

Post-Doctoral Research Associate Position Department of Plant Pathology, University of Minnesota

Position Summary:

A post-doctoral position in the Figueroa group at the University of Minnesota (<https://plpa.cfans.umn.edu/people/faculty/melania-figueroa>) is available beginning in July 2018. The appointee will join an international project investigating the biology of the pathogenic rust fungus, *Puccinia coronata* f. sp. *avenae*, which inflicts significant yield losses in oat. The overarching goal of the project is to determine the role of sexual recombination in the epidemiology and pathogenicity evolution. The incumbent will participate in discovery of effectors in *P. coronata* f. sp. *avenae*. It is imperative that the postdoctoral researcher is available to travel internationally in fulfillment of research responsibilities and is expected to publish research results in refereed journals, present their research findings at national and international scientific meetings, and assist in preparation of nationally competitive grant proposals. Opportunities for teaching and supervisory experience are also available.

Interested candidates should submit application via the University of Minnesota Office of Human Resources website (<https://humanresources.umn.edu/jobs>, Job ID # 322783) which must contain 1) a CV, 2) a cover letter describing their qualifications, relevant experience and research interests and 3) names and contact information for 3 references. In addition to this, candidates should send the full application package as a single PDF file to Dr. Melania Figueroa (figure031@umn.edu). Please label the e-mail subject with: "oat rust-postdoc".

Job Duties:

- Prepare material for next-generation sequencing of various oat crown rust populations.
- Conduct computational analyses on resequencing data of rust isolates to address questions delineated by the project.
- Communicate findings and interpretations to PI and team
- Prepare peer-review manuscripts and assists in the development of grant applications
- Travels to visit project collaborators and present work at scientific conferences
- Supervise undergraduate and graduate researchers in the group

Required Qualifications: Ph.D. in Plant Pathology, Evolutionary Biology, Genetics and Molecular Biology, and/or Bioinformatics (by the start of employment). Individual may be immediate post-degree or returning for additional training, updating, and/or retooling. Limited to fields for which post-degree training is necessary for career entry.

The successful applicant must demonstrate:

- 1) Experience with Linux and high performance computing environments.
- 2) Ability in applying statistical or machine learning methods in computational biology.
- 3) Experience in handling large genome-scale datasets.
- 4) Record of research achievement in population genetics and computational biology. Therefore, background knowledge in comparative/population/evolutionary genomics should be evident.
- 5) Experience with scripting/programming in Python, Perl, C++, R or similar and handling relational databases.
- 6) Strong track record of publications in the field or related disciplines.
- 7) Ability to work independently as well as within a research group.
- 8) Excellent oral and written communication skills.

Preferred Qualifications:

- 1) Background in plant-microbe interactions studies, particularly involving rust fungi
- 2) Experience in effector biology and functional validation of effector genes
- 3) Experience in genetic association studies
- 4) Ability to design new projects and foster new collaborations
Capacity to mentor and supervise students

Note: This position cannot be used to grant permanent residency for international appointees.