Agronomy Department
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POSITION ANNOUNCEMENT # 00014232
REQUISITION # 71179

Title:	**Assistant Professor: Integration and Application of Artificial Intelligence and Omics in Plant Breeding**
Location:	**Agronomy Department** **University of Florida** **Institute of Food and Agricultural Sciences (IFAS)** **Gainesville, Florida**
Salary:	**Commensurate with Qualifications and Experience**
Review Date:	**For full consideration, candidates should apply and submit additional materials by April 30, 2021. The position will remain open until a viable applicant pool is determined.**

Diversity and Accessibility

The Institute of Food and Agricultural Sciences is committed to creating an environment that affirms diversity across a variety of dimensions, including ability, class, ethnicity/race, gender identity and expression. We particularly welcome applicants who can contribute to such an environment through their scholarship, teaching, mentoring, and professional service. We strongly encourage historically underrepresented groups to apply.

If an accommodation due to a disability is needed to apply for this position, please call 352-392-2477 or the Florida Relay System at 800-955-8771 (TDD) or visit Accessibility at UF .

Duties and Responsibilities

This is a 9-month tenure-accruing position that will be 70% research (Florida Agricultural Experiment Station) and 30% teaching (College of Agricultural and Life Sciences) in the Agronomy Department, Institute of Food and Agricultural Sciences, at the University of Florida. This assignment may change in accordance with the needs of the unit. The position is based at the Gainesville campus. Tenure will accrue in the Agronomy Department (https://agronomy.ifas.ufl.edu).

This position is one of a cohort of three positions that will advance the application of artificial intelligence (AI) in plant breeding. The positions will collaborate heavily with one another and with more than twenty UF/IFAS breeding programs that genetically improve more than 50 crop species. This cohort is made possible by the UF AI Initiative and a gift from NVIDIA that is establishing the most powerful supercomputer in U.S. Higher Education at the University of Florida. Briefly, these three positions are: 1) senior-level faculty position that will provide visionary leadership in Prediction-based Plant Breeding (Horticultural Sciences Department, Main Campus, 70% Research and 30% Teaching); 2) assistant professor position in data science that will focus on Integrated Multi-omics Analysis (Agronomy Department, Main Campus, 70% Research and 30% Teaching); and 3) assistant professor position in Phenomics for Plant Breeding Applications (Agricultural and Biological Engineering Department, stationed at the Gulf Coast Research and Education Center, 80% Research and 20% Teaching). These faculty members will have unique opportunities in transdisciplinary, collaborative projects and partnerships with faculty in the UF/IFAS Plant Breeding Working Group, a newly formed interdisciplinary Plant Breeding Graduate Program, and other programs at UF and beyond.

The acquisition and use of multi-omics data have become integral components of modern plant breeding. The successful candidate will develop a nationally and internationally recognized, externally funded, research program focused on implementing systematic multi-omics approaches in plant breeding. The goal of the position is to develop a research program that will provide solutions to complex plant breeding and plant systems biology questions by utilizing artificial intelligence and related disciplines (biostatistics, quantitative genetics, and modeling) to large multi-omics data sets. The candidate is expected to actively collaborate with the UF/IFAS Plant Breeding Working Group to: i) design and optimize methods for plant breeding, leveraging information from multiple facets of plant biology—physiology, agronomy, and biochemistry to quantitative genetics and multi-omics (genomics, transcriptomics, proteomics, metabolomics and high throughput phenotyping) - to find new ways of driving genetic improvement and biological insights; ii) develop novel methods, tools and algorithms for population development, and quantitative genetics that integrate these multiple levels of information from plant biology for selection and other breeding targets, iii)) provide novel solutions to unravel the biological basis of complex traits for plant breeding programs. Expertise in biostatistics, quantitative genetics, breeding, bioinformatics and AI is essential to create a systematic multi-omics integration of complex data into applicable solutions in breeding. The candidate will be expected to have focal areas on agronomic crops, with collaborative efforts in other relevant plant breeding programs at UF/IFAS to maximize the use of big data in plant breeding programs, thus experience with agronomic, ornamental, horticultural, and forest crops is desired. Collaborations with geneticists, agronomists, and other faculty across IFAS, UF, and other national and international institutions are also encouraged.

In IFAS, a new, interdisciplinary Ph.D. degree in plant breeding is being developed. Our vision is to build a renowned STEM program, well-aligned with the University preeminence goals, and with a curriculum that prepares our students to become modern plant breeders, who are currently in short supply. This faculty member would have a research and teaching appointment, contributing with AI-based courses to the new Plant Breeding Graduate Program.

The faculty member will participate actively in graduate education by chairing graduate committees, serving on graduate committees, supervising thesis and dissertation research, supervising undergraduate research, and publishing the results with their graduate students. Faculty members are encouraged to participate in professional development activities related to advising. The faculty member will seek external contract and grant funding to support their program including operational costs, technical/graduate student support and equipment. The faculty member will develop a comprehensive research program with measurable objectives and outcomes in the application of AI towards plant breeding. The selected faculty member is expected to integrate into the UF/IFAS Plant Breeding Working Group, the Plant Molecular and Cellular Biology Program and the UF Genetics Institute.

The successful candidate will engage in scholarly activities related to instruction, including teaching undergraduate and/or graduate courses, advising and mentoring undergraduate and graduate students, participating in curriculum revision and enhancement, seeking funding for the teaching program, supervising undergraduate and graduate research and creative work, publishing teaching-related scholarship, producing learning tools, and engaging in professional development activities related to teaching and advising. Faculty are encouraged to support and participate in the CALS Honors Program, distance education, and international education.

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.

Qualifications

Required:

A doctorate (foreign equivalent acceptable) in Plant Breeding, Quantitative Genetics, Biostatistics with expertise in AI, big data analysis method and/or bioinformatics is required. Candidates should have demonstrated skills in verbal and written communication, and interpersonal relationships. Candidates must be supportive of the mission of the Land-Grant System. Candidates must also have a commitment to IFAS core values of excellence, diversity, global involvement, and accountability. Candidates must be able to work on transdisciplinary team projects and to work with diverse audiences and clientele.

Preferred:

Postdoctoral experience is preferable. Experience in breeding with focus on applying multi-omics approaches in breeding, quantitative genetics or in the application of AI for breeding and genetics in plant science is preferable. Experience in teaching, extramural grant writing and procurement of funding are preferred.

Background Information:

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 56,000 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 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.

The Agronomy Department (http://agronomy.ifas.ufl.edu) is an UF/IFAS unit with diverse teaching, research, and extension programs. The department has 35 faculty members located on the main campus in Gainesville and at Research and Education Centers throughout the state who conduct research on diverse crops, including cotton, peanuts, carinata, sorghum, small grain, forages, sugarcane, hemp, and edamame.

Employment Conditions

This position is available as soon as Fall 2021 and will be filled as soon thereafter as an acceptable applicant is available. Compensation is commensurate with the education, experience, and qualifications of the selected applicant.

Nominations

Nominations are welcome. Nominations need to include the complete name and address of the nominee. This information should be sent to:

Please refer to Requisition # 00014232

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Application Information

Individuals wishing to apply should go online at http://apply.interfolio.com/84904 and submit:

- Cover letter that states applicant's interest in the position and qualifications relative to the credentials listed above (max. 2 pages)
- Diversity and inclusion statement (max. 2 page)
- Research statement, including previous and planned research (max. 2-3 pages)
- Teaching statement, including experience and philosophy (max. 2-3 pages)
- Complete curriculum vitae
- Contact information (including email addresses) for three individuals willing to write letters of recommendation
- Unofficial transcripts

Note: To help reduce implicit bias in the selection process, we plan to conduct the first stage of the candidate selection process "blind" by having names redacted from all application materials.

Selected candidate will be required to provide an 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).

Hiring is contingent upon eligibility to work in the US. The University of Florida is a public institution and subject to all requirements under Florida Sunshine and Public Record laws.

The University of Florida is an Equal Opportunity Institution dedicated to building a broadly diverse and inclusive faculty and staff. The University and greater Gainesville community enjoy a diversity of cultural events, restaurants, year-round outdoor recreational activities, and social opportunities.