NSF Convergence Accelerator

NSF Convergence Accelerator's 2022 Cohort Phase 2 Award

Project Title
NourishNet - A Food Recovery Toolbox

Awardee
University of Maryland, College Park

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PROJECT ABSTRACT

In the U.S., 34 million people are food insecure. Yet a third of the food produced in the U.S. is wasted. The integrated team, NourishNet, offers a cutting-edge toolbox that enhances food security and reduces food waste by putting healthy food in the hands of the food insecure. The project's tools includes the complete integration of a real-time software app, named FoodLoops, to optimize surplus food distribution with an electronic sensor, named Quantum Nose, to detect early-stage food spoilage. The FoodLoops platform incorporates consumer education, connects small farmers within the food ecosystem, and provides greenhouse gas emission data to allow for data-driven decision-making on food system resiliency.

In Phase 2, NourishNet will deploy the FoodLoops app to create a new connective ecosystem among consumers, producers, donors, distributors, and institutions. The Quantum Nose portable sensor, which detects food spoilage using real-time gas measurements, will be optimized for direct sale and distribution. The funded team will complete financial marketing and business development and expand consumer education within food pantries and universities nationwide. The collaborative NourishNet team includes University of Maryland researchers and entrepreneurs, Prince George's County Food Equity Council, ChowMatch, LindaBen Foundation, SCS Engineers, and Well Said Media.

The solution's tools strengthen food system resiliency by promoting equitable donations and redistribution of nutritious surplus food. The real-time data collection and modeling will empower government agencies and institutions to strategically invest in waste prevention, food diversion, anaerobic digestion, composting, and climate-smart infrastructure for local food markets. The nationwide deployment of FoodLoops and Quantum Nose will increase equity, connect key food system stakeholders, empower underserved populations, create new educational resources, and allow for real-time forecasting and data-driven decision-making.