

Post-doc position JPF05568 Remote Sensing Algorithm Research Postdoctoral Scholar, University of California Davis. If interested apply online at recruit.ucdavis.edu

Dr. Susan Ustin's Center for Spatial Technologies and Remote Sensing (CSTARS) at UC Davis is known for nearly 30 years as one of strongest environmental remote sensing groups in the United States, with a decade-long expertise in developing, prototyping, and operating automated satellite data processing algorithms and systems to support ecosystem and fire management and science (<http://www.cstarsd3s.ucdavis.edu/>).

CSTARS faculty and staff scientists come from all over the world and variety of disciplines, including GIS, Computer Science, Applied Math, Geography, Botany, Ecology, Soil, Atmospheric and Environmental Sciences. We foster flexible, empowering, inclusive, and enjoyable work environment and constantly strive to make best available science better.

We are looking for a highly motivated and organized Postdoctoral Scientist (potentially more than one position) with excellent quantitative, computer programming, and communication skills who will develop explainable cutting-edge methods and reproducible GIS datasets to more fully characterize the 50+ year history of ecosystem change in California, using dense time series of Landsat 4-9. The new developments are expected to be coupled or integrated with the existing capabilities of the Ecosystem Disturbance and Recovery Tracker (eDaRT) — a highly automated satellite image processing and analysis system currently operated by the US Forest Service — and deployed at scale to improve water resource assessment and land management in California and potentially US-wide. The Postdoc is expected to be able to work independently on complex assignments with assistance from team members while following general guidance from PI's and science/engineering principles.

This position under a high-stakes project funded by the State of California will involve close collaboration with senior scientists and software engineers at CSTARS on the eDaRT team, UC Davis hydrologists, and our federal and state agency partners and sponsors, providing excellent opportunities for rapid professional growth, career development, and a future leadership potential.

Major Responsibilities:

1. Know, evaluate, and compare state-of-the-art approaches and models, as related to the project.
2. Develop robust and automated Landsat (TM/ETM/OLI-TIRS) based methods and geospatial products addressing project-specific and broader needs of land and water management science and practice, by following Agile development approaches, such as continuous integration and continuous delivery, in collaboration with other team members. Examples of the research areas and needs include: a) improved detection of landcover change and disturbance in various ecosystems; b) characterization/attribution of ecosystem change (type/cause, magnitude, etc.); and/or c) characterizing pre- and post-disturbance vegetation properties and their temporal trajectories, such as subpixel cover fractions, LAI, vegetation types, canopy stress, land-cover/land-use categories and their transition classes, and potentially other characteristics, as needed.
3. Develop methods and geospatial products to detect and characterize land change and ecosystem disturbances and their impacts using historic Landsat Multi-Spectral Scanner (MSS) imagery.
4. Implement developed methods and models as reusable and well-documented research prototype programs/modules in an interpreted language, such as MATLAB, Python, JavaScript, IDL, or R.
5. Design and regularly perform model validation experiments; develop/optimize and automate training/test data collection processes, e.g. based on interpretation of high-resolution imagery and ancillary data. Develop and maintain training and test datasets.

6. Continuously document for shared internal use, in a clear and well-organized manner, all ongoing research activities, intermediate and final datasets, methods, experiments, results, and code; lead co-authored peer-reviewed publications, prepare and personally deliver conference/workshop presentations, and assist in the preparation of reports to sponsor.
7. Strive to comply with the project schedule, regularly track and communicate the progress, recognize potential issues early, and take initiative to seek guidance/assistance, in a timely manner.
8. Assist in the completion of collaborative projects in the lab and generate results for use in new grant submissions.

Specific work scope items and their priorities will be collaboratively determined based on the project needs, skill sets of available personnel on the team, and other factors.

PHYSICAL DEMANDS

- Wear personal protective equipment (PPE) and follow all health and safety protocols in the laboratory, field and on campus as required.
- Submit daily symptom tracking as required.
- This position requires sitting at a computer workstation for extended periods of time, operating and occasional moving computer and peripheral equipment; communication in person, telephone and e-mail, and other online services; reading program output and a variety of computer displays. Move and manipulate supplies and equipment of various weights up to 20 lbs.

WORK ENVIRONMENT

- Work hours are normally Monday – Friday from 8:00am to 5:00pm or 9:00am to 6:00pm, but with flexibility to alter working hours to accommodate field data collection or because of specific project needs.
- Ability to work effectively in a shared workspace environment. This is not a fully remote position.
- Occasional travel to designated field sites of project, to meetings with State Agency personnel or to professional meetings/conferences.

SALARY & BENEFITS:

Commensurate on experience level with a minimum salary of \$60,000.00, benefits included for 12 months duration appointment at full time of 100%. 24 work days of paid time off per year, 12 days of sick leave per year and 14 paid University holidays per year.

HOW TO APPLY:

Create an Application ID

Provide required information and upload documents

If any, provide required reference information

REQUIRED DOCUMENTS:

- Curriculum Vitae (up to 5 pages, not strictly) including contact information for at least two references.
- Cover Letter
- List of Publications and Presentations
- A brief Statement of Career/Research Interests and Goals (preferably 1-2 pages).
- Up to three representative publications in English language.
- Statement of Contributions to Diversity - Diversity contributions documented in the application file will be used to evaluate applicants.

Visit http://academicaffairs.ucdavis.edu/diversity/equity_inclusion/index.html for guidelines about writing a diversity statement and why one is requested.