

Cornell University – College of Agriculture and Life Sciences
School of Integrative Plant Science – Section of Plant Pathology and Plant Microbe Biology
New York State Agricultural Experiment Station, Geneva, New York
Post-Doctoral Associate Position

We are seeking a highly motivated postdoctoral researcher with a strong interest to study genetic mechanisms of disease resistance, and disease management in fruit trees. The candidate will have the opportunity to do excellent and cutting edge research in genomics, phenomics and quantitative genetics and will have access to world's largest apple collection, apple orchards, and state-of-the-art computational and genome sequencing facilities. Please read the "Required Qualifications" carefully to apply for this position.

The main responsibilities of this position are to 1) identify QTLs underlying disease resistance in bi-parental mapping populations and association mapping panels, 2) develop high-throughput phenotyping methods to screen seedlings from breeding program, and 3) develop remote-sensing methods to establish relationship between spectral changes in fruit trees in response to pathogen infection and disease severity. This position will require the design and execution of experiments in the lab, greenhouse and field as well as publishing peer-reviewed journal articles, developing research proposals, and presenting at international conferences.

Specific Work Responsibilities: The specific focus of this position will be:

Quantitative Genetics Analysis (40%): Design of experiments and analysis for quantitative trait loci (QTL) and association mapping of disease resistance including genomics and genotyping, inoculations, and assessment of disease.

Development and Application of HTPP, and Remote-sensing Methods (40%): Development and application of HTPP methods to collect and process data of mapping populations to dissect genetic basis of disease resistance, and to screen seedlings from breeding program. Development and application of remote-sensing methods for early disease symptom detection in the orchards to identify and quantify disease severity for timely deployment of appropriate management.

Research Communication (15%): Train students, publish peer-reviewed journal articles, present at scientific meetings, seminars, workshops and develop both web-based and traditional tools for outreach and research extension.

Proposal Development (5%): Motivated and creative thinker to support development of research proposals for basic and applied phenomics and genetics.

Required Qualifications: Must possess a PhD in plant genetics/breeding, plant pathology, molecular biology or a related field. Must have demonstrated experience with the collection and processing of phenotypic and genotypic data, and quantitative genetics and good experience in lab, greenhouse and field. Candidate must have skills in molecular biology, genomics, genetics, and statistics. Candidate must have a record of publications with at least two first-author publications in highly respected peer-reviewed journals and be self-motivated for data analysis and writing research articles.

Preferred Qualifications:

Experience with remote-sensing, multi-spectral imaging and high-throughput phenotyping to access biotic or abiotic stress tolerance is preferred. Candidate should be able to multi-task and have good time management and attention to detail in order to meet tight deadlines, and work independently to initiate communications and ambitious collaborative research. Creativity and proactiveness are assets, as well as enthusiasm to work

and interact in an international scientific environment. Excellent student supervision/mentoring skills are beneficial.

Interested candidates should send letter of motivation, Curriculum Vitae, a statement of contribution to diversity, equity and inclusion, and names and contact information for three references to:

awais.khan@cornell.edu