MPS-modeling Technician Position

Hiring Organization
The Central California Tristeza Eradication Agency, operating the Citrus Pest Detection Program, serves the commercial citrus growers of Fresno, Tulare, and Kern counties in California. While its current charge is to benefit the citrus industry by identifying and removing trees infected with potentially economically damaging strains of Citrus tristeza virus (CTV), the Agency seeks to develop and implement a risk-based survey model for the CTV program, to be designed to accommodate survey for multiple additional pathogens as the need arises.

Organizational Unit where position is to be located
The work of the MPS-modeling Technician will be conducted at the Subtropical Plant Pathology Unit of the USDA, Agricultural Research Service, U.S. Horticultural Research Laboratory, Fort Pierce, Florida, under the direct supervision of the Research Leader of Plant Pathology, who is responsible for research on etiology, epidemiology, and modeling of host-pathogen interactions.

Primary Purpose of Position
The purpose of the position is to assist the studies on quantitative epidemiological and plant-pathogen interactions aimed at developing improved detection survey strategies for multiple citrus pests. The MPS-modeling Technician is responsible for:

- independently performing statistical analyses of experimental/sampling data using general statistical packages as well as specific software supplied by the lead scientist;
- tabulating and summarizing statistical output;
- preparing graphical presentations of results and written reports.

The overall objective of the project is to devise a model framework leading to the development of a Multiple Pest Survey (MPS) for California’s citrus industry. The disease of primary concern for the initial development of the MPS is CTV; however, the survey model will have a highly flexible design such that it can be modified at any time to include multiple diseases.

The primary duties of this position include:

- Convert PDF maps into electronic format (e.g. GIS shapefile or Google Earth layer) and record related citrus block information in Excel spreadsheet
- Mine data to accumulate necessary information
- Formulate hypotheses and perform tests of significance, analysis of variance, correlation, and regression analysis using statistical software to identify risk factors
- Interpret statistical data and compose narrative reports to accompany statistical results
- Assist in experimental design and survey sampling techniques development

The incumbent will work both independently, and as a team member with other statistical programmers, technicians and postdocs.

Proposed Minimum Education/Experience
Training in statistics, biostatistics, mathematics or computer science or a related field of study, with a minimum of a Bachelor’s degree and one or more years of relevant experience.
Skill required:
- Knowledge of descriptive and inferential statistics, and ability to apply standardized mathematical formulas, principles and methodology to the solution of technological problems.
- Proven knowledge of statistical modeling and data mining
- Demonstrated understanding, and proven solution capabilities, of using advanced statistical software, such as, R, SAS or other statistical packages
- Experience with ArcGIS (e.g. editing tools, creating GIS data layers, GIS analysis)
- Proficiency in MS Word, Excel and PowerPoint
- Proven interpersonal and communication skills
- Must be able to work well alone and within a team environment

Preferred Experience, Credentials, Qualifications, Certifications
- Experience with at least one programming language (e.g. C/C++, Python, Java)
- Demonstrated experience in building GUI/web interface programming is a plus

Position Details
- Full-time, year-round position
- $45,000 to $50,000 per year (starting, dependent on experience)
- Benefits include paid vacation, holidays, and sick leave; health care coverage (medical, dental, and vision); defined contribution retirement plan.

To Apply
- Submit resume/CV, cover letter, and list of references to Jill Barnier, Program Manager, Central California Tristeza Eradication Agency: jbarnier@cctea.org
- Questions? E-mail to above address, or call (559) 686-4973