

BEZOS CENTER FOR SUSTAINABLE PROTEIN

NC STATE UNIVERSITY

SPURS

Sustainable Protein
Undergraduate
Research Scholars

May 18–July 28, 2025

Applications due March 1



About Us

The Bezos Center for Sustainable Protein at NC State University focuses on developing and scaling up alternative protein technologies to help create more sustainable and accessible food systems.



Faculty-Mentored Research

Work with world-renowned faculty and other like-minded students.



Professional Development

Make professional connections and work with industry leaders.



Generous Stipend, Housing

We provide housing and a stipend for your research experience.



Apply online by March 1:
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SPURS Project Descriptions

Project 1: Stakeholder Analyses and Outreach

This project will involve reviewing scientific literature on U.S. stakeholder perceptions of alternative proteins and using the findings to create public outreach materials, such as an Extension factsheet. The student will gain experience in research and science communication while contributing to education on sustainable food systems.

Project 2: Environmental Sustainability and Technoeconomic Assessment of Alternative Proteins

This project will focus on sustainability assessment methods and their applications in agri-food systems. The student will gain practical experience in using technoeconomic analysis (TEA) and life-cycle assessment (LCA) methodologies to assess the environmental impacts and cost feasibility of emerging alternative protein sources.

Project 3: Microbial Scaffolds for Cultivated Meat Biomanufacturing

This project will explore the use of nanofibers produced via cell culture for cultivated meat applications. The student will investigate the fabrication process and biofunctional properties of cellulose scaffolds and assess the scalability and efficiency of such scaffolds in large-scale protein production.

Project 4: Cell Culture Systems for Scalable Production of Cultivated Meat

This project will focus on developing a molecular understanding of the role of culture medium components on cell physiology and growth rates. Such an understanding will enable development of processes for scalable production of cultivated meat.

Project 5: Plant Protein Functionality Characterization

This project will investigate or mine functionalities for selected plant-based proteins. These include proteins sourced from pea and soybean, which are not only macronutrients, but also, functional ingredients influencing food structure and texture.

Project 6: Supply Chains for Sustainable Protein Products

This project will focus on mapping the supply chains for sustainable proteins. The student will develop conceptual maps to represent the flow of input materials, bi-products, waste materials, and final products through the various process steps through to retail involved in the supply chains for selected sustainable protein products.

Project 7: 3D Biofabrication Processes for Hybrid Sustainable Proteins

This project will focus on the development and characterization of 3D biofabrication processes to create scaffolds using different types of ingredients for plant and cell-based meat applications. The student will integrate mechanisms for real-time monitoring, control, and optimization to improve the production efficiency and scaffold quality.



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