

# Abigail Greenhalgh Sriram, M.S.

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Corvallis, OR 97330

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## Academic Record

- 2022-2024**    **M.S. in Horticulture** with Entomology option, Oregon State University
- Thesis: A Sweet Solution for Spotted-wing Drosophila: Evaluating the Potential and Non-target Impacts of Erythritol for Integrated Pest Management
- Advisor: Jana C. Lee, USDA-ARS
- 2017-2021**    **B.S. in Biology** with Honors and Minor in German, University of Kentucky
- Honors Capstone: Bacterial endotoxin lipopolysaccharide enhances synaptic transmission at low-output glutamatergic synapses.
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## Work Experience

### Graduate Research Assistant

Department of Horticulture, Oregon State University

April 2022-June 2024

20 hours/week

- Designed and implemented original research projects (field 90%, laboratory 10%) to assess the efficacy of artificial sweetener erythritol for control of Spotted-wing Drosophila and effects on non-target species
- Presented original research at Entomology Society of America and other pest management conferences
- Wrote and published several articles on original research in peer-reviewed journals (first author and co-author)
- Assisted with maintenance of laboratory insect colonies and plants

### Biochemistry Laboratory Technician

Department of Cellular and Molecular Biochemistry, University of Kentucky

July 2021-March 2022

40 hours/week

- Assisted with the selection and generation of nanobodies for targeted medical research by performing RNA isolation from alpaca blood, ELISAs, cell transformations, and protein purifications
- Managed laboratory inventory, resupply, and organization

### **Entomology Field Technician**

Department of Entomology, University of Kentucky

May 2020-July 2021

40 hours/week (summer), 15 hours/week (classes in session)

- Assisted with Ph.D. research on control methods for Brown Marmorated Stinkbug (BMSB) through Sand Wasp collection and parasitoid wasp monitoring on farms across Kentucky (field 100%)
- Communicated with extension agents and growers about programs and results

### **Undergraduate Research Assistant**

Department of Biology, University of Kentucky

January 2018-May 2021

10 hours/week

- Designed and implemented original research projects to assess effects of LPS endotoxin on *D. melanogaster* larvae and Red Swamp crayfish as a proxy for septicemia in humans
- Presented original research at physiology conferences
- Published several articles on original research in peer reviewed journals (first author and co-author)

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## **Awards and Achievements**

- 2023, 2024** 2<sup>nd</sup> Place in 10-minute Graduate Student Paper competition at PNWIMC (Pacific Northwest Insect Management Conference)
- 2022-2024** Dean's List at Oregon State University, all semesters attended
- 2017-2021** Dean's List at University of Kentucky, all semesters attended
- 2017-2021** Patterson Scholarship for National Merit from University of Kentucky (100% tuition, 100% housing, 4 years)

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## **Publications**

1. *(Submitted for publication)* **Sriram, A.**, Choi, M-Y., Scagel, C.F., Bryla, D.R., Lee, J.C. (2024). Evaluating potential phytotoxicity of erythritol solution, a novel control method for *Drosophila suzukii*, in blueberry, cherry, and wild Himalayan blackberry. *Crop Protection*.
2. *(Submitted for publication)* **Sriram, A.**, Lee, J.C. (2024). Efficacy of Erythritol Solutions as a field treatment against Spotted-wing *Drosophila* Infestation and Oviposition, 2022-2023. *Arthropod Management Trials*.

3. **Sriram, A.** (2024). *A Sweet Solution for Spotted-wing Drosophila: Evaluating the Potential and Non-target Impacts of Erythritol for Integrated Pest Management*. Master's Thesis, Oregon State University.
4. **Sriram, A.**, Voyvot, S., Johnson, B.C., Chowdhury, S.M., Fanning, P.D., Lee, J.C. (2023). Mesh covers on sentinel parasitoid traps prevent *Drosophila suzukii* movement and impact parasitism by *Ganaspis brasiliensis* and *Pachycrepoideus vindemiae*. *Biocontrol Science and Technology*, 33(11), 1030-1040.
5. Price, B.E., Breece, C., Galindo, G., **Greenhalgh, A.**, Sagili, R., Choi, M-Y., Lee, J.C. (2023). Nonnutritive sugars for spotted-wing drosophila (Diptera: Drosophilidae) control have minimal nontarget effects on honey bee larvae, a pupal parasitoid, and yellow jackets. *Environmental Entomology*, 52(1), 47-55.
6. Ballinger-Boone, C., Anyagaligbo, O., Bernard, J., Bierbower, S.M., Dupont-Versteegden, E.E., Ghoweri, A., **Greenhalgh, A.**, Harrison, D., Istas, O., McNabb, M., Saelinger, C., Stanback, A., Stanback, M., Thibault, O., and Cooper, R.L. (2020). The effects of bacterial endotoxin (LPS) on cardiac and synaptic function in various animal models: Larval *Drosophila*, crayfish, crab, and rodent. *International Journal of Zoological Research* 16: 33-62. DOI: 10.3923/ijzr.2020.33.62  
<https://scialert.net/abstract/?doi=ijzr.2020.33.62>
7. Istas, O., **Greenhalgh, A.**, Cooper, R.L. (2020). Repetitive exposure to bacterial endotoxin LPS alters synaptic transmission. *Journal of Pharmacology and Toxicology*. 15: 65-72. DOI: 10.3923/jpt.2020.65.72
8. **Greenhalgh, A.**, Istas, O., Cooper, R.L. (2021). Bacterial endotoxin lipopolysaccharide enhances synaptic transmission at low-output glutamatergic synapses. *Neuroscience Research*. 170, 59-65.
9. Bernard, J., **Greenhalgh, A.**, Istas, O., Marguerite, N.T., Cooper, R.L. (2020). The Effect of Bacterial Endotoxin LPS on Serotonergic Modulation of Glutamatergic Synaptic Transmission, 9, 210. <https://doi.org/10.3390/biology9080210>
10. Istas, O., **Greenhalgh, A.**, Cooper, R.L. (2019). The effects of a bacterial endotoxin on behavior and sensory-CNS-motor circuits in *Drosophila melanogaster*. *Insects*. <https://www.mdpi.com/2075-4450/10/4/115>

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## Presentations

1. **Sriram, A.**, Lee, J.C. (2024). A Sweet Solution for Spotted-wing *Drosophila*: Evaluating the Potential and Non-target Impacts of Erythritol for Integrated Pest Management. Thesis Defense Seminar, Oregon State University, Corvallis, OR, May 7, 2024.
2. **Sriram, A.**, Lee, J.C. (2024). Evaluating the multi-year effects of erythritol on treated plants. Pacific Branch Meeting, Entomology Society of America, Waikoloa, HI, April 14, 2024.
3. **Sriram, A.**, Lee, J.C. (2024). Evaluating the multi-year effects of erythritol on treated plants. Pacific Northwest Insect Management Conference, Portland, OR, January 10, 2024.

4. **Greenhalgh, A.,** Lee, J.C. (2023). The effects of erythritol, an experimental treatment for Spotted-wing *Drosophila*, on treated plants. Pacific Northwest Insect Management Conference, Portland, OR, January 12, 2023.
5. **Greenhalgh, A.,** Lee, J.C. (2022). The effects of erythritol, an experimental treatment for Spotted-wing *Drosophila*, on treated plants. International Meeting of Entomology Society of America, Vancouver, CA, November 17, 2022.
6. **Greenhalgh, A.,** Istas, O., Cooper, R.L. (2019). The effects of a bacterial endotoxin on behavior and sensory-CNS-motor circuits in *Drosophila melanogaster*. Kentucky Academy of Science, Berea, KY, November 1, 2019.
7. **Greenhalgh, A.,** Istas, O., Paneitz, Z., Casto W., Gilbert, S., Katta, P., Amaya, A., Conrad, G., Criswell, O., Hieneman, S., Middleton, J., Murphy, J., Ordone, C., Roach, H., Thornberry, H., McNabb, M., Byrd L., Cooper, R.L. (2018). The effects of a bacterial endotoxin on cardiac function in a *Drosophila* model. University of Kentucky Undergraduate Research Showcase, Lexington, KY, April 25, 2018.
8. **Greenhalgh, A.,** Istas, O., Paneitz, Z., Casto Jr W., Gilbert, S., Katta, P., Amaya, A., Conrad, G., Criswell, O., Hieneman, S., Middleton, J., Murphy, J., Ordone, C., Roach, H., Thornberry, H., McNabb, M., Byrd L., Cooper, R.L. (2018). The effects of a bacterial endotoxin on cardiac function in a *Drosophila* model. Annual Meeting of the Kentucky Chapter, Bluegrass Society for Neuroscience, Lexington, KY, April 13, 2018.
9. **Greenhalgh, A.,** Istas, O., Paneitz, Z., Casto Jr W., Gilbert, S., Katta, P., Amaya, A., Conrad, G., Criswell, O., Hieneman, S., Middleton, J., Murphy, J., Ordone, C., Roach, H., Thornberry, H., McNabb, M., Byrd L., Cooper, R.L. (2018) The effects of a bacterial endotoxin on cardiac function in a *Drosophila* model. Annual Meeting of the Kentucky Chapter of the American Physiological Society, University of Louisville, Shelbyville Campus, April 7, 2018.