



Faculty Position Available:

Assistant Professor

Cohort Hire: Revolutionizing Controlled Environment Agriculture

Focus: Controlled Environment Agriculture Engineering

Department of Biological and Environmental Engineering, Cornell University

Position: Assistant Professor, Tenure-track.

Location: Ithaca, NY. The academic home for this position is the Department of Biological and Environmental Engineering (BEE) in the College of Agriculture and Life Sciences, housed on the Ithaca campus of Cornell University.

The Department of Biological and Environmental Engineering (BEE) in the College of Agriculture and Life Sciences (CALS) at Cornell University is seeking a highly collaborative scholar to contribute to the development of innovative and sustainable Controlled Environment Agriculture (CEA) systems. Our new colleague will join a Cohort Faculty Hire in Revolutionizing Controlled Environment Agriculture.

The College of Agriculture and Life Sciences (CALS) Roadmap to 2050 is **centering environmental justice to achieve climate and sustainability goals** via a cohort of hires within our [Transdisciplinary Moonshots](#) – opportunities for the College to collaborate on future-focused, cross-disciplinary scientific breakthroughs and to align research, education, and extension programs for greater impact and stronger connectivity. The Moonshot areas build upon core strengths in CALS, spanning the agricultural, environmental, life, and social sciences, with the goal of recruiting 27 faculty into the College over the next three years.

This cohort will advance the CALS Transdisciplinary Moonshot in **Revolutionizing Controlled Environment Agriculture**. This cohort includes recent or concurrent hires in plant pathology, insect ecology, food systems economist, and a specialty crop physiologist within the College of Agriculture and Life Sciences. These new faculty hires will play an integral role in the design of a planned CALS investment in new CEA facilities.

Research in the **Revolutionizing Controlled Environmental Agriculture** cohort will develop productive and sustainable CEA systems that are energy and resource efficient, resistant to biotic and abiotic stressors, and responsive to changing demographics and food markets. Current production of specialty crops is challenged by a myriad of factors that are amplified by extreme and erratic climatic events that devastate crops and favor the establishment of invasive pests and diseases. CEA is an expanding approach to address climate change and other challenges for food production. CEA systems, ranging from partially to fully enclosed facilities, have the potential to provide an extended and more stable environment for plants with enhanced protection against extreme weather events, food-borne pathogens, and invasive pests and diseases. These systems create opportunities for streamlining farm labor and advancing production techniques using

artificial intelligence and robotics. CEA systems will also help to stabilize supply-chain issues and export market timing, thus expanding market potential and opportunities to provide more equitable access to food.

In this search we seek to hire a scholar to focus on the technology and engineering aspects of Controlled Environment Agriculture (CEA). The position will include research (50%) and teaching (50%). Teaching responsibilities will include core undergraduate and graduate level courses in BEE along with other upper-level classes developed around the candidate's area of specialization. A successful research program will contribute to the advancement and long-term sustainability of CEA systems. General areas of research could include circular biosystems aimed at waste reduction and enhanced optimization of resource use, artificial intelligence and/or advanced data analytics to improve health and productivity of CEA crops, intelligent solutions for automation (including robotics) and climate control in CEA, or development of mechanistic or data-driven plant growth models leading to improved system design. The research program may focus on small scale technologies to improve production (e.g., sensors) or large-scale optimization (e.g., regional economic models) or anything in between. Candidates may focus on particular CEA crops such as high nutrient density fruits and vegetables, or medicinals, or the program may be crop independent. Our goal is to enable the continued growth and creation of new CEA systems that are sustainable and compatible with current and future agricultural bioeconomies that result in positive economic, ecological, and social impacts with particular focus on previously underserved communities. The candidate is also expected to foster collaborations with other moonshot clusters (e.g., synthetic biology and climate solutions) and the broader Cornell community (e.g., the College of Engineering, the Cornell Institute for Digital Agriculture, and the Cornell Atkinson Center for Sustainability). Outreach and service expectations will be business-oriented to form new regional and global economic development via technological translation.

Outstanding research scholarship is expected, as is excellence in and commitment to teaching, translation of knowledge, and advising and inclusive mentoring of students. We seek a colleague with an outstanding record demonstrating success and promise across all these areas, and who will be supported by and contribute to a vibrant culture of inclusive excellence at Cornell. As such, candidates are expected to engage in service and leadership activities within the department, the college, and the university, and relevant professional societies. We welcome candidates who understand the barriers facing women and other marginalized identities who are underrepresented in the classroom and higher education careers (as evidenced by life experiences and educational background) and who have experience in equity and inclusion concerning teaching, mentoring, research, outreach, life experiences, or service towards building an equitable and diverse scholarly environment.

The successful candidate will become a part of the inclusive and diverse culture at Cornell. They will have the opportunity to join multiple graduate fields across the university.

Position Responsibilities:

This position has a balanced effort between research (50%) and teaching (50%) on a 9-month academic year basis.

Research (50%): Outstanding research scholarship focused on the advancement of CEA systems as described above is expected. The candidate will develop an internationally recognized program through successful grant writing and professional research reporting. Excellence in and commitment to the development of multidisciplinary team-based research and training programs is essential.

Teaching (50%): The successful candidate will contribute to undergraduate and graduate teaching in the department. Teaching may also support university initiatives such as the Digital Agriculture minor and cluster hire initiatives in CALS. Teaching responsibilities will include two courses annually, with one contributing to our undergraduate program in Biological Engineering and one typically based on the candidate's research and instructional interests. Specific course offerings will be negotiated with the candidate during the hiring process and after arrival at Cornell. Advising undergraduate students and mentoring graduate students and postdocs is also expected.

Department Affiliation: The successful candidate will be a tenure-line faculty member of the Cornell University College of Agriculture and Life Sciences and will be based in the Department of Biological and Environmental Engineering. A mentoring program for new faculty provides guidance and assistance.

Qualifications: The successful candidate is required to have:

- a Ph.D. in engineering or computer science, or
- a B.S. in engineering or computer science with a Ph.D. in engineering, computer science, or a related field.

The successful candidate will have a strong commitment to developing multidisciplinary, team-based research and teaching. Experience in CEA is preferred.

Applications and Starting Date: The anticipated starting date is July 2025 or as negotiated. Qualified applicants should submit 1) a cover letter briefly summarizing background, qualifications, and interest in the position; 2) a Curriculum Vitae; 3) a research statement outlining experience, interests, and goals; 4) a teaching statement outlining experience, interests, and goals; 5) a [statement supporting diverse communities](#) (this can be a stand-alone document (preferred) or the information can be embedded in other parts of the application materials) outlining how, through research, teaching, service, mentoring, extension, and/or outreach, the candidate has and will contribute to support Cornell's historical mission of "any person ... any study"; 6) copies of four relevant publications; and 7) names and contact information for four references. Materials should be submitted online to: <https://academic.jobsonline.org/ajo/jobs/29031>.

Applications received by December 31, 2024 will be given full consideration. Applications will be accepted until the position is filled. Please forward questions to the search chair (Professor Beth Ahner, baa7@cornell.edu) or the search administrator (Nicole Albright, nja35@cornell.edu).

CALS hiring range for this position is:

Assistant Professor: \$90,000 - \$130,000

Cornell University offers a competitive salary and benefits package. Support for start-up costs will be available. Salary is commensurate with experience.

The College of Agriculture and Life Sciences (CAL S) is a pioneer of purpose-driven science and Cornell University's second largest college. We work across disciplines to tackle the challenges of our time through world-renowned research, education, and outreach. The questions we probe and the answers we seek focus on three overlapping concerns: We believe that achieving next-generation scientific breakthroughs requires an understanding of the world's complex, interlocking systems. We believe that access to nutritious food and a healthy environment is a fundamental human right. We believe that ensuring a prosperous global future depends on the ability to support local people and communities everywhere. By working in and across multiple scientific areas, CAL S can address challenges and opportunities of the greatest relevance, here in New York, across the nation, and around the world.

Cornell University seeks to meet the needs of dual career couples, has a Dual Career program, and is a member of the Upstate New York Higher Education Recruitment Consortium to assist with dual career searches including positions available in higher education in the upstate New York area.

Cornell University is an innovative Ivy League and Land-grant university and a great place to work. Our inclusive community of scholars, students, and staff impart an uncommon sense of larger purpose and contribute creative ideas to further the university's mission of teaching, discovery, and engagement.

Cornell's regional and global presence includes state-wide Cornell Cooperative Extension programs and offices in all counties and boroughs, global partnerships with institutions and communities engaged in life-changing research and education, the medical college's campuses on the Upper East Side of Manhattan and Doha, Qatar, and the Cornell Tech campus on Roosevelt Island in the heart of New York City.

Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, and we do not tolerate discrimination based on any protected characteristic, including race, ethnic or national origin, citizenship and immigration status, color, sex/gender, pregnancy or pregnancy-related conditions, age, creed, religion, actual or perceived disability (including persons associated with such a person), arrest and/or conviction record, military or veteran status, sexual orientation, gender expression and/or identity, an individual's genetic information, domestic violence victim status, familial status, marital status, or any other characteristic protected by applicable federal, state, or local law. We also recognize a lawful preference in employment practices for Native Americans living on or near Indian reservations in accordance with applicable law.

Cornell University embraces diversity and seeks candidates who will contribute to a climate that supports students, faculty, and staff to all identities and backgrounds. We strongly encourage individuals from underrepresented and/or marginalized identities to apply.