# Food Processing and Transformation

# DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

## **IMPACTING THE WORLD THREE TIMES A DAY**



### FOOD PROCESSING AND TRANSFORMATION

Food Processing and Transformation research includes intoxin removal, preservation, easing marketing and distribution tasks, and increasing food consistency. In addition, it increases the availability of many foods, enables transportation of delicate perishable foods across long distances and makes many kinds of foods safe to eat by reducing spoilage and pathogenic micro-organisms.

#### **RESEARCH ACTIVITIES**

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foodsci.unl.edu/rflores

Dr. Flores studies fractionation and grain processing modeling operations, as well as new uses for grains, agricultural products and by-products, in addition to the utilization, optimization and development of foods.

### DR. RANDY WEHLING

foodsci.unl.edu/wehling

The Wehling lab researches the chemistry and analysis of cereal grains, and develops rapid analytical methods for measuring food quality of grains and other commodities.

#### DR. CURTIS WELLER

foodsci.unl.edu/weller

The Weller lab focuses on value-added processing of agricultural commodities and physical properties determination. Research effort has been concentrated on the refining of grain sorghum to recover high-value lipids and enhancing food safety through control of foodborne disease agents.

### DR. DAVID JACKSON

foodsci.unl.edu/djackson

Dr. Jackson researches the characterization of corn/sorghum hybrids and their end-use functionality, improving corn processing technologies, and tortilla/chip process chemistry.

### DR. JEYAM SUBBIAH

foodsci.unl.edu/subbiah

The Subbiah lab is developing non-thermal preservation technologies such as pulsed electric field pasteurization.

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### **RESEARCH ACTIVITIES**

### DR. DEVIN ROSE

foodsci.unl.edu/drose

The Rose lab researches ways to improve the evaluation of quality and chemical composition of whole grains and how to determine differences in chemical and physical properties of whole grains that influence end-use quality.

### DR. ANDRÉIA BIANCHINI

foodsci.unl.edu/bianchini

Dr. Bianchini studies the impact of processing on the quality and safety of foods. She has a particular interest on the effect of thermal and non-thermal processing on mycotoxins, pathogenic and sporeforming bacteria.

#### DR. OZAN CIFTCI

foodsci.unl.edu/ciftci

The Ciftci lab studies the development of a green biorefinery based on supercritical fluid technology for value-added processing of renewable feedstocks to develop integrated extraction, fractionation, reaction and particle formation of lipids and nutraceuticals as well as understanding the fundamentals associated with such process development. Green chemistry in supercritical fluids with a specific focus on development of novel hybrid or coupled supercritical carbon dioxide bioreactors for the conversion of lipids.

### DR. BING WANG

foodsci.unl.edu/wang

Dr. Bing Wang researches the application of quantitative risk assessment in evaluating the risk of adverse human health effects due to the exposure of biological and chemical hazards via food and other sources if relevant, to improve the use of scientific information in regulatory decisions about food safety and human health.

### DR. GEORGE CAVENDER

foodsci.unl.edu/cavender

Dr. Cavender studies the impact of processing on the quality and safety of foods. He has a particular interest on the effect of non-thermal and other novel processing technologies on the physicochemical and sensory properties of foods.

### **STEVE WEIER**

fpc.unl.edu/pilot\_plants

Steve Weier's research includes extrusion and food processing technologies, scale up, and grain extrusion. He currently manages the Food Processing Center Pilot Plants.

Nebraska Lincoln



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## Contact Us

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