TN Venture Challenge Finalists

**CZ Nutrition; Product: Protein Drink.** Dr. Qixin Zhong, professor with the University of Tennessee Department of Food and Science Technology, has invented a technology to produce clear protein drinks that are easy on the palette and rich in nutrients. CZ Nutrition’s clear, protein rich drinks are sugar free, easy-to-drink and packed with essential vitamins, minerals, calcium, dietary fiber, and prebiotics. The product provides a simple, healthy nutritional option for seniors, diabetics, athletes, health-conscious consumers, and on-the-go professionals.

**Farm Specific Technology; Product: Flex Roller Crimper**. Jackson-based Farm Specific Technology (FarmSpec) team lead Shawn Butler, a graduate research assistant at UT’s West Tennessee AgResearch and Education Center, along with team members Austin Scott and Daniel Wiggins, are working together to patent the Flex Roller Crimper, a flexible twist on a piece of farm equipment used to manage cover crops and get rid of pesky weeds. The Flex Roller Crimper reduces reliance on herbicides and synthetic fertilizers, ultimately increasing the production efficiency of organically grown food and decreasing cost to growers in conventional systems. A downsized crimper, the Flex Roller can be attached to no-till planters or toolbars individually, creating a device that works in any field, with any type of terrain and on a larger scale, thus increasing cover crop and weed management efficiency.

**Iono Pharma; Product: Transdermal Microemulsion Nanotechnology for Iodine Deficiency**. Dr. Hassan Almoazen, Director of the PhD program in Pharmaceutical Sciences and the dual degree PharmD/PhD program at the University of Tennessee College of Pharmacy in Memphis, has developed a new approach (patent pending) to deliver iodide ion to millions of children worldwide. He envisions the product to be marketed as an over the counter and without a prescription. Without sufficient iodine in the body’s system, mental retardation and developmental growth delay can occur. Iono Pharma’s Transdermal Microemulsion Nanotechnology for Iodine Deficiency is provided in a topical applicator system that works much like a topical spray or hand sanitizer. Housed in a plastic container, it’s dosed based on a precise formulation.

**Peroxygen Systems, Inc.; Product: Onsite Hydrogen Peroxide Production**. Ming Qi, a former postdoctoral researcher at the University of Tennessee, is changing the cumbersome hydrogen peroxide production and delivery process, making it not only energy efficient but cost effective. Hydrogen peroxide is used for its oxidizing properties, working as a bleaching agent and as a disinfectant against bacteria, viruses, spores and yeasts. Peroxygen Systems provides a clean break through technology for hydrogen peroxide onsite production. The technology involves producing hydrogen peroxide on-demand and onsite, using an electrolyzer that can reduce the cost of production by 50 percent. The electrolyzer also eliminates all the cost and safety problems associated with the shipping and handling of high concentration hydrogen peroxide.

**T&T Scientific Corporation; Product: Cell Membrane Measurement System**. University of Tennessee students Graham Taylor, a PhD student in biomedical engineering, and Nima Tamadonni, a PhD student in mechanical engineering, are leveraging their experience in the laboratory setting to help researchers in bio-engineering, electrophysiology, biophysics and molecular pathology increase efficiency. T&T Scientific Corporation’s method for measuring the physical properties of cell membrane models (the center of exploring the function of normal and diseased tissues) saves time on clean-up and testing, allowing scientists to get back to what they do best – research.

**TechSmarrt; Product: Data Analysis Software Specializing in Structural Information Extraction**. A team of doctoral candidates at the University of Tennessee Bredesen Center for Interdisciplinary Research and Graduate Education have cracked the code that cuts research time for scientists analyzing materials. Led by Akinola Oyedele, TechSmarrt software provides a turn key solution for researchers to identify and understand the properties of new and existing materials. TechSmarrt’s software increases research efficiency and decreases costs by cutting down the time from a thousand hours to a mere minute. The software travels with the researcher and can be viewed and used on a laptop vs. a supercomputer, providing greater flexibility and the ability to work in a portable atmosphere, saving time.