KAWSE Postdoctoral Researcher Travel Funds Application Form

Name: Your Name
Email Address: youremail@ksu.edu
Department: Your department
Office Address: Your address
Faculty Advisor's Name: Your faculty advisor
Year at K---State as Postdoctoral Researcher: 2
Expected end of Postdoctoral Research position at K---State: 6/09/2017
Meeting Name: American Phytopathology Society Annual Meeting
Meeting web address: http://www.apsnet.org/meetings/annual/Pages/default.aspx
Meeting Location: Tampa, FL
Dates of Meeting: July 30---August 3
Dates of Travel: July 29th and August 4th
Meeting Format:

This meeting has >350 oral presentations and >600 poster presentation covering all aspects of plant pathology with talks running in parallel with 3---4 sessions each day with between 6---8 speakers in each session. There is a meet and greet session at the beginning of the meeting and a banquet at the end. There are a number of committee meetings that also occur during this meeting including the Vector--- Pathogen Complexes committee and Virology committee that I am part of that offer opportunities for socializing with professionals of specific interest. The APS meeting also hosts Career Advancement and Development and Education (CADRE) activities that I find very helpful for interacting with industry and academic professionals. This year is very special to me personally as my former PhD advisor, Dr. Michael Goodin, will give an invited talk during the same session as my current Post---doctoral supervisor, Dr. Anna Whitfield. As such, this is the only national meeting each year to cover such a broad range of categories all related to plant health and disease in such a way as to attract a larger, more diverse group of scientists with which to converse and learn.

Purpose: Please include a copy of your accepted abstract below.

The plant *Nucleorhabdovirus, Maize mosaic virus* (MMV), is vectored by the corn planthopper, *Peregrinus maidis*. Previously, we conducted an RNAseq project to identify differentially expressed (DE) transcripts in adults during infection with MMV. We identified a total of 144 transcripts, with 77 genes upregulated and 67 genes downregulated. To identify conserved transcriptome responses in vectors to propagative viruses, we compared the differentially expressed transcripts in our system to two other systems: white backed planthoppers, *Sogatella furcifera* exposed to Southern rice black---streaked dwarf virus (SRBSDV, fijivirus), and the black---faced leafhopper, *Graminella nigrifrons* infected with Maize fine streak virus (MFSV, nucleorhabdovirus). In a tblastx analysis with a cut---off value of 10^{-3}, we identified DE transcripts that are shared between systems. Twenty three transcripts were shared between all three systems. Two transcripts were unique to *P. maidis* and *G. nigrifrons* and 38 transcripts were unique to *P. maidis* and *S. furcifera*. Protein binding was the largest category of the 144 *P. maidis* transcripts (19), 10 are shared in all three systems. Functional characterization is underway on transcripts potentially involved in viral replication, intercellular movement and defense. The responsive genes identified in these vectors of propagative viruses may represent a conserved anti---viral strategy and could be targets for resistance against a diverse range of viruses.

Anticipated Expenses:
Transportation type and cost: Airplane, approximately $620
Lodging Expenses: Hotels have not been announced yet, however, nearby hotel bookings (Embassy suites by Hilton) were for $149/night for 6 nights, approximate total: $894 + taxes
Meeting Registration: ≥ $380 (last year's registration)
Meals not covered as part of registration: All but one dinner--- $54(5 days) + $30 (1 day) = $300
Total Funds Requested (max is $500): $500

Other Travel Support: Please describe the source and amount of funding. Travel grants are not available for post---doctoral researchers for this meeting. Additional funds will be provided by my advisor, Dr. Anna Whitfield, please see attached letter of support.

Networking Plans: In one paragraph explain what plans you have to participate in informal and formal networking opportunities.

I attended this meeting last year and found it to be very helpful in networking. I attended one of the newer "Idea Cafés" which involved a round table discussion about a topic of interest, it was "Balancing a successful career and family". This year, this topic has been expanded into a special session with more than one round table specific to certain circumstances. As last year, I was able to talk with a group of people in an informal manner, I plan to attend at least one Idea Café (although topics have not been announced) and also this special session about Balancing careers. I will also attend meetings related to the committees I joined last year including Vector---Pathogen complexes committee and Virology committee. I plan to attend the banquet at the end and any of the meet and greet sessions present in the schedule when announced.

Activities relevant to Enriching Women's Lives:

Last year, I attended a session entitled "Teaching Plant Pathology" and in this session I learned about a program called "Planting science" which mentors younger kids in projects at their schools relating to plants. As a result, I joined this effort and I was able to mentor a mixed group of kids and one group of all girls in the subject of pollination. I plan to continue mentoring as part of this group and also look for other opportunities at the meeting as well. Here at K---state, I participate in the Grow and Excite! Programs with my advisor, Dr. Anna Whitfield, and will continue to do so when possible.

Career Chat Plans:

The subject of balancing career and family has become a popular topic at the APS meetings and I would like to host a Career Chat entitled, "Balancing Career and Family, insights from a national meeting".

KANSAS STATE UNIVERSITY

February 19, 2016,

Dear Travel Grant Selection Committee:

I am pleased to submit this letter of support for Kathleen Martin's application for the **KAWSE Postdoctoral Researcher Travel Award**. Kathleen is currently a Postdoctoral Research Associate working on virus protein-protein interactions in plant and insect hosts and insect vector response to virus infection. I have enjoyed working with Kathleen for the past two years, and through our interactions it is apparent that she truly is a passionate and skilled researcher. The National Meeting of the American Phytopathological Society (APS) in Tampa, FL provides an important opportunity for Kate to present her research findings and network with collaborators and potential employers. I have agreed to provide travel funds to attend the meeting that are not covered by this award.

For her postdoctoral research work, Kathleen is studying two different plant viruses that are vector borne. She is characterizing the planthopper response to virus infection using RNASeq and functional analysis (RNAi), and she is also studying *Tomato spotted wilt virus* (TSWV), and the insect vector, *Frankliniella occidentalis*. These plant viruses cause significant losses in crop productivity and are a major threat to global food security. Kathleen's project is to identify unifying themes in the virus protein interactions and to functionally characterize the host interactors. The identification of essential host molecules opens the door to devising new control strategies aimed at the insect phase of the virus infection cycle. This work stems from Kathleen's work as a Ph.D. student and represents her own unique ideas and contributions. She is an extremely clever and industrious scientist and the work proposed here will propel her to the next phase of her career.

Kathleen is not only a good scientist and motivated educator; she also contributes significantly to mentoring of less-experienced scientists. Kathleen quickly became our lab expert in microscopy and she willingly has served as a research mentor for a new female graduate student and undergraduate. As a member of my lab, Kathleen also has had the opportunity to participate in a mentor training program that is funded by a USDA grant. She began this training program in fall, 2015 and the activities of this program are aimed at developing mentoring skills that encourage diversity, becoming aware of mentoring strategies and learning styles, and helping the mentors develop a mentoring philosophy. I am also encouraging Kathleen to participate in leadership workshops and lab leader training events that will prepare her for the task of managing her lab. Attendance and participation in the National APS meeting provides a venue for Kathleen to showcase her research skills, network with potential employers, and develop leadership skills through participation in society governance. In addition to research activities, the APS Meeting also has numerous leadership and professional development activities.

In summary, I enthusiastically endorse Kathleen Martin as a recipient of the **KAWSE Postdoctoral Researcher Travel Award**. She is an extremely creative scientist and her research has the potential to be truly translational. The opportunities facilitated by attending The National APS Meeting will enable her to achieve her full potential.

Sincerely,

Anna E. Whitfield
Associate Professor

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