Faculty Position Available

Cohort Hire: *Harnessing the Power of Synthetic Biology*

Focus: Plant Synthetic Biology

School of Integrative Plant Science, Cornell University

Position: Assistant Professor, Tenure-track.

Location: Ithaca, NY. The academic home for this position is the School of Integrative Plant Science (SIPS) in the College of Agriculture and Life Sciences, housed on the Ithaca campus of Cornell University.

The School of Integrative Plant Science (SIPS) in the College of Agriculture and Life Sciences (CALS) at Cornell University is seeking a **Plant Synthetic Biologist,** whose research is centered on synthetic biology involving photosynthetic organisms, including land plants, algae, cyanobacteria, diatoms, and their microbial communities. Plant synthetic biology is an emerging field that combines engineering principles with plant biology. Plant synthetic biology will play an important role in the future of agriculture for crop improvement, in enabling synthesis of novel products of nutritional, pharmaceutical or other values, as well as in fundamental understanding of plant and plant-microbe community biological processes. The position will leverage advances in nuclear and plastome plant transformation and genome editing technologies that make plant synthetic biology feasible in a way, and on a scale, that is unprecedented. Areas of research may include, but are not limited to: (1) Engineering genetic circuits to program predictable crop plant behaviors and traits; (2) Generating novel plant traits, improved properties, or biosynthetic capacities; (3) Converting land plants, cyanobacteria, algae, or diatoms into platforms that synthesize chemicals and complex biomolecules by reconfiguring existing biosynthetic pathways, introducing pathways from other organisms, or incorporating newly designed pathways; (4) Designing *in planta* biosensors for rapid detection of, and response to, environmental cues, such as temperature, pathogens, nutrients, chemicals, and toxins; (5) Engineering the growth and developmental trajectories of model plants and crops; and (6) Characterizing and designing microbes or microbial communities at the plant surface, within the plant, or in the soil, and their interactions with the plant.

The CALS Roadmap to 2050 has identified Synthetic Biology as one of five Transdisciplinary Moonshots - opportunities for the CALS community 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, life, environmental and social sciences, with the goal of recruiting 27 faculty into the college over the next three years. The **CALS *Harnessing the Power of Synthetic Biology*** hiring cohort will design and program new organisms to sustainably produce fuels, food, and medicines. Our new colleagues will join our efforts to advance the field of synthetic biology – the harnessing of genes, proteins and biological machinery - as they explore the development of processes and materials that can fight disease, power society, feed communities, slash greenhouse gas emissions and protect the environment for future generations. The cohort includes new faculty across 5 units: Food Science, Biological and Environmental Engineering, Molecular Biology and Genetics, Microbiology, and this position in School of Integrative Plant Science.

We are seeking applications for a 9-month, full-time tenure-track position in Plant Synthetic Biology at the assistant professor level. Outstanding research and scholarship are expected, as is excellence in, and commitment to, teaching, advising and inclusive mentoring of students. We seek colleagues with an outstanding record of success and promise across all these areas, and who will contribute to a vibrant culture of inclusive excellence at

Cornell. As such, candidates are expected to engage in service and leadership activities within their section, school, the college and 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 in higher education careers (as evidenced by life experiences and educational background), and who have experience in equity and inclusion with respect to teaching, mentoring, research, outreach, life experiences, or service towards building an equitable and diverse scholarly environment.

Responsibilities:
This position has an effort split of 60% research and 40% teaching.

Teaching (40%) –Expectations for teaching at the 40% level typically include teaching 6-7 credits annually. The successful candidate will develop a new undergraduate course in plant synthetic biology, which will be a concentration or broadening course in the Plant Sciences major, align with strategic grand challenges of SIPS (Sustainable crop production and food security, Plants and ecosystem health, Plant production and ecosystem services in urban/peri-urban environments, and Biodiversity, evolution, and molecular mechanisms), and attract students from other majors, including Biological Sciences. The candidate will also develop a second undergraduate or graduate course in their area of expertise.

Research (60%) – Outstanding research scholarship is expected, as the successful candidate will lead an internationally recognized research program in plant synthetic biology. The candidate is expected to maintain a well-funded research program. Excellence in and commitment to development of multidisciplinary team-based research and training programs is essential.

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 School of Integrative Plant Science with the option to join any of the 5 sections (Plant Biology, Plant Pathology and Plant-Microbe Biology, Plant Breeding and Genetics, Soil and Crop Sciences, or Horticulture). The new faculty member will also be part of the College of Agriculture and Life Sciences cohort of faculty hires focusing on Synthetic Biology.

Qualifications*:* The successful candidate will have a Ph.D. in Plant Biology, Chemical Engineering, Biomolecular Engineering, Molecular and Cellular Biology, Microbiology, or related disciplines with a working understanding of synthetic biology. A commitment to research and teaching at the undergraduate level and to the development of multidisciplinary team-based research and training programs is essential.

Applications and Starting Date: The anticipated starting date is Summer 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 page limit), 4) a teaching statement outlining experience, interests, and goals (2 page limit), 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) names and contact information for three references. Materials should be submitted online to: https://academicjobsonline.org/ajo/jobs/27851. Applications received by **September 3, 2024,** will be given full consideration. Applications will be accepted until the position is filled.

Inquiries may be directed to:
Search chair: Adrienne Roeder
School of Integrative Plant Science
Cornell University
Ithaca, NY 14850
Email: ahr75@cornell.edu

CALS hiring range for position:
Assistant Professor: $79,400 - $135,000

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 (CALS) 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, CALS 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.