

Q18.

## MSU-PDA Travel Award - Application Portal

### FALL 2020 TRAVEL AWARD

Awards are granted to offset the costs associated with travel to meetings/conferences/workshops where the applicant will present work stemming from their current postdoctoral position at MSU. This award cannot be used for invited talks at universities or non-conference events (trainings, ...).

**The Fall 2020 Travel Award is for attendance at conferences taking place between June 1, 2020 and November 30, 2020.**

### APPLICANT ELIGIBILITY

All current postdoctoral researchers at Michigan State University are eligible to apply except for:

- Current members of the MSU-PDA Steering Committee
- Individuals that have already received an MSU-PDA travel award during their time at MSU
- Individuals attending meetings/scientific conferences held at Michigan State University
- Individuals who are presenting work from their graduate program or previous position

*\*Recipients of a Travel Award must agree to serve as reviewers for the next round of Travel Award applications.\**

**Deadline to apply: Friday, March 27, 2020 at 5pm EST.**

### APPLICATION REVIEW

Applications will be scored by members of the MSU Postdoctoral Association Steering Committee and the three recipients of a Spring 2020 Travel Award, according to the evaluation rubric posted on the [MSU-PDA website](#).

*Note: The review committee is composed of postdocs from various fields of study. Make sure the information provided in your application can be understood by a lay audience. We recommend limiting the use of terminology specific to your field and avoid using the abstract you submitted for the meeting/conference/workshop you plan on attending.*

### QUESTIONS?

Email: [awards.pda@grd.msu.edu](mailto:awards.pda@grd.msu.edu).

**Please click the button below to proceed to the application.**

Q21. **Personal Information**

Q1. Full Name

Dr. Andrea Glassmire

Q2. Email Address

glassmi5@msu.edu

Q3. Official MSU Title (e.g., (Senior) Research Associate, Postdoctoral Fellow, Research Scholar, ...)

Postdoctoral Fellow

Q6. PI's Full Name

Dr. Will Wetzel

Q20. PI's Email Address

wcwetzel@msu.edu

Q7. College

Agriculture

Q8. Department

Entomology

Q22. **Conference Details**

Q23. Conference Title (full name, no abbreviations)

Entomological Society of America 2020 (annual meeting)

Q24. Conference Location

Orlando, FL, USA

Q25. Start Date (mm/dd/yyyy)

11/15/2020

Q26. End Date (mm/dd/yyyy)

11/18/2020

Q19. Estimated total expenses (USD)

1200

Q22. Are other funds available to support your travel to this conference (e.g., funds from a fellowship, PI, department, organizing conference)? Please describe.

I have funds from my USDA-NIFA grant to support funds for per-diem and registration costs. I am requesting funds for my flight and hotel. Thank you for your consideration

Q10. Presentation type (please select all the apply)

Poster

Talk

Other (please describe)

Q27. Presentation Title

Associational effects of chemical traits among tomato plant neighbors shape the arthropod community

Q12. Abstract

The abstract should clearly identify the aim(s)/goal(s), and main results/conclusions of the work presented. In addition, the abstract should emphasize on the importance of the research to the field and society.

*Not to exceed 3000 characters (including spaces).*

*Do not use special characters > or < (formatting issues).*

Commercial agriculture is crucial for obtaining large crop yields but, as a consequence, large monocultures attract insect pests. An alternative hypothesis to reduce insect pests but keep crop yields large is intra-crop diversity, which mixes plant varieties and introduces trait diversity. This method, however, has not been rigorously tested in agriculture and is predicted to attract more beneficial predators. We tested the Associational Effects Hypothesis, positing that plant neighbors influence community interactions of focal plants. Specifically, whether neighboring chemical traits reduce pests or promote beneficial predators. We manipulated chemical traits of tomato varieties along the different axes of overall chemistry (i.e, alkaloids, terpenes, and acyl sugars) within a plant neighborhood and quantified the associated arthropod community for each plant neighborhood in a natural field setting. Arthropods were collected using various methods, including beat sheet, sticky traps, and clay caterpillar decoys and were identified to Order and, if possible, to Family and Functional Guild (e.g. herbivore & predator). Preliminary results suggest that the arthropod community is dependent on the chemical trait diversity neighboring plants. Specifically, plant dicultures with significantly lower quantities of terpenes and acyl sugars had the highest numbers of parasitoid Hymenoptera wasps from the superfamily Chalcidoidea. In summary, isolating beneficial chemical traits and facilitating this information to plant breeders can motivate pest management to use sustainable methods to attract beneficial predators.

Q13.

### **Greater Context of the Current Work**

Please describe the overall research with which you are involved, how it is integrated into a main focus area of your lab, what has been previously achieved, and how your current work is moving the project forward.

If applicable, also describe the applications of your work outside of your field, as well as any new or unusual technology/innovation behind the work you are presenting.

*Not to exceed 2000 characters (including spaces).*

*Do not use special characters > or < (formatting issues).*

Insect pests can severely harm crop production and research studies suggest that increasing diversity among crops would alleviate these problems. I am examining how chemical diversity that is naturally found in plant leaf tissue influences the structuring of insect pests and beneficial predators in agricultural systems. One of the ongoing projects in the Wetzel lab is developing pest management strategies in agriculture. My research builds upon this research by incorporating plant chemical diversity as a way to mediate interactions between plants, plants, and beneficial predators. Specifically, my research mixes plant varieties varying in their degree of toxic and smelly chemicals and have found that odd ratios of these chemical mixtures determined the attraction rate of insect pests and beneficial predators. My achievements while I've been a postdoc at MSU are receiving a USDA-NIFA Postdoctoral Fellowship, publishing three manuscripts in competitive journals, and three more manuscripts are currently in review. An application of my research is developing a sustainable method for reducing insect pests on agricultural crops with hopes of significantly reducing the need for pesticides. The management of insect pests is critical to plant health and production. Insect pests are usually treated with pesticides that are costly and not a permanent solution. My results suggest that high levels of chemical diversity in plant odors significantly reduced colonization of pest insects, suggesting that complex mixtures are hard for insects to interpret. The outcomes of my research are especially relevant for management strategies that sustainably exploit chemical diversity and reduce pesticide use.

**Q28. Importance of Attending the Conference**

How will your participation in this meeting/conference/workshop support your career development and/or professional network and enable you to be more competitive in your research field?

*Not to exceed 2000 characters (including spaces).  
Do not use special characters > or < (formatting issues).*

The development of my career is directly influenced by my professional network and communicating my research at scientific conferences. My professional network is extremely important for developing my career by building connections with potential collaborators and maintaining existing collaborations. This annual conference brings scientists with the same research interests together and is the primary way I have built my network. Even more, I have invited them as speakers to seminars hosted by the Department of Entomology at MSU and vice versa. Furthermore, participation in this meeting will make me more competitive in my research by allowing me to communicate the findings of my research to the scientific community. While publishing research contributes to a large part of being competitive, promoting the research itself is just as important. My research will also be enhanced by witnessing high impact research that will keep me up to date with science and complimentary research will spark ideas in my own research. Overall, a travel grant from MSU's Postdoctoral Association to attend the Entomological Society of America annual conference would provide me with invaluable benefits that would promote my career. Attending this conference will allow me to grow intellectually as a scientist and provide opportunities to network, which are important steps for reaching my professional goal of becoming a tenured professor. Thank you for your consideration of my application.

Q19.

**Please click the button below to submit your application.**

## Location Data

**Location:** ([42.734802246094, -84.624496459961](#))

**Source:** GeolIP Estimation

