

Assistant/Associate/Full Professor in Controlled Environment Agriculture

Tenure/Tenure Eligible 9-month appointment

School of Plant Sciences (SPLS) – main Campus in Tucson, AZ

70% Research – 20% Instruction – 10% Service

Office and laboratory space will be in the Marley Building on the University of Arizona main campus with options for alternate or additional space at the nearby Controlled Environment Agriculture Center in Tucson.

The new faculty member is expected to develop a successful, internationally-recognized, externally funded research program, and teach 4 credits per year, at the undergraduate or graduate level, in topics relevant to controlled environment agricultural systems. Teaching will serve undergraduate education of majors important to the School of Plant Sciences, including the Plant Sciences, Sustainable Plant Systems, and Applied Biotechnology degrees, and to graduate education in Plant Sciences. Courses taught will prepare students to address food security and plant improvement using high-tech and digital solutions applied through controlled environment systems and methodologies. Potential courses may include topics in Controlled Environment Agriculture Technology and Physiology, Stress Physiology, Plant Nutrition and Quality, Crop and Cultivar Selections, Postharvest Physiology, and/or Crop Modeling.

The incumbent will apply modern greenhouse/indoor farming systems, smart technologies, methods such as real-time and proximal/remote sensing methodologies, and new data analytics and modeling tools that integrate new knowledge into agricultural practice. They will embrace sustainable production capabilities, optimized and integrated systems aimed at increasing crop productivity, profitability and efficiency of energy and water resources, and nutritional and health value, and reducing environmental impacts. They may be instrumental in developing novel cultural systems to optimize crop yields and quality based on key traits that increase resource use efficiency. Additional fluency and experience or interest in application of plant biotechnology, analysis of primary and specialized metabolites/metabolomics, phenotyping, advanced genetics/genomics and selection/evaluation approaches may also be valuable to the position.

Responsibilities of the position may include:

molecular approaches to collect and analyze data on plant responses to various controlled environment conditions.

Interact and collaborate with existing faculty members in SPLS based on the scope/scale of the successful candidate's research program, including collaborative research in the disciplines of data science, cell and molecular biology, genetics and epigenetics, quantitative genetics, microbial biology, horticulture, and agronomy.

Interact and collaborate with relevant industry partners, UArizona faculty outside of SPLS in the areas of plant environment interactions, computation sciences, the Controlled Environment Agriculture Center (CEAC), and /or the Ecosystem Genomics Initiative, and utilize the expertise and resources of the UA CyVerse collaborative platform for data analytics.

Seek the support and leverage campus computational biologists can provide, and seek to add strengths in physiology, crop selection, engineering and robotics, and remote and proximal sensing.

Obtain funding from national, state, and international funding agencies, including those from industry and foundations.

Mentor undergraduate and graduate students as well as post-doctoral scholars to train the next generation of experts in controlled environment crop production systems.

The new hire will leverage current and expanding expertise at UA's Controlled Environment Agriculture Center (CEAC), the CyVerse platform, and the UA Data Science Institute. The successful candidate will collaborate with existing departmental, and other College of Agriculture and Life Sciences and UA department / center / institute colleagues who have expertise and or interest in CEA, indoor and urban agriculture, phenotyping, microbiomes in CEA, CEA engineering, automation and mechanization in CEA, nutrition and postharvest biology.

Required Job Qualifications

Ph.D. in plant biology, crop sciences, horticulture, or relevant disciplines with emphasis on controlled environment agriculture/horticulture.

Demonstrated experience in controlled environment agriculture/horticulture or greenhouse/indoor farming related research.

- Evidence of successful grantsmanship, excellent written communication skills and teaching experience.
- A commitment to excellence in teaching and in mentoring of undergraduate and graduate students.
- Commitment to departmental, college and institutional values to advance diversity and inclusion.

Preferred Job Qualifications

Expertise in horticultural plant and environmental physiology, and CEA technology.

Special interest in use of CEA technology to areas such as plant nutrition, secondary metabolites, plant selection, as well as crop modeling and molecular biology tools.

Proven excellence in written communication including a record of scientific, peer-reviewed publications in controlled environment agriculture and horticulture.

Expertise in integrating sciences and engineering into teaching and research programs

Commitment to team-building skills, capacity for successful collaboration, and potential to manage multidisciplinary research and education projects.

Experience with evidence-based teaching in controlled environment agriculture crop production, horticulture and technology using traditional, distance, and online modalities.

Experiences and familiarity with CEA industry, industry engagement, and collaborations. The candidate is expected to support the CEA Outreach and Extension Program.