016, 2017-19, 2020-21 (chair, Fall 2017, Fall 2018, 2020-22)
Biology Curriculum Committee	2009-11, 2016-18 (chair), 2023 – present (chair, spring 2024)
Biology Assessment Committee	Spring 2020 – Spring 2022
Biology Search Committee for Visiting Assistant Professors	Spring 2018
Biology Search Committee for A&P Instructor	2014-2015
Instructional Media & Information Technology Committee	2014 – 2016
Graduate Committee	2011 – 2015
Ad Hoc Animal Care Committee	2007 – present
Biology Undergraduate Committee	2008 – 2014 (Fall 2011 – Spring 2014, chair)
Biology Seminar and Programs Committee	2007 – 2010 (Fall 2008 – Spring 2010, chair)
Program Review Committee (not involved in writing report for reviewers)	2010 – 2011
Ad Hoc Laboratory Committee	2011 – 2012

### College service

Spencer J. Roemer Arboretum Advisory Board, Member	May 2013 - present
Spencer J. Roemer Arboretum Advisory Board, Chair	August 2013 – May 2022
Spencer J. Roemer Arboretum Advisory Board, Acting Chair	May 2013 – August 2013
Faculty advisor, Nature Walk Club	September 2016 – 2021
SUNY Geneseo Research Council, Chair	2019 - 2021
SUNY Geneseo Research Council	2010 – 2024, (2017-2019, vice-chair)
Phi Beta Kappa, Membership Committee	2010 – present
Physics Department Program Review Committee, external member	Spring 2019
Geography Search Committee, external member	Spring 2016
Presidential Scholars Committee	2012 – 2014 (2013, 2014, chair)
Sustainability Commission	2015 – 2020
Campus Tree Committee	2016 – present

### *Activities*

Presentation to the Geneseo Beekeeping Club on native bees	March 2023
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Presentation on the Insect Apocalypse to the Geneseo Beekeeping Club  
 Student-Faculty Lecture Series: Managed Bees & Native Bees

October 2019  
 November 2019

### Community service

President, Genesee Valley Conservancy Board of Directors; May 2024 - present

Vice President, Genesee Valley Conservancy Board of Directors; April 2022 – May 2024

Member, Genesee Valley Conservancy Board of Directors; April 2017 – present

Member, Geneseo Trail Town Committee, January 2021 – present

Presentation on lessons involving phenology for the New York State Master Teachers Program; 4  
 May 2024 (with Suann Yang and Brian Hoven)

Received Environmental Improvement Award from Geneseo Garden Club, April 2017

Public lecture for Discovery Café series – “Why we should care about native pollinators?” 24 April  
 2018

Led walks in the Arboretum for the Geneseo Garden Club (10 June 2015), Alden Garden Club (19  
 June 2015), Herb Society of Batavia (7 June 2016), Genesee County Master Gardeners (August  
 2023)

Led presentation on using natural spaces and field activities to enhance science education for the  
 New York State Master Teachers Program; 2 May 2015

Participated in BioBlitz at SUNY Fredonia College Lodge; 18-19 July 2014

Led insect walks at the SUNY Geneseo Research Reserve for the Genesee Valley Conservancy as  
 part of its nature walk series; July 2010, 2011, 2012, 2013

Public lecture, Genesee Valley Conservancy, “Abductions and invasions: the lives of slavemaking  
 ants,” 17 October 2014

### Service to discipline

Reviewed proposals for National Science Foundation Fall 2008, Fall 2009, Fall 2011

Reviewed manuscripts for *Biologia* (1) *Molecular Ecology* (3),

*Ecosphere* (1), *PLoS ONE* (1), *Ecology* (1), *Ethology* (1) Fall 2011 - present

Judged student oral presentations at the American Arachnological Society Meeting, Ithaca, NY  
 June 2023

## **VII. PROFESSIONAL GROWTH**

Certified completion of WaspID Course (online), Pennsylvania State University, 15-26 Jan 2024

Online course: Spider Biology, Ecology, and Identification, Eagle Hill Institute, 31 Oct - 9 Nov  
 2022

Centering Diversity, Equity, and Inclusion in Undergraduate Research and Creative Activity virtual  
 conference. 23-25 June 2021.

Centering DEI: Practical Tools for Sustaining Transformative Racial-Equity in Undergraduate  
 Research Programs virtual workshop. 22 June 2021.



BCEENET (Biological Collections Ecology and Education Network) Virtual Meeting. 14-15 June 2021.

Game of Logging Chainsaw Training 1-day course, Level 1, 24 May 2021

Quantitative Undergraduate Biology Education and Syntheses - Project (QUBES) Faculty Mentoring Network “Scientists Spotlights and Data Nuggets.” Spring 2021.

Quantitative Undergraduate Biology Education and Syntheses - Project (QUBES) Faculty Mentoring Network “Make Teaching with R in Undergraduate Biology Less Excruciating (TRUBLE).” Spring 2020.

Empire State Native Pollinator Survey Workshop, New York Natural Heritage Program. 30 June 2018.

Ecological Society of America/Quantitative Undergraduate Biology Education and Syntheses - Project (QUBES) Faculty Mentoring Network “Data discovery - bringing research data into undergraduate classrooms.” Spring 2017.

Workshop: Native Bees as Pollinators: Diversity, Ecology, Conservation, and Habitat Enhancement. Eagle Hill Institute, Steuben, ME, 10-16 July 2016.

Life Discovery – Doing Science Education Conference, Baltimore, MD. 18-19 March 2016.

Workshop: Ants of New England. Eagle Hill Institute, Steuben, ME. 10-16 July 2011.

Genomics in Education iPlant Faculty Workshop – Canisius College, Buffalo, NY. 10-11 June 2011. (Workshop presented by the DNA Learning Center of Cold Spring Harbor Laboratory)

Finger Lakes Project 2011: Sustainability as a Transformative Learning Experience – workshop on sustainability education – Ithaca College, Ithaca, NY. 25-27 May 2011.

SUNY Conversations in the Disciplines: Cooperation: Self Interest and Mutual Interest – Cornell University, Ithaca, NY. 16 October 2009.

NSF Day – workshop on NSF programs, proposal review process, and proposal preparation – Binghamton College, Binghamton, NY. 15 January 2009.

Council on Undergraduate Research Workshop: Beginning a Research Program in the Natural Sciences at a Predominantly Undergraduate Institution – Davidson College, Davidson, NC, 8-10 June 2008.

Workshop: Introduction to Quantitative Trait Locus (QTL) Mapping in Experimental Populations – Kansas State University, Manhattan, KS. 29 April 2007.

Microsatellite Development Workshop – Kansas State University, Manhattan, KS. 19-25 July 2005.