Approved by the Board of Trustees

November 14, 2024

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Board Meeting

November 14, 2024

# ESTABLISH THE LEVENICK CENTER FOR CLIMATE-SMART CIRCULAR BIOECONOMY, INSTITUTE FOR SUSTAINABILITY, ENERGY, AND ENVIRONMENT, URBANA

**Action:** Establish the Levenick Center for Climate-Smart Circular Bioeconomy, Institute for Sustainability, Energy, and Environment

**Funding:** Gift funds

The chancellor, University of Illinois Urbana-Champaign, and vice president, University of Illinois System, with concurrence of the appropriate administrative officers, recommends approval of a proposal from the Office of the Vice Chancellor for Research and Innovation to create the Levenick Center for Climate-Smart Circular Bioeconomy in the Institute for Sustainability, Energy, and Environment.

The vision of the campus-wide interdisciplinary Institute for Sustainability, Energy, and Environment (iSEE) is guided by the belief that creative solutions to complex sustainability challenges require diverse perspectives, multifaceted knowledge, an entrepreneurial spirit, and novel problem-solving that bridges disciplines. By harnessing deep cross-campus expertise, iSEE’s team science approach is enabling breakthrough science ranging from advanced bioenergy solutions, artificial intelligence-based applications for agriculture and agrivoltaics for dual use of land for solar energy and food production, as well as predictive analytics to mitigate climate change.

Building climate-resilient agriculture and transitioning to a circular bioeconomy is one of society’s grand challenges. Global food production has tripled since the mid-20th century, growing faster than the human population and agricultural land. Technological advances, primarily induced by the objective of enhancing productivity, have driven this intensification of agriculture. However, the existing agri-food production system is referred to as a linear system because it is highly inefficient in its utilization of applied inputs for farming, relies heavily on fossil fuels and synthetic chemicals, and is becoming a substantial contributor to nutrient runoff, degradation of soils, hypoxic zones, biodiversity loss, and greenhouse gas emissions. Our ability to continue to grow productivity, develop a resilient economy that can survive under climate change, and be environmentally and economically sustainable is under serious threat. It is critical that agricultural practices adapt to the changing climate and become more circular by reducing waste, and recycling and reusing agricultural residues and by-products that can contribute to a net zero economy by providing a sink for carbon in soils, vegetation and bioproducts to reduce our dependence on fossil fuels.

This growing urgency for a paradigm shift in agriculture can be addressed in powerful ways by a climate-smart circular bioeconomy which will reduce the use of virgin materials, increase the use of waste materials and biological resources to substitute for fossil carbon, restore and regenerate natural systems, and build predictability, resilience and economic benefits under a changing climate.

The Midwest has unique and substantive capacity to meet goals of food security and decarbonization, while predicting and adapting to climate change, and be a provider of food, renewable energy and carbon mitigation services which are critical for enabling the global transition to net zero.

As part of iSEE, the Levenick Center for Climate-Smart Circular Bioeconomy will aspire to be a nationally recognized leader in transforming the food and agricultural sector to a climate-smart circular bioeconomy by enabling use-inspired scholarship that makes agriculture resilient to climate change and environmentally sustainable. The Center will fuel this transformation through interdisciplinary research, corporate partnerships, and public sector investments that support translational scholarship, predictive analytics, and scale-up of agriculture technology. By integrating research on climate science, prediction, and impacts with knowledge from crop and biological sciences on agricultural practices that mitigate and adapt to climate change and artificial intelligence and engineering technologies, the Center will help to develop actionable and economically viable strategies for agricultural and food production that are climate smart, circular, and aimed at decarbonizing the economy.

The University of Illinois Urbana-Champaign is a pioneer in foundational innovations for smart farming, robotics, regenerative practices, environmental economics and policy, risk assessment, computational sciences, artificial intelligence, solar engineering, synthetic biology, and gene editing which have great potential to transform agriculture. Illinois scientists and engineers are leaders in agricultural technology development, crop science and the economics of technology adoption, as well as climate science, climate modeling and projection, and extreme weather and how it is changing in a changing climate. Campus researchers take an integrative approach to this work, balancing research with the practical needs of stakeholders in areas ranging from reinsurance and risk assessment and communication to catastrophe modeling, energy, transportation, and communications systems. Additionally, the campus is leading several new national and international initiatives in climate and weather science, providing significant complementarity to its efforts in the circular bioeconomy.

Through their generous support, Stuart L. and Nancy J. Levenick have established the Levenick Center for Climate-Smart Circular Bioeconomy Fund at the University of Illinois Foundation to create this center within the iSEE to foster even greater collaboration between the iSEE; College of Agricultural, Consumer, and Environmental Sciences (ACES); College of Liberal Arts and Sciences (LAS); The Grainger College of Engineering (GCOE); Department of Climate, Meteorology, and Atmospheric Sciences (CliMAS); National Center for Supercomputing Applications (NCSA); Prairie Research Institute (PRI); Center for Advanced Bioenergy and Bioproducts Innovation (CABBI); and many other units across campus that house critical research related to the climate change, AI-based applications to agriculture, biomass, bioenergy, and bioproducts.

The Levenick Center will include a faculty director who will be appointed the Levenick Professor, a campus-wide cluster of existing and new faculty expertise, seed funding for innovative research, science communicators and initiatives for stakeholder engagement and private sector partnerships to build visibility and capacity to showcase relevant research; develop a corporate environmental leadership program for government agencies, not-for-profits, farming organizations, and the corporate sector; contribute to workforce development by enhancing undergraduate and graduate curriculum through interdisciplinary certificates/professional degrees in climate resilience, prediction, adaptation, disaster preparedness, and increase coordination among researchers working on relevant topics to enhance interdisciplinary scholarship in climate change prediction, risk, adaptation and mitigation that influence circular bioeconomy strategies to successfully compete for external funding.

Stuart L. (ACES ’76) and Nancy J. Levenick have been loyal supporters and volunteers of the University of Illinois Urbana-Champaign for many years. Their previous gifts have established the following: the Levenick Chair in Sustainability in the College of ACES; the Levenick Resident Scholars in Sustainability Leadership program; the Levenick iSEE Fellows Program; and a state-of-the-art classroom, meeting space, and media studio constructed with joint support from Caterpillar, Inc. They have also endowed athletic scholarships, helped fund the Henry Dale and Betty Smith Football Performance Center, and named conference space at the University of Illinois Foundation Philanthropy Center.

The Board action recommended in this item complies in all material respects with applicable State and federal laws, University of Illinois *Statutes*, *The General Rules Concerning University Organization and Procedure*, and Board of Trustees policies and directives.

The president of the University of Illinois System concurs.