Advisory Board
Explanation of No Report

The earliest the Advisory Board was able to meet to discuss the work of the Tri-CEA project is June 2, 2025. This falls after the submission date of the annual report but within the program year.

The Agenda is set:
Purpose: Advisory board, research team, and students are familiar; team learns from advisory expertise and insights
Schedule:

- Introductions
- TRI-CEA Overview (PI Jingjing Wang)
- Research thrust working group year 1 reports (Institution Co-PIs)
- Q&A from Board to research teams
- Closed Board discussion
- Whole group discussion of Board guidance

Board members are:

Nate Downey

After studying controlled-environment agriculture (CEA) at the Santa Fe Community College (SFCC) under renowned aquaponics expert R. Charlie Shultz, Nate Downey, a local permaculture-landscape designer/contractor, started Lettuce Etc in 2018. As the author of the award winning-book Harvest the Rain and a monthly column about permaculture in the Santa Fe New Mexican, he'd thought he was taking the class to add a tool to his permaculture toolbox, but the classes changed his life.

With the hope of quickly finding the ideal parcel for an urban aquaponics farm, in December of 2020 Nate finally found one—a gradual south-facing slope within 12 miles of 50,000 homes. But city zoning can be rough on a farm. As per our code, commercial greenhouses need permission from their neighbors in almost every circumstance.

Lettuce, Etc. now has the building permit and are about to start raising funds for the phase-one farm. In the meantime, they are continuously learning about how to grow and distribute local food thanks to their partnerships with Santa Fe Community College and Communities In Schools New Mexico.

Bryn Fragua

Bryn Fragua is the Flower Hill Institute's Senior Advisor and Agricultural Director. He uses his extensive background providing services to Tribal governments, Tribal associations, and Tribal communities in a variety of capacities. He brings valuable insight from Tribal community perspective and is knowledgeable on issues concerning environmental, energy, and social projects. Bryn takes pride in providing logical and efficient solutions with projects. Bryn has been recognized for his commitment to serving Tribal communities. From coordinating and leading health and fitness camps for Tribal community youth to assisting with the execution and management of FEMA projects on Tribal lands. Bryn is a member of the Pueblo of Jemez, and a proud father of two happy children. Bryn farms growing traditional crops from his community, encourages and practices cultural preservation. He also enjoys history with a focus in

southwestern archaeology and anthropology. He is also an advocate for many outdoor hobbies such as hiking, fishing, and wilderness foraging.

Jason Jurey

Jason Jurey is education director at CropKing, where he leads efforts to bring controlled environment agriculture into classrooms of all shapes and sizes, making sustainable farming practices accessible to all students. Jurey has nearly 20 years of experience in formal education and has taught science classes at every level in the secondary classroom. He holds master's degrees in both secondary education and environmental science.

Murat Kacira

Dr. Murat Kacira joined the Department of Biosystems Engineering faculty at University of Arizona in October 2007. For over twenty years, he has been active in teaching and research related to controlled environment agriculture (CEA) with working experiences in academia and research institutions in the United States, Turkey, and Japan. He now serves as the director of the University of Arizona's Controlled Environment Agriculture Center (UA-CEAC).

His research has involved areas of greenhouse and plant energy balance studies, plant growth and health monitoring using image processing and machine vision applications, design and development of continuous plant monitoring systems, photovoltaics integrated greenhouse systems, automation and control in algae production systems by novel sensors and control strategy applications.

Kacira has given lectures regularly at the CEAC Greenhouse Crop Production and Engineering Short Course and invited lectures both at the national and international scientific meetings and conferences. He teaches undergraduate and graduate level engineering courses at The University of Arizona, which include BE 284 – Biosystems Thermal Engineering as well as BE/PLS 479/579 – Applied Instrumentation for Controlled Environment Agriculture. He also is a member of American Society of Agricultural and Biological Engineers (ASABE) and International Society for Horticultural Science (ISHS).

Kara McCormick

Dr. Kara McCormick previously of Sanford Research oversaw both the internal and external communications for the non-profit research arm of Sanford Health, which has a team of more than 250 researchers on staff. She earned her undergraduate degree in physical science with a Business and Chemistry Specialization from Dakota State University. Kara then pursued her Ph.D. in Basic Biomedical Sciences with a specialization in Infectious Diseases at the University of South Dakota. After graduate school, she joined Newport Labs in Worthington, MN, as a Research Scientist managing complete life-cycle vaccine development projects, from research design to product safety trials and product licensing. While at Newport Labs, a subsidiary of Sanofi and then Boehringer Ingelheim, Kara handled change management, gaining industry insight and experience working on collaborative projects throughout the region and company transitions. Most recently, she served the state of South Dakota as an Epidemiologist for the Department of Health, holding roles as a Safety Officer, Data Visualization Lead, and Education Partner during the Emergency Response to the COVID-19 pandemic. With experience in academia, industry, and government, she enjoys bringing together innovative ideas that cross multiple disciplines to support community connections and progressive developments.

Melanie Yelton

Melanie is the founder and CEO of Grow Big Consulting. As an independent consultant, Melanie integrates information drawn from her work as a director in plant science at Plenty and as a vice

president of research in the horticulture lighting industry, as well as her broad contacts with key individuals in specific topics within the Controlled Environment Agriculture Sector.

Melanie's research has focused on optimizing plant growth, flavor and quality using light and she holds a patent for work involving filamentous fungus. She served as a lecturer and scientist at Stanford University, teaching and studying plant signaling in alfalfa and corn. She also served as Director of Sequencing at the Stanford DNA Sequence and Technology Center, part of The Human Genome Project. Melanie earned a Ph.D. from UC Davis in Plant Molecular Biology; a Master's degree in Biochemistry from the University of South Carolina; and a Bachelor's degree in Biology from Virginia Tech.