2014 Career Development Grants for Postdoctoral Women Recipients

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The ASM Membership Board is pleased to announce the recipients of the 2014 Career Development Grants for Postdoctoral Women: Claire Marie Filone, National Emerging Infectious Diseases Laboratories at Boston University (John H. Connor's Laboratory); Elaine R. Frawley, University of Washington Department of Laboratory Medicine (Ferric Fang's Laboratory); Laura K. Strawn, Cornell University (Martin Wiedmann's Laboratory); and Yanling Wang, University of California-Los Angeles (Jeffery F. Miller's Laboratory).

Claire Marie Filone received her Ph.D. in Cellular and Molecular Biology from the University of Pennsylvania, Philadelphia, and is now a postdoctoral fellow in John Connor's Laboratory at the National Emerging Infectious Diseases Laboratories (NEIDL), Boston University, Boston, Mass., where she researches host pathways for filovirus infection and for Ebola and Marburg virus replication cycles. She has developed and used a pooled, whole-genome scale shRNA screen with the Broad Institute Genetic Perturbation Platform to identify over 30 host genes necessary for DNA poxviruses and RNA filoviruses. She completed a successful whole-genome scale RNAi screen on Ebola and Marburg viruses which confirmed over 80 genes necessary for Ebola virus infection in secondary screening, with 22 novel genes that are considered top candidates. After completing a screen for inhibitors of vesicular stomatitis virus and finding a class of indoline alkaloids that block infection, she discovered that the compound CMLDBU3402 prevents infection and transcription of Ebola virus. This finding, named one of the Top 100 Discoveries of 2013 by Discover Magazine, is significant since there are no FDA-approved treatments for most NNS RNA viruses. Filone will use the award to travel to the Integrated Research Facility (IRF), a high-containment laboratory in Frederick, Md., to continue her research.
Elaine Frawley received her Ph.D. in Biology and Biomedical Sciences at Washington University in St. Louis and is currently a postdoctoral fellow in Ferric Fang's laboratory at the University of Washington, Seattle, where she investigates the characterization of an iron-citrate exporting MFS family protein and its effects on cell metabolism, pathogenesis, and antibiotic resistance in *Salmonella typhimurium*. Her research contributed to the finding that *Salmonella typhimurium* expressing the major facilitator superfamily transporter IceT was able to efflux iron in conjunction with citrate, an iron chelator and key intermediate in central metabolism, leading to resistance to a variety of stresses and antibiotics. Manipulation of central metabolism to resist stress has been shown to occur by a different mechanism in *Mycobacterium tuberculosis*, suggesting that metabolic manipulation and regulation may be a common method by which different bacteria respond to environmental stress. Frawley has participated in the University's Future Faculty Fellows program and has recently received a Ruth L. Kirschstein National Research Service Award. She is also an active ASM Northwest Branch member and volunteer. Frawley used the award to attend the Microbial Stress Response Gordon Research Conference.
Laura K. Strawn is a postdoctoral researcher in Martin Wiedmann's Laboratory at Cornell University, where she also received her Ph.D. in Food Science with minors in Epidemiology and Microbiology. Her Ph.D. thesis work employed several approaches to model *Salmonella* and *Listeria monocytogenes* contamination in the produce production environment as an ecological process, with results suggesting that risk management of pathogen contamination requires tailoring to each specific farm, as each farm has a unique set of factors that influence the risk of contamination. Building on that research, her current work incorporates classical and molecular microbiology, epidemiology, and Geographical Information Systems (GIS) modeling tools to understand the ecology and persistence of foodborne pathogens in food production and processing environments. To aid in basic research efforts and to enable faster detection of outbreak sources, she is actively pursuing collaborative partnerships to develop a database of environmental foodborne pathogens. Strawn will use the award to travel to a laboratory at the University of Andres-Bello in Santiago, Chile, to examine and explore the application of next-generation tools to food safety, specifically the application of GIS and big data to research in the food safety-life sciences-public health interface.
Yanling Wang began her postdoctoral training in Jeffery F. Miller's Laboratory at the University of California-Los Angeles after receiving her Ph.D. in Microbiology from the University of Wisconsin-Madison. She researches a novel family of genetic elements, the diversity-generating retroelements (DGRs), originally discovered in a *Bordetella* bacteriophage and later found to be widely present in diverse bacteria, including *Bacteroides* species, the common human gut symbionts. Using bioinformatic analyses, she has discovered DGR elements in more than 150 sequenced *Bacteroides* genomes. Moreover, she has detected the first hint of DGR-mediated mutagenic homing activity with the prototype *B. fragilis* strain. The prediction of an association of *Bacteroides* DGRs with mobile genetic elements suggested the possibility of horizontal gene transfer of “evolution cassettes” between members of the gut microbiota. In addition to her research, Wang has participated in outreach activities in China, including lecturing and mentoring university students during her visit there in 2013. Wang will use the award to travel to the laboratories of Liping Zhao and Chaochun Wei at Shanghai JiaoTong University, China, to learn techniques for investigating gut microbe-animal associations and the bioinformatic approaches for detection of DGRs in metagenomic data, as well as to network and create opportunities for long-term career relationships with China.

The 2015 Career Development Grants for Postdoctoral Women program is currently accepting applications. Up to four grants ($1,500 each) are given annually to postdoctoral women with outstanding scientific accomplishment and potential for additional significant research or study in the area of microbiology. For more information on the program and the application process, go to http://www.asm.org/index.php/professionaldevelopment/postdocs/121-whats-new/membership/1120-womens-career-development-grants on the ASM website.