

**** UC Davis Dept. of LAWR, AGIS Laboratory - Assistant Specialist ****

POSITION DESCRIPTION [for Ad postings]

We are seeking a highly motivated and enthusiastic individual to join our team in a position as Assistant Specialist at the UC Davis Dept. of LAWR, AGIS Laboratory.

BACKGROUND ABOUT AGIS

The Agricultural Geographic Information System (AGIS) Laboratory undertakes research related to the environmental compatibility of agricultural production systems, landscape ecology and conservation biology. We emphasize the understanding of spatial and temporal variations of each concerned parameter. Research topics include:

- Modeling water quality as impacted by pesticide and nutrient inputs for watershed management
- Exploring the pesticide use trends and patterns for pesticide management
- Mapping biofuel and bioenergy crop, agave distributions and analyzing its habitat associations and marginal lands
- Characterizing water resources and water use in urban and agriculture sectors
- Examining social and economic factors affecting pest management decisions
- Identifying crop-disease infections for precision disease management.

Appointee to the Assistant Specialist will be required to conduct lab studies with computer programming. The ideal candidate will have strong problem-solving, interpersonal, and communication skills, as well as the ability to work both independently and as part of a team. They will also have demonstrated the attention to detail required to successfully collect, organize, and store data, as well as to communicate critical project needs, changes, or challenges to senior staff and faculty in a collaborative setting.

Under the supervision of Dr. Minghua Zhang, the duties of this position are designated to the following criteria:

MAJOR RESPONSIBILITIES AND DESIGNATED AREAS OF EXPERTISE

IV. RESEARCH IN SPECIALIZED AREAS (90% EFFORT)

a. Research Collaboration (75%)

Collaborate with other research and extension personnel affiliated with research activities involving the use of publicly available climatic, land use and soil databases. Conduct research and outreach activities that emphasize the use of integrating simulation models with the available spatial databases. Details include the followings:

- i. Develop a conceptual framework to evaluate the potential environmental exposures of pesticide on a user assigned field.
- ii. Develop online interactive decision support tool to integrate exposure modeling with spatial databases.
- iii. Develop a modeling system comprised of: (a) exposure models for BMP, conservation practices evaluation at field and watershed scales; (b) real-time data processing utilities for model input and outputs.
- iv. Design a web-based modeling tool for assessing effectiveness of BMPs in controlling pesticide pollution at both paddy field and dryland field.
- v. Provide programming and GIS expertise as contributions to publications.
- vi. Evaluate data visualization approaches and online outreach strategies.

- vii. Manage and maintain the tool during the project time.
 - viii. Evaluate and package website use statistics
 - ix. Outreach the research outcomes to a wider audience by conducting workshops and presenting at conferences, and encourage various stakeholders to use the developed tool for potential risk screening and BMP selections in order to reduce pesticide offsite movement.
 - b. Publication (15%)
 - i. Communicate project outcomes as lead author or co-author in a variety of written formats (e.g. peer reviewed journals, magazines, newspapers, newsletters, or blogs)
 - ii. Report to a technical advisor committee (TAC) comprised of representatives from potential user communities and take feedbacks for improving the web-based tool.
- II. PROFESSIONAL COMPETENCE AND ACTIVITY (5% EFFORT)
 - a. Create and contribute to posters and/or oral presentations at stakeholder workshops, professional societies and conferences such as American Geophysical Union, and others including workshops led by California state agencies.
 - b. Participate in outreach workshops to extend the usability of the developed framework.
- III. UNIVERSITY AND PUBLIC SERVICE (5% EFFORT)
 - a. May maintain liaison and respond to the needs of various industry organizations, state and federal agencies, and other external groups on issues related to area of expertise.
 - b. The incumbent may assist in training or mentoring of other junior scientists or project personnel or participate in university or other groups to improve equity and inclusion in the sciences.

BASIC QUALIFICATIONS:

- For *Assistant Specialist*: **Master's** degree in GIS, Computer Sciences, Software Engineering (or similar relevant discipline), or five years of experience demonstrating expertise in the relevant specialization; *OR possession of a relevant baccalaureate degree plus three or more years of research experience.*
- Experience in laboratory research.
- Strong organizational and communication skills.
- Experience in Word, Excel, Access, PowerPoint or other appropriate computer programs to organize, summarize and analyze data.
- Proficiency in both written and verbal English.
- Good oral and written skills to communicate data summary to staff and colleagues.
- Ability to work independently and as part of a team.
- Ability to think critically and troubleshoot problems.

PREFERRED QUALIFICATIONS:

- Experience in programming languages (R, SQL, Python) to organize, summarize and analyze data.
- Experience in Windows and Linux operation system.
- Experience in ESRI ArcGIS or QGIS in analyzing Geo-spatial data.
- Experience in database developing using MySQL or PostgreSQL.
- Experience in developing the web-based Graphic User Interface via PHP, html, java, python and PostgreSQL.
- Experience in remotely working and meeting.

APPLICATION DETAILS:

TERM OF APPOINTMENT: Part-time. Appointment will vary in length up to a 12-month appointment with the possibility of extension contingent upon funding and performance.

SALARY RANGE (*commensurate with qualifications and experience*):

- Asst. Specialist, Step I - \$53,300
- Asst. Specialist, Step II - \$55,500

TO APPLY: Please go to the following link: [<https://recruit.ucdavis.edu/JPF03802>]. Applicants should submit **cover letter** indicating how you meet the minimum and preferred qualifications, **your most recent CV** and **contact information for 2-3 recent references**. Documents/materials must be submitted as PDF files by the indicated **Next review date**.

Appointments will vary in length up to a 12-month appointment with the possibility of extension contingent upon funding and performance.

QUESTIONS: Please direct questions to Minghua Zhang via email mhzhang@ucdavis.edu.

The University of California is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age or protected veteran status. For the complete University of California nondiscrimination and affirmative action policy see:

[<http://policy.ucop.edu/doc/4000376/NondiscrimAffirmAct>].

Under Federal law, the University of California may employ only individuals who are legally able to work in the United States as established by providing documents as specified in the Immigration Reform and Control Act of 1986. Certain UCSC positions funded by federal contracts or sub-contracts require the selected candidate to pass an E-Verify check. More information is available [<http://www.uscis.gov/e-verify>]. UC Davis is a smoke & tobacco-free campus [<http://breathefree.ucdavis.edu/>].

If you need accommodation due to a disability, please contact the recruiting department.