



UNIVERSITY of FLORIDA

Agricultural and Biological Engineering Department

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**POSITION ANNOUNCEMENT # 0002-0326
REQUISITION # 494904**

Title: Assistant Professor in Remote Sensing for Forest Health Modeling

Location: Department of Agricultural & Biological Engineering
University of Florida
Institute of Food and Agricultural Sciences (IFAS)
Campus Box 110570
Gainesville, Florida 32611-0570

Salary: Commensurate with Qualifications and Experience

Review Date: For full consideration, candidates should apply and submit additional materials by November 30, 2015. The position will open until a viable applicant pool is determined.

DUTIES AND RESPONSIBILITIES: This is a 12-month, tenure track position (70% research, 30% extension) in the Agricultural and Biological Engineering Department (ABE) and the Center for Remote Sensing (CRS), Institute of Food and Agricultural Sciences (IFAS), University of Florida (UF).

The faculty member in this position will develop active, successful, and nationally recognized research and extension programs in ecosystem spatio-temporal health monitoring using remote sensing techniques to describe, predict, and evaluate mitigation strategies for forest health threats such as exotic pests and pathogens. The successful candidate is expected to focus on integrating remote sensing algorithms with applications in forest health by utilizing combined hyperspectral, multispectral, LiDAR, Global Navigation Satellite System (GNSS), and/or radar data from a variety of platforms such as ground-based, UAV and/or satellites, including smallsats. These algorithms would be geared toward informing forest management to enhance ecosystem health and societal well-being. The extension program is expected to transfer the research to its practical application by end users in public and/or private sectors. The successful candidate will be linking spatio-temporal datasets with tools for management decision support, as well as tools to assess the effects of non-native invaders on society – income streams, rural economies, ecosystem health, to name a few.

Forest ecosystems face increasing and emerging threats, including non-native invaders, resurgence of native diseases and pests, climate and land use changes, and the synergistic effects

of these challenges combined. This position is one of four in a cohort (three faculty, one staff) with expertise in: 1) Resilience and Restoration Silviculture; 2) Remote Sensing for Forest Health Modeling (this position); 3) Tree Health Genetic Resources; and 4) Monitoring Coordinator, Global Threats to Forest Health. This cluster hire will fill critical gaps in expertise across the Southern US, and will enable anticipation and early detection of forest health threats, a precise understanding of their impacts on society, spatiotemporal monitoring to facilitate early intervention, adaptive silviculture and the capacity to rapidly deploy restoration populations that are genetically resistant (or tolerant) to invaders, drought, and other disturbance risks. The synergistic effects of combined forest health threats require interdisciplinary solutions – this cluster of faculty positions is designed to meet the multi-faceted forest health challenge by seamlessly combining new experts and approaches with existing expertise, in order to guide management decisions and policy recommendations toward increased forest resilience.

In addition to strong disciplinary training we seek candidates with interest in integrating knowledge from multiple academic domains, particularly in forestry and plant pathology. This position brings together new and existing faculty in cross-disciplinary research and teaching efforts focused in remote sensing. Candidates should possess the interest, skills, and temperament to interact effectively with other researchers. A successful candidate will be expected to teach one course each year. The research and extension FTE assignment may vary in response to the needs of the department.

The successful candidate will be affiliated with the Center for Remote Sensing established by an Endowment from the International Commission on Irrigation and Drainage, Chinese Taipei Committee, Taiwan R.O.C. Currently, the Center has over 40 Affiliate Faculty from various departments across UF.

The candidate is required to establish the basis for a strong externally funded research program, and promote his/her research activity and leadership in professional societies, supported by sustained publication activity in top scientific journals. The candidate has the opportunity to collaborate with other faculty and research partners, creating synergy both inside and outside of the University of Florida. The goals of the position are also in line with strategic research areas of the UF College of Engineering (<http://www.eng.ufl.edu/research/research-areas/>) of which ABE is also an active member through ABET accreditation. The candidate will be expected to participate in all activities of departmental academic life such as research groups, mentorship of undergraduate and graduate students, and academic service activities; and work closely with other faculty in IFAS, the College of Engineering, the Emerging Pathogens Institute, the UF Water Institute and Florida Climate Institute.

Because of the IFAS land-grant mission, all faculty are expected to be supportive of and engaged in all three mission areas—Research, Teaching and Extension—regardless of the assignment split specified in the position description.

BASIC QUALIFICATIONS: A Ph.D. (foreign equivalent acceptable) in Engineering or a closely related field is required. We seek an interdisciplinary engineer or scientist with ability to

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integrate the use of remote sensing technologies for management of forest ecosystems. The applicant should have a strong background in remote sensing analysis and modeling of complex agricultural and/or forest systems. It is desired that the candidate have previous experience in areas of remote sensing science such as radiative transfer theory, hyperspectral or multispectral algorithms, combined LiDAR and radar algorithms, risk and decision science, analysis of big data from complex spatio-temporal datasets, and some experience in transferring research findings to practical applications. Postdoctoral experience and a clearly established publication record in areas related to this position, which could include landscape ecology, computational biology or epidemiological modeling, are also desired. Candidates should have demonstrated excellent verbal and written communication skills, and ability to participate in collaborative efforts. Candidates must also have a commitment to IFAS core values of excellence, diversity, global involvement and accountability.

BACKGROUND INFORMATION: The Agricultural and Biological Engineering Department is a unit in the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida and has diverse teaching, research and extension education programs. The Department is comprised of 29 faculty members located on the Gainesville campus, 5 faculty located across the state at research and education centers, 10 courtesy faculty and 20 support personnel (see website <http://abe.ufl.edu>), and consistently ranks in the top 5 Agricultural and Biological Engineering programs nationwide. Instilling excellence in research, leadership, innovation, and entrepreneurship are ABE's highest priorities. At ABE, the candidate will join a dynamic, cross-disciplinary group of researchers, and will enjoy broad opportunities for collaborations with existing teams, including those studying biofilm systems and biosensors, biofuels, coupled natural and human ecosystems, nanotechnology and nanomaterials, climate variability and change, crop modeling, hydrology and water quality.

The University of Florida (<http://www.ufl.edu>) is a Land-Grant, Sea-Grant, and Space-Grant institution, encompassing virtually all academic and professional disciplines, with an enrollment of more than 50,000 students. UF is a member of The Association of American Universities. The Institute of Food and Agricultural Sciences (<http://ifas.ufl.edu>) includes the College of Agricultural and Life Sciences (<http://cals.ufl.edu>), the Florida Agricultural Experiment Station (<http://research.ifas.ufl.edu>), the Florida Cooperative Extension Service (<http://extension.ifas.ufl.edu>), the College of Veterinary Medicine (<http://www.vetmed.ufl.edu>), the Florida Sea Grant program (<http://www.flseagrant.org/>), and encompasses 16 on-campus academic departments and schools, 12 Research and Educational Centers (REC) located throughout the state, 6 Research sites/demonstration units administered by RECs or academic departments, and Florida Cooperative Extension Service offices in all 67 counties (counties operate and maintain). The School of Natural Resources and Environment is an interdisciplinary unit housed in IFAS and managed by several colleges on campus. IFAS employs over 2500 people, which includes approximately 900 faculty and 1200 support personnel located in Gainesville and throughout the state. IFAS, one of the nation's largest agricultural and natural resources research and education organizations, is administered by a Senior Vice President and four deans: the Dean of the College of Agricultural and Life Sciences, the Dean for Extension and Director of the Florida Cooperative Extension Service, the Dean for Research and Director

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of the Florida Agricultural Experiment Station, and the Dean for the College of Veterinary Medicine. UF/IFAS also engages in cooperative work with Florida A&M University in Tallahassee.

APPLICATIONS:

Individuals wishing to apply must go online to <http://explore.jobs.ufl.edu/cw/en-us/job/494904> and submit the following:

1. application;
2. Letter of application that states applicant's interest in the position, qualifications relative to the credentials listed above, previous professional responsibilities and how these relate to the position;
3. Complete vita (which includes current position and responsibilities); and
4. The name, address, telephone and facsimile numbers, and electronic mail address of five persons to serve as references.

CONTACT INFORMATION AND NOMINATION SUBMISSION: Questions regarding the position may be directed to:

Dr. Reza Ehsani
Agricultural and Biological Engineering
University of Florida, PO Box 110570
Gainesville, FL 32611-0570
Email: ehsani@ufl.edu

Final candidate will be required to provide official transcript to the hiring department upon hire. A transcript will not be considered "official" if a designation of "Issued to Student" is visible. Degrees earned from an education institution outside of the United States are required to be evaluated by a professional credentialing service provider approved by National Association of Credential Evaluation Services (NACES), which can be found at <http://www.naces.org/> .

The University of Florida is an Equal Opportunity Institution dedicated to building a broadly diverse and inclusive faculty and staff. The selection process will be conducted in accord with the provisions of Florida's 'Government in the Sunshine' and Public Records Laws. Persons with disabilities have the right to request and receive reasonable accommodation.

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