

# Jennifer L. Kovacs, Ph.D.

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*Ladybug*. 2002,  
9.5 x9.5 in. Used  
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## I. Education

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2004-2009	<b>Ph.D.</b> Applied Biology The Georgia Institute of Technology, Atlanta, GA Dissertation Title: "Queen specific selective pressures and caste dimorphism in the social wasp <i>Vespula maculifrons</i> " Advisor: Michael Goodisman, Ph.D.
1998-2002	<b>B.A.</b> Biology & Sociology/Anthropology Agnes Scott College, Decatur, GA

## II. Professional Appointments

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August 2020- Present	Associate Professor, Biology Department Agnes Scott College, Decatur, GA
August 2018- Spring 2022	Associate Professor, Biology Department Spelman College, Atlanta, GA
August 2012- August 2018	Assistant Professor, Biology Department Spelman College, Atlanta, GA
January 2011- August 2012	Post-doctoral Fellow with Dr. Nicole Gerardo, School of Biology FIRST Program, Emory University, Atlanta, GA
August 2009- January 2011	Post-doctoral Fellow with Dr. Yun Tao, School of Biology FIRST Program, Emory University, Atlanta, GA
August 2004- August 2009	Graduate Research Assistant with Dr. Michael Goodisman School of Biology, The Georgia Institute of Technology, Atlanta, GA

## Honors & Awards

Gravatt Award, Agnes Scott College, (\$2000), Award to travel to and work in the Florida Natural History Museum's McGuire Center for Lepidoptera and Biodiversity in Gainesville, FL in collaboration with Lead Curator Dr. Akito Y. Kawahara.

Dovetail Funding Assistance Award (FAA), Dovetail Genomics (\$8,000), Spring 2022

Women's Global Leadership Conference Curricular Development Stipend (\$300), Fall 2021

CURE Authorship Fellowship award for writing and completing a CURE (course-based undergraduate research experience) entry for NSF funded [CUREnet site](#) (\$500 stipend), Summer 2021

Gordon Research Conferences' Predominantly Undergraduate Institution (PUI) Award to attend the 2015 Ecological & Evolutionary Genomics Gordon Research Conference, Biddeford, ME (\$600 travel award), Summer 2015

Carl Storm Minority Fellowship Award to attend the 2015 Ecological & Evolutionary Genomics Gordon Research Conference, Biddeford, ME (\$1000 award to cover conference registration & housing), Summer 2015

Presidential Award for Excellence in Teaching (Junior Faculty), Spelman College, 2014

Outstanding Woman Graduate Student nominee, School of Biology, Georgia Tech, Atlanta, GA, 2007

Meritorious Teaching Award, School of Biology, Georgia Tech, Atlanta, GA, 2007

Outstanding Teaching Award, School of Biology, Georgia Tech, Atlanta, GA, 2004

### III. Scholarly Achievement

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**Peer-Reviewed Publications published/ in press (\* indicates undergraduate co-author) all citation numbers are according to Google Scholar in August 2022 (total citations = 508, h-index = 13, i10-index=15)**

Harris, E., K. McCormack\*, D. Voisin\*, **J. Kovacs** (In Preparation) Impacts of season and location on honeybee colonies' core microbiome.

Pai, A., Goytia, M., **Kovacs, J.**, Lee, M., Tekle, Y., & D. Wang (Submitted) Elucidating the broader impact activities of biology research at Spelman, a historically black women's college. Chapter in: Handbook of Broader Impacts, Editors Susan Renoe and Laurie Van Egeren

Bonner, K., Piechnik, D., **Kovacs, J.L.**, Warwick, A., & P. White (2019) Clam spawning & red tide: Helping students learn the Hardy-Weinberg Equilibrium. *The American Biology Teacher*. 81(5): 366-371. Citations: 1

Pai, A., Cole, M., **Kovacs, J.L.**, Lee, M., Stovall, M., & G. McGinnis (2017) As long as you are here, can I interest you in some science? Increasing student engagement by co-opting a social networking site for science discussions. *Journal of Educational Technology Systems*. 46(2): 153-177. Citations: 11

**Kovacs, J.L.**, Wolf, C.\*, Voisin, D.\*, & S. Wolf\* (2017) Aphid secondary symbionts do not affect prey attractiveness to two species of predatory lady beetles. *PLoS One*. 12 (9), e0184150. Citations: 1

**Kovacs, J.L.**, Wolf, C.\*, Voisin, D.\*, & S. Wolf\* (2017) Evidence of indirect symbiont conferred protection against the predatory lady beetle *Harmonia axyridis* in the pea aphid. *BMC Ecology*. 17:26 DOI: 10.1186/s12898-017-0136-x. Citations: 6

Pai, A., McGinnis, G., Bryant, D., Cole, M., **Kovacs, J.L.**, Stovall, K., & M. Lee (2017) Using Facebook groups to encourage science discussion in a large-enrollment biology class. *Journal of Educational Technology Systems*. DOI: 10.1177/0047239516675898. Citations: 14

Costopoulos, K.\*, **Kovacs, J.L.**, Kamins, A.\*, & N.M. Gerardo (2014) Aphid endosymbionts reduce survival of the predatory lady beetle *Hippodamia convergens*. *BMC Ecology*. 14:5. DOI: 10.1186/1472-6785-14-5. Citations: 44

**Kovacs, J.L.**, Altincicek, B., & N.M. Gerardo (2012) Horizontally-transferred fungal carotenoid genes in the two-spotted spidermite *Tetranychus urticae*. *Biology Letters*. 8:253-257. Citations: 143

**Kovacs, J.L.** & M.A.D. Goodisman (2012) Effects of size, genotype, and mating on queen overwintering survival in the social wasp *Vespula maculifrons*. *Ecological Entomology*. 41(6): 1612-1620. Citations: 21

**Kovacs, J.L.**, Hoffman E.A., Marriner S.M.\* & M.A.D. Goodisman (2010) Detecting selection on morphological traits in social insect castes: the case of the social wasp *Vespula maculifrons*. *Biological Journal of the Linnean Society*. 101:93-102. Citations: 14

**Kovacs, J.L.**, Hoffman E.A., Marriner S.M.\*, Rekau J.A.\*, & M.A.D. Goodisman (2010) Environmental and genetic influences on queen and worker body size in the social wasp *Vespula maculifrons*. *Insectes Sociaux*. 57:53-65. Citations: 28

Johnson, E.L.\*, Cunningham, T.W.\*, Marriner, S.M.\*, **Kovacs, J.**, Hunt, B.G., Bhakta, D.B.\*, & M.A.D. Goodisman (2009) Resource allocation in a social wasp: Effects of breeding system and life cycle on reproductive decisions. *Molecular Ecology*. 18: 2908- 2920. Citations: 25

Goodisman, M.A.D., **Kovacs, J.L.**, & B.H. Hunt (2008) Functional genetics and genomics in ants: The interplay of genes and social life. *Myrmecological News*. 11: 107-117. Citations: 33

Hoffman, E.A., **Kovacs, J.L.**, & M.A.D. Goodisman (2008) Genetic structure and breeding system dynamics of a social wasp and its social parasite. *BMC Evolutionary Biology*. 8:239. Citations: 29

**Kovacs, J.L.**, Hoffman, E.A., & M.A.D. Goodisman (2008) Mating success in the polyandrous social wasp *Vespula maculifrons*. *Ethology*. 114: 340-350. Citations: 22

**Kovacs, J.L.**, & M.A.D. Goodisman.(2007) Irregular brood patterns and worker reproduction in social wasps. *Naturwissenschaften*. 94: 1011-1014. Citations: 12

Goodisman, M.A.D., **Kovacs, J.L.**, & E.A. Hoffman (2007) The significance of multiple mating in the social wasp *Vespula maculifrons*. *Evolution*. 61 (9): 2260-2267. Citations: 47

Goodisman, M.A.D., **Kovacs, J.L.**, & E.A. Hoffman (2007) Lack of conflict during queen production in the social wasp *Vespula maculifrons*. *Molecular Ecology*. 16:2589-2595. Citations: 33

Goodisman, M.A.D., Sankovich, K.A., & J.L. Kovacs (2007) Genetic and morphological variation over space and time in the invasive fire ant *Solenopsis invicta*. *Biological Invasions*. 9: 571-584. Citations: 24

### Evidence-based Instructional Materials:

**Kovacs, J.L.** (currently being revised and updated) Ecological effects of red-lining. QUBES Resource Hub

**Kovacs, J.L.** (2022) Using NSF's NEON Data in an Undergraduate Ecology CURE on the Ecological Impacts of Global Climate Change. CUREnet CURE Collection, Science Education Resource Center. <https://serc.carleton.edu/curenecollection/245837.html>

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### Grants Funded & Invited

2017 “RUI: Evolutionary and ecological impacts of horizontal gene transfer in arthropods”  
Kovacs, J.L. (sole PI)  
**National Science Foundation (NSF): Division of Environmental Biology (DEB): Evolutionary Processes**  
(2017-2022, \$603,128)

2017 “Preliminary Proposal: Research at an Undergraduate Institution (RUI): Horizontal gene transfer as a mechanism for convergent evolution in divergent arthropods”  
Kovacs, J.L. (sole PI)  
**NSF DEB: Evolutionary Processes**  
(Invited to submit a full proposal in the 2017 funding cycle)

2016 Supplement for “HBCU-UP: Research Initiation Award (RIA): Evolutionary and ecological impacts of horizontal gene transfer in arthropods”  
Kovacs, J.L. (sole PI)  
**NSF HBCU-UP RIA**  
(concurrent with the previously awarded 2015 HBCU-UP RIA, \$34,828)

2015 “Preliminary Proposal: RUI: Evolutionary and ecological impacts of horizontal gene transfer in arthropods”  
Kovacs, J.L. (sole PI)  
**NSF DEB: Evolutionary Processes**  
(Invited to submit a full proposal - deferred to the 2016 submission cycle)

2015 “HBCU-UP: RIA: Evolutionary and ecological impacts of horizontal gene transfer in arthropods”  
Kovacs, J.L. (sole PI)  
**NSF HBCU-UP RIA**  
(08/2015-08/2018 with no cost-extension, \$197,570)

2014 “Creating a DNA queryable pollen profile list suitable for forensic geolocation in the Neotropics”  
Kovacs, J.L. (sole PI)  
**Department of Homeland Security Follow-On Funding for the Summer Research Team Program**  
(04/2014-04/2015, \$50,000)

- 2014 *“Using high-throughput sequencing and bioinformatics to develop a pollen identification system for forensic geolocation applications”*  
Kovacs, J.L. (sole PI)  
**Department of Homeland Security (DHS) Summer Research Team Program for Minority Serving Institutions, Faculty Research Team Leader**  
(05/2014-08/2014, ~\$20,000)
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## Invited Symposium Organized

- 2016 DHS Center for Border, Trade and Immigration Research (CBTIR) at the **University of Texas El Paso**, El Paso, TX  
Symposium Title” *“DNA barcoding, high throughput DNA sequencing, and forensic science: Recent advances and future prospects”*  
Talk Title: *“Using high-throughput sequencing and bioinformatics to develop a pollen identification methodology for forensic geolocation applications”*
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## Invited Research Seminars

- 2022 **Agnes Scott College**, Decatur, GA. ACME Faculty Lecture Series, *“The ecological effects of redlining: How is bird biodiversity affected by differences in modern urban development?”*
- 2022 **University of Chicago**, Chicago, IL. Ecology and Evolution Seminar Series, *“Horizontal gene transfer as a mechanism for convergent evolution in divergent species”*
- 2018 **Stonehill College**, Eaton, MA. Spring Seminar Series, *“Horizontal gene transfer as a mechanism for convergent evolution in divergent species”*
- 2018 **St. Vincent College**, LaTrobe, PA. Fall Seminar Series. *“The evolutionary ecology of bugs and birds: Understanding how evolution influences ecological processes and how ecology affects evolutionary processes.”*
- 2017 **University of Georgia**, Athens, GA, Department of Entomology, Fall Seminar Series, *“Horizontal gene transfer as a mechanism for convergent evolution in divergent species”*
- 2017 **Georgia State University**, Atlanta, GA, Department of Biology, Spring BioSeminar Series, *“The effects of endosymbionts across food webs: How aphid endosymbionts affect the survival of the predatory lady beetle *Harmonia axyridis*”*
- 2016 **Kennesaw State University**, Kennesaw, GA, Biology, Fall Environmental Seminar Series, *“Evolutionary and ecological impacts of horizontal gene transfer in arthropods”*
- 2015 **Georgia Perimeter College**, Decatur, GA, STEM Seminar Series, *“Jumping Genera: Horizontal gene transfer events underlie ecologically and evolutionarily relevant traits in invertebrates”*

- 2015 **Georgia State University**, Atlanta, GA, Department of Biology, Summer Bioseminar Series, “*Jumping Genera: Horizontal gene transfer events underlie ecologically and evolutionarily relevant traits in invertebrates*”
- 2014 **Stonehill College**, Easton, MA, Biology Department, Biology Seminar Series, “*Jumping Genera: Horizontal gene transfer events underlie ecologically and evolutionarily relevant traits in invertebrates*”
- 2014 **University of Texas El Paso**, El Paso, TX, Center for Border, Trade, and Immigration Research, “Using high-throughput sequencing and bioinformatics to develop a pollen identification methodology for forensic geolocation applications”
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## Workshops Designed & Delivered

- 2022 **Science Sprint: A day long research project exploring the effects of redlining on urban ecology**, *Jennifer Kovacs*, I designed and delivered a day long workshop for 20 ASC undergraduate students that introduced students to using R and GIS in the fields of urban ecology and environmental justice. Students performed their own analysis of previously collected citizen science data on bird biodiversity in urban areas. The group produced a poster presented at 2022 SpARC as the final product for the day.
- 2021 **R for Pre-Meds**, *Jennifer Kovacs*, I delivered a 3-hour version of this 2 day workshop to seven Agnes Scott Pre-Med Post-Bacs and one biology major at the end of the Fall 2021 semester.
- 2021 **Integrating Social Justice into your STEM Classroom: Redlining & Health**, *Mary Mulcahy, Ethell Vereen, Marci Cole Ekberg, Jennifer Kovacs*, 2021 BioQuest & QUBES BIOME Institute. Virtual. <https://qubeshub.org/publications/2487/1>
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## Recent Presentations Delivered at National and Regional Academic Conferences (\* indicates undergraduate co-author)

Kovacs, J.L. (2022) *Science Sprints for Undergraduate Research Days*. 2022 Biology and Mathematics Educators (BIOME) Institute. Virtual

Kovacs, J.L., E. Harris, J. Werren (2021) *Identifying horizontal gene transfer in parasitic blowflies*. Virtual Poster Presentation. Annual Meeting Evolution meeting. Virtual

Kovacs, J.L. (2021) *Advanced adaptations to course-based research for upper-level students*. Invited virtual oral presentation. Annual Meeting of the Ecological Society of America (ESA). Virtual

Kovacs, J.L. (2021) *Creating ownership through creative writing: Advice columns as term papers in an upper-level Animal Behavior course*. Virtual oral presentation. 2021 BioQuest & QUBES BIOME Institute. Virtual. <https://qubeshub.org/publications/2470/1>

Kovacs, J.L. (2021) *Using NSF's NEON data in the undergraduate ecology classroom*. Invited virtual oral presentation. Annual Meeting of the Association of Southeast Biologists. Virtual

**Recent Presentations Delivered at National and Regional Academic Conferences (\* indicates undergraduate co-author) cont.**

Kovacs, J.L. (2021) *Increasing interactions with guest speakers in the undergraduate behavior classroom*. Recorded oral presentation. Animal Behavior Society's Education Committee Mid-Year Education Workshop "Lessons from Online Teaching and Learning". Virtual

Kovacs, J.L. (2021) *The Doctor Is In: Advice columns as term papers in an upper-level Animal Behavior course*. Virtual poster presentation. MidAtlantic SENCER (Science Education for New Civic Engagements and Responsibilities) Conference on "Narratives in Science". Virtual

Kovacs, J.L. & J. Werren (2020) *Horizontal gene transfer as a mechanism for convergent evolution in arthropods*. Oral presentation. Annual meeting of the Society for Integrative and Comparative Biology. Austin, TX

Kovacs, J.L. & E. Gaillard\* (2019) *Real-world research in the undergraduate classroom: Investigating the effects of urbanization on bird biodiversity using citizen science data*. Poster presentation. The annual meeting for the Ecological Society of America. Louisville, KY

Kovacs, J.L., E. Martinson, C. Conn, & J. Werren (2019) *Horizontal gene transfer as a mechanism for convergent evolution in divergent species*. Oral Presentation. Annual meeting of the Association of Southeastern Biologists (ASB). Memphis, TN

Kovacs, J.L. & E. Gaillard\* (2018) *Investigating the effects of urbanization on bird biodiversity: Testing three biodiversity hypotheses using citizen science data*. Poster presentation. Annual meeting of the Society for Integrative and Comparative Biology (SICB). San Francisco, CA

Kovacs, J.L. & J. Werren (2017) *Horizontal gene transfer as a mechanism for convergent evolution in divergent arthropods*. Poster presentation. Evolution Conference, Portland, OR

Kovacs, J.L., C. Gaul Wolf\*, S. Wolf\*, & D. Voisin\* (2017) *Evidence of indirect symbiont conferred protection against predation in pea aphids*. Oral presentation. Meeting of the Society for Integrative and Comparative Biology (SICB), New Orleans, LA

Kovacs, J.L., A. Pai, A. Powolny, G. McGinnis, S. Sung, & Y. Tekle (2017) *Personalization of the curriculum: A novel strategy to retain diverse students. Using 23andMe in the Introductory Biology Class at Spelman College*. Poster Presentation. Annual Meeting of the Society for Integrative and Comparative Biology (SICB), New Orleans, LA

Kovacs, J.L. & J. Werren (2017) *Evolutionary and ecological impacts of gene transfer in arthropods*. Oral presentation (invited 5-minute lightning talk). NSF HCBU-UP/CREST Meeting, Washington, D.C.

Kovacs, J.L., E. Weigel, K. Brown\*, & J. Werren (2016) *Evolutionary and ecological impacts of gene transfer in arthropods*. Oral presentation. Evolution Conference, Austin, TX

Kovacs, J.L. & J. Werren (2016) *Evolutionary and ecological impacts of gene transfer in arthropods*. Poster. NSF HCBU-UP/CREST Meeting, Washington, D.C



**Recent Presentations Delivered at National and Regional Academic Conferences (\* indicates undergraduate co-author) cont.**

Kovacs, J.L. & D. Voisin\* (2016) *Temporal variation in honey bee microbial symbionts*. Oral presentation. Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Portland, OR

Kovacs, J.L. & D. Voisin\* (2015) *Spatial variation in honey bee symbionts*. Poster presentation. Animal Behavior Society (ABS) Annual Conference, Anchorage, AK

Kovacs, J.L. & J. Werren (2015) *Evolutionary and ecological impacts of horizontal gene transfer in arthropods*. Poster presentation. Gordon Research Conference on Ecological and Evolutionary Genomics, Biddeford, ME

Kovacs, J.L., C. Gaul\*, S. Wolf\*, & D. Voisin\* (2014) *The effects of endosymbionts across food webs: How aphid endosymbionts affect the survival of the predatory lady beetle *Harmonia axyridis**. Oral Presentation. Evolution Conference, Raleigh, North Carolina

Kovacs, J.L. & N.M. Gerardo (2013) *The role of horizontally transferred genes in maintaining several microbial symbionts of the pea aphid *Acyrtosiphon pisum**. Poster Presentation. Annual Meeting of the Society for Molecular Biology and Evolution (SMBE), Chicago, IL

Kovacs, J.L., K. Costopolous\*, A. Kamins\* & N.M. Gerardo (2013) *Aphid endosymbionts reduce survival of the predatory lady beetle *Hippodamia convergens**. Oral Presentation. Evolution Conference, Snow Bird, Utah.

Kovacs, J.L., K. Costopolous\*, A. Kamins\* & N.M. Gerardo (2013) *Aphid endosymbionts reduce survival of the predatory lady beetle *Hippodamia convergens**. Poster Presentation. Southeast Population Ecology and Evolutionary Genetics Conference (SEPEEG), Mountain Lake Biological Station, Pembroke, VA

Kovacs, J.L., B. Altincicek & N.M. Gerardo (2012) *Horizontal gene transfer affects evolutionarily and ecologically important traits in two invertebrates, the two-spotted spider mite and the pea aphid*. Oral Presentation. Evolution Conference, Ottawa, Canada

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**Student - Faculty Research Presentations at National/ Regional Conferences (Undergraduate mentees from my research lab denoted with \*- first author is the presenting author)**

Okamoto, E., Kovacs, J., & E. Harris (2022) *The Role of Diet and Density on Adult-Egg Cannibalism in Red Flour Beetles*. Poster Presentation. Annual Meeting of the Association of Southeast Biologists. Little Rock, AR

Kazmin, A. & J. Kovacs (2022) *How does climate change help the spread of vector borne diseases transmitted by mosquitoes?* Poster Presentation. Annual Meeting of the Association of Southeast Biologists. Little Rock, AR

Gyorey, T. & J. Kovacs (2022) *Wildfires and Soil Microbe Biodiversity*. Poster Presentation. Annual Meeting of the Association of Southeast Biologists. Little Rock, AR



***Student - Faculty Research Presentations at National/ Regional Conferences (Undergraduate mentees from my research lab denoted with \*- first author is the presenting author) cont.***

Mitchell, D.\* , Z. Johnson\*, T. Gyorey\* (2021) *Student Perspectives on Participating in Squirrel-Net Research*. Oral Presentation. Annual Meeting of the Ecological Society of America (ESA). Virtual

Brady, K. , Kovacs, J., Voisin, D., & J. Welch (2020) *Characterizing the gut microbiome of the honeybee*. Poster Presentation. Annual meeting of the Society for Integrative and Comparative Biology. Austin, TX

Hammond, T., Kovacs, J., & J. Werren (2020) *Evidence of horizontal gene transfer in the kissing bug, Rhodnius prolixus*. Poster Presentation Annual meeting of the Society for Integrative and Comparative Biology. Austin, TX

Cooper, D., & J. Kovacs, (2020) *Evidence of horizontal gene transfer in the pea aphid, Acyrthosiphon pisum*. Poster Presentation. Annual meeting of the Society for Integrative and Comparative Biology. Austin, TX

Gaillard, J.\* , E. Gaillard\*, & J. Kovacs (2019) *Urbanization and bird biodiversity in the Southeastern United States over a 10 year period*. Poster presentation. Annual meeting of the Association of Southeastern Biologists (ASB). Memphis, TN

Brady, K.\* , D. Voisin\*, E. Harris, & J. Kovacs (2019) *Characterizing the microbiome of honey bees and honey*. Poster presentation. Annual meeting of the Association of Southeastern Biologists (ASB). Memphis, TN

Hammond, T.\* , C. Conn, E. Martinson, & J. Werren (2019) *Evidence of horizontal gene transfer in the kissing bug Rhodnius prolixus*. Poster presentation. Annual meeting of the Association of Southeastern Biologists (ASB). Memphis, TN

Cooper, D.\* , C. Conn, E. Martinson, & J. Werren (2019) *Evidence of horizontal gene transfer in the pea aphid Acyrthosiphon pisum*. Poster presentation. Annual meeting of the Association of Southeastern Biologists (ASB). Memphis, TN

Gaillard, J.\* , E. Gaillard\*, & J. Kovacs (2019) *Urbanization and bird biodiversity in the Southeastern United States over a 10 year period*. Poster presentation. Annual Biomedical Research Conference for Minority Students (ABRCMS). Memphis, TN

Brady, K.\* , D. Voisin\*, J. Welch\*, & J. Kovacs (2018) *Characterizing the microbiome of honey*. Poster presentation. Annual meeting of the Society for Integrative and Comparative Biology (SICB). San Francisco, CA

Gaillard, E.\* & J. Kovacs (2017) *Effects of urbanization on bird biodiversity in Florida*. Poster presentation. Annual Meeting of the Society for Integrative and Comparative Biology (SICB). New Orleans, LA

Gaillard, E.\* & J. Kovacs (2016) *Effects of urbanization on bird biodiversity in Florida*. Poster presentation. Annual Biomedical Research Conference for Minority Students (ABRCMS). Tampa, FL

**Student - Faculty Research Presentations at National/ Regional Conferences (Undergraduate mentees from my research lab denoted with \*- first author is the presenting author) cont.**

Gaillard, E.\* & J. Kovacs (2016) *Effects of urbanization on bird biodiversity in Florida*. Poster presentation. Southeast Population Ecology and Evolutionary Genetics Conference (SEPEEG). Cherry Lake, FL

Brown, K.\*, E. Weigel, J. Kovacs, & J. Werren (2016) *Identifying candidate shared horizontally transferred genes in the kissing bug, Rhodnius prolixus*. Poster Presentation. Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Portland, OR

Flowers, N\*, B. Michel\*, & J. Kovacs (2016) *Using meta DNA barcoding to identify pollen in honey*. Poster presentation. Annual Meeting of the Society for Integrative and Comparative Biology (SICB), Portland, OR

Gaul, C.\* & J.L. Kovacs (2013) *Fitness effects of aphid secondary symbionts on the fitness of their predator, Harmonia axyridis*. Southeast Population Ecology and Evolutionary Genetics Conference (SEPEEG). Oral presentation. Mountain Lake Biological Station Pembroke, VA

Voisin, D.\* & J.L. Kovacs (2013) *Incidence of vertically transmitted endosymbionts in two species of ladybeetle*. Southeast Population Ecology and Evolutionary Genetics Conference (SEPEEG). Oral presentation. Mountain Lake Biological Station Pembroke, VA

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**Undergraduate Research Students Mentored at Agnes Scott College**

Mentee's Name	Dates of Research	Funding	Project Name	Number of Presentations National or Regional/ Agnes Scott Undergraduate Research Day (SpARC)
Sage Pasquale (C'2025)	Fall 2021-Present	None	Investigating the impacts of redlining on bird biodiversity in urban areas across the United States	0/1
Sydney Ward (C'2025)	Summer 2022-Present	NSF RUI (Kovacs PI)	Using digital natural history collections to explore changes in morphology during insect invasions and in urban environments/ ASC Herbarium Digitization	0/0
Aleah Davis (C'2026)	Summer 2022	NSF RUI (Kovacs PI)	Using digital natural history collections to explore changes in morphology during insect invasions and in urban	0/0

			environments/ ASC Herbarium Digitization	
Nino Kalandadze (C'2023)	Summer 2022-Present	NSF RUI (Kovacs PI)	Using digital natural history collections to explore changes in morphology during insect invasions and in urban environments/ ASC Herbarium Digitization	0/0
Katuska Toral Castillo (C'2024)	Summer 2022	NSF RUI (Kovacs PI)	Using digital natural history collections to explore changes in morphology during insect invasions and in urban environments	0/0
Esther Okamoto (C'2024)	Spring 2021-Present	NSF RUI (Kovacs PI)	Arthropod Microbiomes and Diet	1/1
Paige-Renae Marcelline (C'2021)	Spring 2021	NSF RUI (Kovacs PI)	Horizontal Gene Transfer In Arthropods	0/1
Tori Gyorey (C'2022)	Spring 2021-2022	NSF RUI (Kovacs PI)	Horizontal Gene Transfer In Arthropods	2/1
Asmiya Kazmin (C'2022)	Spring 2021-2022	NSF RUI (Kovacs PI)	Horizontal Gene Transfer In Arthropods	1/1

### Undergraduate Research Students Mentored at Spelman College

Mentee's Name	Dates of Research	Funding	Project Name	Number of Presentations National or Regional/ Spelman's Research Day
Candice Gaul Wolf (C'2014)	Summer 2013-Spring 2014	Spelman's ASPIRE grant	Fitness effects of aphid secondary symbionts on the fitness of their predator, <i>Harmonia axyridis</i>	1/1
Seth Wolf (Morehouse C'2014)	Summer 2013-Spring 2014	volunteer	Prey choice in two species of predatory ladybugs	0/0
Dene Voisin (C'2015)	Fall 2012-Spring 2014	Spelman's ASPIRE grant, HHMI	Identifying symbiotic bacteria & characterizing microbiomes in Arthropods	1/2
Shelby Wilkes (C'2016)	Summer 2014	DHS Summer Research Team (Kovacs PI)	Using high-throughput sequencing and bioinformatics to develop a pollen identification system for	0/1

			forensic geolocation applications	
Najla Ismail (C'2016)	Summer 2015	Spelman's CURE grant	Creating a DNA queryable pollen profile list suitable for forensic geolocation in the Neotropics	0/0
Alicia Thornton (C'2016)	Summer 2015	Spelman's CURE grant	Creating a DNA queryable pollen profile list suitable for forensic geolocation in the Neotropics	0/0
Beanca Michel (C'2017)	Summer 2015-Spring 2017	DHS Follow-on funding (Kovacs PI); NSF HBCU-UP RIA (Kovacs PI)	Horizontal gene transfer in arthropod/Male Learning in Nasonia wasps	0/1
Nyla Flowers (C'2017)	Summer 2015- Fall 2016	DHS Follow-on funding (Kovacs PI); NSF HBCU-UP RIA (Kovacs PI)	Creating a DNA queryable pollen profile list suitable for forensic geolocation in the Neotropics/ Bird Biodiversity & Urbanization in the Southeast	1/1
Kiera Brown (C'2016)	Fall 2013-Spring 2016	DHS Follow-on funding (Kovacs PI); NSF HBCU-UP RIA (Kovacs PI)	Horizontal gene transfer in arthropods	1/1
Wangui Hymes (C'2016)	Summer 2016-Fall 2016	Spelman's CURE grant	Boldness in male crickets	0/0
Ebony Gaillard (C'2017)	Summer 2016-Spring 2017	Spelman's CURE grant; Spelman's LSAMP grant	Bird Biodiversity & Urbanization in the Southeast	3/1
Jasmine Welch (C'2017)	Summer 2016-Spring 2017	Spelman's CURE grant; Spelman's LSAMP grant	Functional and evolutionary insights into the simple yet specific gut microbiota of the honeybee	0/1
Tyreena Webb (C'2017)	Fall 2016- Spring 2017	HBCU-UP RIA (Kovacs PI)	Male Learning in Nasonia wasps	0/1
Jasmine Gaillard (C'2019)	Fall 2017-Spring 2019	LSAMP	The effects of changes in land use on bird biodiversity and community structure	2/2
Kai Brady (C'2020)	Spring 2017 - Spring 2020	HBCU-UP RIA (Kovacs PI) & LSAMP	Functional and evolutionary insights into the simple yet specific gut microbiota of the honeybee	3/2

Tierra Howard (C'2020)	Spring 2018- Spring 2020	HBCU-UP RIA (Kovacs PI)	Horizontal gene transfer in arthropods	1/1
Denver Cooper (C'2021)	Spring 2018- Spring 2020	RISE scholar	Horizontal gene transfer in arthropods	1/1

CURE (Course-Based Undergraduate Research Experience) - NSF award to Spelman College

ASPIRE (Advancing Spelman's Participation in Informatics Research and Education)- NSF award to Spelman College

LSAMP (Louis Stokes Alliances for Minority Participation)- NSF award to Spelman College

## IV. Teaching

### Courses taught at Agnes Scott College

Course Name, Number, and Hours	Semesters & # of sections taught with student enrollment	Rating for Overall Teaching of Course (max 5)	Pedagogical Advances and Innovations
<b>Ecology Lecture &amp; Lab</b> BIO 308  4 credit hours 6 contact hours	Spring 2022 Section 1: 17 students Section 2: 10 students	4.6	-Implemented 2-week crash course in R programming for ecologists during the virtual portion of January 2022. -Designed 6 new case studies based in R and R shiny -For the lab portion of the course, students participated in a multi-institution course based undergraduate research experience (CURE). The lab focused on a semester-long student-designed research question exploring the bean beetle microbiome. Included as part of the project is funding for next generation sequencing of 12 individual bean beetle microbiomes per lab section and 24 colony-based Sanger sequenced samples. Students analyzed sequencing results using bioinformatic tools and presented their findings at the end of the semester.
<b>Journeys Alaska: Decolonizing Conservation</b> Gbl 102 & 103  4 credit hours 3 contact hours + Immersion Trop	Spring 2023 Section A: 21 students  Spring 2022 Section D: 20 students	NA  4.9	- Designed introductory section exploring Identity based on land acknowledgments including Agnes Scott's and Decatur's work on territorial acknowledgments -planned on-the-ground service learning days and interactions with local businesses working with indigenous populations to mitigate the effects of climate change on local communities.
<b>Integrative Biology I</b> BIO 110  3 credit hours 3 contact hours	Fall 2022: Section C: 32 students  Fall 2021 Section A: 33 students	4.0  3.9	Fall 2021 (In-Person): Streamlined this flipped class to decrease the number of due dates while increasing the amount of in-class activity time - While students continued to work in groups during class time on their in-class

	Fall 2020: Section 1: 47 students	4.5	<p>assignments, in-class activities were now submitted individually rather than in groups giving students more ownership and allowing more personalized instructor feedback.</p> <p>Fall 2020: -I delivered an online lecture section which was fully flipped with in-class group study guides.. -Additionally, I designed an online lab specifically for Fall 2020. The lab focused on introducing the scientific method and descriptive statistics while students analyzed field images of leaf-cutter ants.</p>
<p><b>Integrative Biology II Pre-Med Post-Baccalaureate Section</b> BIO 111</p> <p>3 credit hours 3 contact hours</p>	Fall 2021 Section P1: 15 students	4.2	<p>-Completed the “flipping” of this class to make all class time active learning. -Redesigned in-class activities to be more focused on the reading of primary literature related to the textbook and pre-recorded lecture topic, as well as the incorporation of MCAT prep questions into our in-class daily activities. -Students worked in groups during class time on their in-class assignments, allowing students to troubleshoot and become peer leaders. In-class activities were submitted individually rather than in groups giving students more ownership and personalized instructor feedback.</p>
<p><b>Integrative Biology II Lab Pre-Med Post-Baccalaureate Section</b> BIO 111L</p> <p>1 credit hour 3 contact hours</p>	Fall 2021 Section PF: 15 students	Co-taught/ Not available	<p>-New and updated dissection manuals were used for the pig dissection labs during the second part of the semester. -Co-taught lab section with Dr. Jennifer Larimore</p>
<p><b>Senior Seminar in Integrative Biology</b> BIO 491</p> <p>4 credit hours 3 contact hours</p>	Fall 2021 Section 1: 21 students	Co-taught/ Not available	<p>-The topic of this course changes every semester. In Fall 2021, the course focus was on Climate Change and Microbial Ecology. Throughout the semester, students crafted their own NSF grant proposal in the Graduate Research Fellowship Program (GRFP) format. Students began the semester with several short lectures on the interdisciplinary topic of the course and then designed and refined their own research questions. -Students presented primary literature and their own proposals throughout the course while also spending one-on-one time with instructors and peers workshoping and revising their proposal, personal statement, and cover letter. -Co-taught course with Drs. Robic and Harris.</p>

<p><b>Data Intensive Ecology Lecture and Lab</b> BIO 303</p> <p>4 credit hours 6 contact hours</p>	<p>Spring 2023 Section 1: 22 students</p> <p>Spring 2021 Section 1: 12 students</p>	<p>NA</p> <p>5</p>	<p>-BIO 303 was a newly proposed and designed course approved by the curriculum committee and taught for the first time in Spring 2021.</p> <p>- The course focused on teaching data mining, data analysis, and coding (Python and R) to undergraduates interested in biology and ecology.</p> <p>Several new case studies were developed that explored biodiversity, climate change, and social justice issues while introducing students to publicly available datasets, data wrangling techniques, and coding.</p> <p>-All students developed individual research projects throughout the semester and presented their research during Agnes Scott's Spring Annual Research Conference (SpARC) at the end of the semester.</p>
<p><b>SCALE: Sophomore Class Atlanta Leadership Experience</b> LDR 201</p> <p>1 credit hour</p>	<p>Spring 2021 Section 2: 36 students</p>	<p>NA</p>	<p>-co-taught STEM section with Dr. Doug Fantz</p> <p>-co-ordinated PEAK week activities between students and Atlanta-based organizations where students completed their online internships</p> <p>-organized pre-PEAK week assignments and helped students reflect and develop their presentations after their internship experiences ended.</p>
<p><b>Behavioral Ecology Lecture and Lab</b> BIO 310</p> <p>4 credit hours 6 contact hours</p>	<p>Fall 2022: Section 1: 12 students</p> <p>Fall 2020 Section 1: 11 students</p>	<p>5</p> <p>5</p>	<p>- I developed and piloted this course to be taught online in Fall 2020.</p> <p>-The labs included students designing and completing an independent research project investigating squirrel foraging behavior. This CURE (Course-based Undergraduate Research Experience) was done in collaboration with a network of institutions through the NSF-sponsored Squirrel-Net CURE program.</p> <p>-In Summer 2021, both I and a group of three students presented about our squirrel research lab experience at the annual meeting of the Ecological Society of America (ESA).</p> <p>-Students contributed squirrel behavior observations to a national citizen science database and analyzed the large national data to answer their own research questions.</p>



## Courses taught at Spelman College College

Course Name, Number, and Hours	Semesters & # of sections taught with student enrollment	Overall Course Evaluation Score (max 5)	Pedagogical Advances and Innovations
<b>Animal Behavior (Spelman College)</b> SBIO 365 4 Credit Hours 3 Contact Hours	Spring 2020 Section 1: 48 students	4.9	<ul style="list-style-type: none"> <li>- I developed and piloted this course in the Spring of 2013. The curriculum committee approved it in 2015.</li> <li>-I designed this course to meet the requirements for a Writing Intensive Course. This course includes a large writing component. All students write a 6-page long creative non-fiction essay in the style of a "Dear Abby" letter.</li> <li>-Students write multiple drafts and peer review their essays. Students also participate in online writing "support" groups that focus on realistic goal setting and keeping</li> <li>- Class sessions focus on primary literature, particularly on understanding and properly interpreting figures and graphs</li> <li>- All exams are take-home essay exams that focus mainly on recent primary literature</li> <li>-In 2016, as part of an interdisciplinary project sponsored by HHMI, I, in collaboration with Spelman Art Professor Joe Bigley, designed a new multi-week assignment that has students create an art project inspired by a primary literature article in an animal behavior journal. Students love this project! They have created pieces of music, dance videos, sculptures, and paintings for this assignment which I have done multiple times in this class.</li> </ul>
	Spring 2019 Section 1:40 students	4.8	
	Spring 2018 Section 1: 24 students	4.7	
	Spring 2017 Section 2:21 students	4.8	
	Spring 2016 Section 1: 24 students	4.8	
	Spring 2015 Section 1: 21 students Section 2: 20 students	4.6	
	Spring 2014 Section 1: 24 students Section 2: 24 students	4.45	
Spring 2013 Section 1: 27 students	4.9		
<b>Evolution in Action (Spelman College)</b> SBIO 325 4 Credit Hours 3 Contact Hours	Spring 2013 Section 1: 24 students	4.6	<ul style="list-style-type: none"> <li>- This course centered around case studies based on recent primary literature as well as classic studies in evolutionary biology</li> <li>- I introduced new case study activities, including an extended case study focusing on the evolution of lice and its implications for primate and clothing evolution and another on the evolution of color vision</li> <li>- All exams were essay exams that focused on interpreting data from recent primary literature</li> </ul>
<b>Population Biology Lecture &amp; Lab (Spelman College)</b> SBIO 110 4 Credit Hours 6 Contact Hours	Fall 2019 (Lab only) Lab 1: 19 students Lab 2: 19 students	NA	<ul style="list-style-type: none"> <li>-I completely redeveloped a new sequence of inquiry-based labs for the lab portion of Bio 110.</li> <li>- Students now begin the semester by participating in a 4-week long open-ended inquiry-based lab exploring biodiversity in Georgia with a particular focus on nearby Arabia Mountain, which they visit during a field trip at the beginning of the semester.</li> <li>- At the end of the four weeks, student groups present their findings with a focus</li> </ul>
	Fall 2018 (Lab only) Lab 1: 24 students Lab 2: 23 student	NA	
	Fall 2016 (Lab only) Lab 1: 20 students Lab 2: 17 students	NA	

	<p>Lab 3: 24 students</p> <p>Fall 2014 (Lecture &amp; Lab) Lecture: 71 students Lab 1: 24 students Lab 2: 21 students</p> <p>Fall 2013 (Lecture &amp; Lab) Lecture: 50 students Lab: 24</p> <p>Fall 2012 (Lab only) Lab 1: 24 students Lab 2: 24 students</p>	<p>4.2</p> <p>4.6</p> <p>NA</p>	<p>on delivering a quantitative analysis of their data. Subsequent labs (including a Superworm Lab designed to reinforce concepts in natural selection) focus on the collection and analysis of quantitative data</p> <ul style="list-style-type: none"> <li>- In 2016, we implemented the newly funded Genes &amp; Genealogy project in our Bio 110 lecture and lab. First year students got their genetic data through 23andMe.</li> <li>-We have designed several inquiry-based lab modules in which students analyze the classes' genetic data to answer questions about human evolution.</li> <li>-In 2018, we piloted a newly designed Hardy Weinberg modeling lab I developed with several collaborators at the 2018 summer Quantitative Undergraduate Biology Education and Synthesis Meeting (QUBES). This lab uses real-world data about soft-shell clam populations in areas with and without red tide to model natural selection and genetic drift effects on allele frequencies. This lab and data collected during its implementation at Spelman College were published in The American Biology Teacher (Bonner et al. 2019).</li> </ul>
<p><b>Research in Urban Ecology (Spelman College)</b> SBIO 488</p> <p>4 Credit Hours 4 Contact Hours</p>	<p>Spring 2020 Section 1: 10</p> <p>Spring 2019 Section 1: 14</p> <p>Spring 2018 Section 1: 9 students</p> <p>Spring 2017 Section 1: 7 students</p> <p>Spring 2016 Section 1: 12 students</p> <p>Spring 2015 Section 1: 3 students</p>	<p>4.6</p> <p>4.2</p> <p>4.2</p> <p>5.0</p> <p>5.0</p> <p>NA</p>	<ul style="list-style-type: none"> <li>- I designed and piloted this class in 2015.</li> <li>-This is a small enrollment hands-on research course designed for students to do authentic ecology research in the course of a semester</li> <li>-All students present at Spelman's Research Day at the end of the semester and are evaluated by biology faculty</li> <li>-Student projects have focused on a range of topics, from analyzing publicly available bird biodiversity databases to using long term ecological data to test hypotheses about disturbance and biodiversity levels</li> <li>-All students also participate in a citizen science project of their choosing throughout the semester and report back to the class about their findings.</li> <li>-The class includes multiple field trips to urban parks and nature reserves around the Atlanta area, including nearby Cascade Springs and Constitution Lakes.</li> <li>-Beginning in 2018, student projects focused on using long-term ecological databases, like Project e-Bird and the National Phenology Database, to explore questions about the effects of climate change on urban ecosystems.</li> </ul>
<p><b>Biology Methods and Research (Spelman College)</b> SBIO 114</p> <p>2 Credit Hours 2 Contact Hours</p>	<p>Spring 2020 Section 1: 4 students</p> <p>Fall 2017 Section 1: 7 students</p>	<p>5</p> <p>4.8</p>	<ul style="list-style-type: none"> <li>-New course piloted in Fall 2017 and led by CURE post-doctoral teaching and research mentee Caitlin Conn</li> <li>-Aimed at First Year Biology majors interested in research</li> <li>-Designed around an authentic research question exploring the co-evolution of fungal symbionts in the fungus growing leaf ant system.</li> </ul>

<b>Bioseminar (Spelman College)</b> SBIO 285/ 485  1 Credit Hour 1 Contact Hour	Fall 2019 & Spring 2020 78 students	4.3 /NA	-Course focused on career preparation for Sophomore and Senior Biology majors -This one-hour, once per week, class focuses on our students themselves, their experiences, their values, their aspirations, and their own unique career paths -In 2017, developed multiple "Design Your Life" modules for Spelman students to enhance student's resumes and personal statements -Invited guest speakers from a variety of professions to talk to students about their career paths & provide networking opportunities
	Fall 2018 & Spring 2019 62 students	4.3/4.4	
	Fall 2017 & Spring 2018 69 students	4.3/4.5	

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## Recent Teaching & Professional Development Activities

- 2022 Fellow, Completed training to become a Biological Collections Ecology and Evolution Network (BCEENET) New Implementers Fellow. This included participation in a 2 week long virtual training and the development and deployment of a course-based undergraduate research experience (CURE) in leveraging digital natural history collections in the undergraduate classroom.
- 2022 Instructor, Finished training program to become a Data Carpentries Instructor. Training focuses on developing a positive and inclusive environment when teaching coding and data science skills as well as employing evidence-based best teaching practices when delivering lessons in both online and in-person courses. Membership in the Carpentries community also requires continued community engagement, mentoring, and workshop implementation. Attended the 2022 Carpentries\*Con
- 2022 Co-leader, Urban Ecology Research Planning group for the 2021-22 NSF sponsored EDDIE-EREN-NEON Research and Teaching Module development project after taking part in their 3 day-long workshop. Planned continuation of project during the summer 2022 in-person planning meeting at Belmont College in Nashville, TN
- 2022 Participant, REAL (R for Educational Assessment and Learning) RCN which included the creation of a teaching module in R
- 2021 Member, "Science Sprint" planning Faculty Mentoring Network for the Fall 2021. As a member of this group, I worked to plan a Spring Science Sprint at Agnes Scott College. Sponsored by QUBES and BioQuest.
- 2021 Participant, NSF sponsored Inclusive STEM Teaching online course and certification
- 2021 Participant, 2-part Culturally Relevant Education in Environmental Data Science (CREEDS) workshop in which we developed and designed STEM teaching modules based on best practices in culturally relevant education
- 2021 Participant, 8 week long NSF sponsored program REAL R Short Course training focused on incorporating R programming language into undergraduate teaching modules while also improving R language and live coding skills
- 2021 Participant, 3 week-long Science Education for New Civic Engagements and Responsibilities SENCER 2021 Summer Institute
- 2021 Participant, 2 day long The Biological Collections Ecology and Evolution Network (BCEENET)'s Annual Meeting during the summer of 2021
- 2021 Participant, 2-day long Natural History Education Demo Camp during the summer of 2021
- 2021 Member, Semester-long working group to develop a framework for developing and delivering "Social Justice in STEM" themed day-long science sprints at multiple college campuses in Spring of 2022. This group started during my participation in the Summer 2021 QUBES BIOME meeting.
- 2021 Member, Semester-long Faculty Mentoring Network focused on developing teaching

	materials focused on social justice in STEM put on through the QUBES network. This resulted in the presentation of a 2 hour workshop on developed Social Justice STEM module at the annual QUBES BIOME meeting in the summer of 2021
2020	Participant, Decolonizing the Curriculum Workshop at Agnes Scott College
2020	Participant, 4 week long coaching and mentoring training program for the National Center for Faculty Development & Diversity Faculty Success Program
2020	Participant, 12 week National Center for Faculty Development & Diversity Faculty Success Program
2018 & 2019	Attendee, Semester-long series of four day-long workshops centered around bringing Stanford's Design Your Life program for first-year college students to Spelman College. As part of this program, I have designed and delivered modules centered around career preparedness, networking, and career-pathfinding in Spelman's sophomore and senior bioseminar course.
2017	Attendee, BioQuest/ HHMI Quantitative Biology 2017 Conference. Michigan State University, East Lansing, MI

## Undergraduate Research Presentations at Undergraduate Research Days

### Agnes Scott Undergraduate Presentations at the Spring Annual Research Conference (SpARC) (first author is the presenting author)

#### Lab Research Students:

Okamoto, E., E. Harris, & J. Kovacs (2022) *The role of diet and density on adult-egg cannibalism in red flour beetles*. Oral presentation

Pasquale, S. & J. Kovacs (2022) *The ecological effects of redlining: How is bird biodiversity affected by differences in urban development*. Poster presentation

Kazmin, A., E. Harris, T. Gyorey, P. Marcelline, J. Kovacs (2021) *Evolutionary and ecological impacts of horizontal gene transfer in arthropods*. Oral Panel

Gyorey, T., A. Kazmin, P. Marcelline, E. Harris, J. Kovacs (2021) *Horizontal Gene Transfer in Arthropod Species*. Oral Panel

Marcelline P., T. Gyorey, A. Kazmin, E. Harris, J. Kovacs (2021) *Horizontal gene transfer's effect on the evolution of blood-feeding arthropods*. Oral Panel

#### Student Presentations for Data Intensive Ecology Course (Bio 303)

Marcelline, P. Advisor: Jennifer Kovacs (2021) *Specific conductance and its relationship to water body type*.

Venegas Hernandez, R. Advisor: Jennifer Kovacs (2021) *Dissolved Oxygen and Its Effects on Benthic Macroinvertebrate Biodiversity*

Wood, J. Advisor: Jennifer Kovacs (2021) *Soil ion content and its relation to mosquito populations*.

Kajornkiatpanich M., Advisor: Jennifer Kovacs (2021) *Ashes to Ashes, Bug to Bug: The Effects of Emerald Ash Borer Infestation on Insect Biodiversity Across the US*

Gyorey, T. Advisor: Jennifer Kovacs (2021) *Wildfires and Soil Microbe Biodiversity*

Mitchell, D. Advisor: Jennifer Kovacs (2021) *Bird Biodiversity and Greenspace in Georgia Ecosystems*

Kazmin, A. Advisor: Jennifer Kovacs (2021) *How does climate change help the spread of vector borne diseases transmitted by mosquitoes?*

Jacobs, N.H. Advisor: Jennifer Kovacs (2021) *How do mosquito-dense areas affect the spread of zoonotic diseases in small mammals?*

Jackson, N. Advisor: Jennifer Kovacs (2021) *Do Mosquito Pathogens Follow Black Communities?*

Bailey, K. Advisor: Jennifer Kovacs (2021) *A Honking Hot World*

Hutchison, K. Advisor: Jennifer Kovacs (2021) *Shrubs and Shrews: A Long Term Correlation Study Between Small Mammal Diversity and Plant Biomass Across the Southern United States*

Guillen, X. Advisor: Jennifer Kovacs (2021) *The Impact of Altitude on Mosquito Biodiversity*

## **Spelman Research Day Presentations :**

### **Lab Research Students:**

Brady, K., D. Voisin, J. Welch, & J. Kovacs (2019) *Characterizing the microbiome of honeybees*. Oral presentation. 2019 Spelman Research Day, Atlanta, GA

Cooper, D. & J. Kovacs (2019) *Evidence of horizontal gene transfer in the pea aphid *Acyrthosiphon pisum**. Oral presentation. 2019 Spelman Research Day, Atlanta, GA

Gaillard, J. & J. Kovacs (2019) *How urbanization affects bird biodiversity in the Southeast U.S.* Poster presentation. 2019 Spelman Research Day, Atlanta, GA

Hammond, T. & J. Kovacs (2019) *Evidence of horizontal gene transfer in the kissing bug *Rhodnius prolixus**. Poster presentation. 2019 Spelman Research Day, Atlanta, GA

Welch, J., D. Voisin, & J. Kovacs (2017) *Temporal and geographical location effect on honeybee gut microbiome*. Poster presentation. 2017 Spelman Research Day, Atlanta, GA

Gaillard, E. & J. Kovacs. (2017) *Effects of urbanization on bird biodiversity in Florida*. Poster presentation. 2017 Spelman Research Day, Atlanta, GA

Michel, B., T. Webb, J. Werren, & J. Kovacs (2017) *Learning associated with color by males of the parasitoid wasp *Nasonia vitripennis**. Oral Presentation. 2017 Spelman Research Day, Atlanta, GA

Webb, T., B. Michel, J. Werren, & J. Kovacs. (2017) *The genetic effects on learning abilities on parasitoid wasp*. Oral presentation. 2017 Spelman Research Day, Atlanta, GA

Brown, K., E. Weigel, J. Kovacs, & J. Werren (2015) *Identifying candidate shared horizontally transferred genes in the kissing bug, *Rhodnius prolixus**. Oral presentation. 2015 Spelman Research Day, Atlanta, GA

Flowers, N & J. Kovacs (2015) *Where do the bees go? Using meta DNA barcoding to identify pollen present in honey.* Poster presentation. 2015 Spelman Research Day, Atlanta, GA

Michel, B., E. Weigel, & J. Kovacs (2015) *Determining the difference between commercial honey and hive honey.* Poster presentation. 2015 Spelman Research Day, Atlanta, GA

Gaul, C, S. Wolf & J.L. Kovacs (2014) *Fitness effects of aphid secondary symbionts on the fitness of their predator, Harmonia axyridis.* Oral presentation. 2014 Spelman Research Day, Atlanta, GA

Voisin, D., S. Wolf & J.L. Kovacs (2014) *Foraging behavior of the lady beetle Hippodamia convergens.* Poster presentation. 2014 Spelman Research Day, Atlanta, GA

Voisin, Dene, & J.L. Kovacs (2013) *Incidence of vertically transmitted endosymbionts in two species of ladybeetle.* Oral presentation. 2013 Spelman Research Day, Atlanta, GA

### **Student Presentations from my Research in Urban Ecology class SBIO 488**

Copeland, L & J. Kovacs (2019) *The effects of urbanization on whitetail deer morphology.* Oral presentation. 2019 Spelman Research Day, Atlanta, GA

Besetter, S. & J. Kovacs (2019) *The effect of climate change on the rate of initial growth and budding on annual plants.* Poster presentation. 2019 Spelman Research Day, Atlanta, GA

Strozier, B & J. Kovacs (2019) *Invasive v/s Native: Who will win? Mapping the migration of invasive privet species throughout Georgia.* Poster presentation. 2019 Spelman Research Day, Atlanta, GA

Hall, A, & J. Kovacs (2019) *The effects of temperature change on biodiversity.* Poster presentation. 2019 Spelman Research Day, Atlanta, GA

Alexander, S. \*, Croft, C\*, & J. Kovacs (2018) *How is forest biodiversity affected by the emerald ash borer?* Poster presentation. 2018 Spelman Research Day, Atlanta, GA

Calloway, J., McDowell, L., & J. Kovacs (2018) *Does a later leaf-out time affect the overall growing season of Quercus alba? A study of phenology and its relationship to location.* Poster presentation. 2018 Spelman Research Day, Atlanta, GA

Hardmon, A., Muhammad, K., Hunte, S., & J. Kovacs (2018) *The effect of climate change on the rate of leaf fall and color change of Quercus rubra in the Harvard Forest.* Poster presentation. 2018 Spelman Research Day, Atlanta, GA

Kindley, A., A. Lauray, J. Kovacs (2017) *Calcium chloride abundance in soil matter affects plant development.* Poster presentation. 2017 Spelman Research Day, Atlanta, GA

Buchanon, C., H. Cannon, C. Wright, T. Tanner\*, & J. Kovacs (2017) *Wildfire and hurricane effects on biodiversity.* Poster presentation. 2017 Spelman Research Day, Atlanta, GA

Hunter, T. & J. Kovacs (2016) *Preventing bird strike fatalities on Spelman College's campus.* Oral presentation. 2016 Spelman Research Day, Atlanta, GA

Holloway, A, J. Johnson, T. Howard & J. Kovacs (2016) *Investigating the effects of urbanization on the biodiversity of birds in Georgia.* Poster presentation. 2016 Spelman Research Day, Atlanta, GA



Atsepoyi, G., I. Emerson, W. Hymes & J. Kovacs (2016) *The impact of light pollution on eastern and southeastern coastal regions*. Poster presentation. 2016 Spelman Research Day, Atlanta, GA

Akwiwu, N., M. Dana, C. Eato, C. Fennell, N. Ismail, & J. Kovacs (2016) *Cricket boldness in the presence of potential predators*. Poster presentation. 2016 Spelman Research Day, Atlanta, GA

Blanchard, S., T. Hutt, K. Phillips, & J. Kovacs (2015) *Identification of pharmaceutically active compounds in water samples from urban ecosystems*. Poster presentation. 2015 Spelman Research Day, Atlanta, GA

## V. Service

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### Professional Service

I have served as a reviewer for the following academic journals: Proceedings of the Royal Academy Proc B, Evolutionary Ecology, Insectes Sociaux, PeerJ, Naturwissenschaften, Population Genetics, Animal Behaviour, Insects, BMC Evolutionary Biology, and the European Journal of Entomology

#### Grant Review Panel Service:

2022	NSF 2022 BRC-BIO Review Panel (Virtual)
2022	NSF 2022 GRFP Review Panel (Virtual)
2021	NSF 2021 CAREER Panel (Virtual)
2021	L'Oreal USA Women in Science Post-Doctoral Fellowship Program
2020	NSF Graduate Research Fellowship Proposal (GRFP) Panel (Virtual)
2020	L'Oreal USA Women in Science Post-Doctoral Fellowship Program
2019	NSF 2019 Graduate Research Fellowship Proposal (GRFP) Panel (Virtual)
2017	NSF DEB: Evolutionary Processes: Evolutionary Ecology Full Proposal Panel
2017	NSF DEB: Evolutionary Processes: Hybrid (Evolutionary Ecology/ Evolutionary Genetics Pre-Proposal Panel
2016	NSF DEB: Evolutionary Processes: Hybrid (Evolutionary Ecology/ Evolutionary Genetics Pre-Proposal Panel
2014	NSF 2014 Graduate Research Fellowship Proposal (GRFP) Panel (Virtual)
2014	Ad Hoc reviewer for the NSF 2014 Evolutionary Processes Full Proposal Panel
2014	NSF 2014 Doctoral Dissertation Improvement Grant (DDIG) Panel
2012	NSF DEB: Evolutionary Processes: Evolutionary Genetics Full Proposal Panel

#### Professional Society Memberships

I am a member of the Society for the Study of Evolution (SSE), Ecological Society of America (ESA), Association of Southeast Biologists (ASB), Society for Molecular Biology and Evolution(SMBE), the Animal Behavior Society (ABS), Society for Integrative and Comparative Biology (SICB), and Science Education for New Civic Engagements and Responsibilities (SENCER)

#### Professional Society Service

2021	Poster judge for the 2021 Annual Meeting of the Association of Southeast Biologists
2017-2021	W.D. Hamilton committee member, Society for the Study of Evolution



2016, 2014, & 2013	Judge W.D. Hamilton Award Judge, Annual Evolution Meeting & Society for the Study of Evolution
2016 & 2017	Patrick Award Poster Judge, Annual Evolution Meeting & Society for the Study of Evolution
2015 & 2016	Reviewer, Graduate Student Research Grant applications for the Animal Behavior Society

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### College Committee Service at Agnes Scott College

2022-2023	Member, ASC Astro-Physics Search Committee
Fall 2021-Present	Chair, ASC Institutional Review Board (IRB) Committee
Fall 2022	Member, Committee on Academic Standards and Admission (CASA)
Fall 2021-Present	Member, ASC Institutional Animal Care and Use Committee (IACUC)
Summer 2022	Member, Data Science Task Force
Spring 2022	Member VPAA search committee
Spring 2021-2022	Member Ad hoc Committee for Curriculum Review (AHCCR)
Fall 2021-Present	Chair, Education Subcommittee of the ASC Arboretum Committee
Fall 2020-Present	Member of the Arboretum Committee

### Other College Service at Agnes Scott College

Fall 2022	Organizer, Agnes Scott/ Ohio State University Fall Mini-Symposium in the Biological Sciences: Planned and organized a one-day symposium of research talks and student poster presentations highlighting research opportunities in the biological sciences
Spring 2022- Present	Member, City of Decatur Climate Resilience Plan (CRP) Task Force Additionally, I serve as a member of the Flooding CRP Subcommittee
Spring 2021 & 2022	ASC Achievement Week: taught mock Behavioral Ecology class for perspective students
Spring 2022 & 2021	ASC Scholar Weekend: Conducted scholar interviews
Fall 2020-present	Faculty advisor for the ASC chapter of the Ecological Society of America (ESA) Strategies for Ecology, Education, Diversity and Sustainability (SEEDS) program

### Major Advising

Fall 2022	13 students
Spring 2022	12 students
Fall 2021	3 students

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### Recent K-12 Outreach & Community Service

Spring 2022	Organized along with ASC SEEDS outreach committee a booth and tree-printing activity for the Atlanta Science Festival Expo
Summer 2021- Present	Member of the Steering Committee, "Greening Columbia" at Columbia Elementary School, Decatur, GA
Spring 2018, 2017, & 2016	Organized a booth and activity for the Atlanta Science Festival Expo in Centennial Park Atlanta, GA
2016-2017	After-school tutoring for 2 hours a week at Clarkston High School in Clarkston, GA.
2016-2017	On-line tutor hour 1.5 hours a week at the School on Wheels Skid Row

- Learning Center, Los Angeles, CA
- Spring 2016 Hosted 6 homeschool science students in my research lab to participate in animal behavior experiments with termites.
- Spring 2015 Organized an informative and interactive booth for the Atlanta Science Festival Expo in Centennial Park Atlanta, GA with undergraduate LSAMP scholar Martine Williams C'2017.
- Spring 2014 Planned and delivered a full-day microscopy booth for STEM Spelman at the Atlanta Science Festival.
- Fall 2013 Organized "Feed the Flatworm" workshop for the LEADS/STEM Girls Leadership Institute at Spelman College for Atlanta area Middle School girls with Spelman biology sophomore volunteers.
- Fall 2012 Organized "Raiding the Kitchen" workshop for the LEADS/STEM Girls Leadership Institute at Spelman College for Atlanta area Middle School girls with Spelman biology sophomore volunteers.