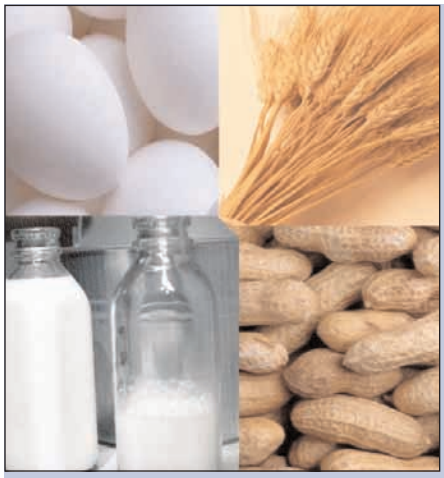
National Center for Food Safety and Technology

Working Together to Assure the Safety of Our Food Supply www.ncfst.iit.edu

ELEMENTS OF EXCELLENCE

NCFST offers a comprehensive chemical constituent and allergen research program to assist food industry members in assuring the safety and quality of their products. Current and ongoing projects undertaken by NCFST scientists range from completion of a survey of home-prepared foods for furan, an assessment of the effects of food processing on contaminants such as melamine and cyanuric acid, and projects to determine the effects of thermal processing on the antigenicity of food allergens, as well as effects on ELISA detection and allergencity of almond protein and protein fragments. NCFST is also involved in projects on understanding the thermal and chemical stability of ricin and other chemical threat agents in food and on food-contact surfaces.

As a cross-platform research area, NCFST's Food Defense and Operational Risk Management Program provides critical investigative capabilities to the Chemical Constituents and Allergens Platform in its investigations into the behavior of chemical threat agents in foods, the effect of food processing on such agents, and the appropriate decontamination methods for product and facilities. Although the government has access to many laboratories able to provide analytical detection methodology, few possess NCFST's capabilities in the area of food defense analyses and facilities, including a newly completed biocontainment pilot plant.



OUR CAPABILITIES

>> In-depth understanding of the formation and effects of processing on a variety of chemical constituents, from furan to ricin and other protein toxins

>> Real-world collaborative projects on allergen risk analysis and the effects of food processing on food allergens

>> Cutting-edge analytical capabilities, including LC-MS, GC-MS, UPLC, and immunochemical and rheological methods

>> State-of-the-art research facilities, including fully equipped chemistry laboratories and experienced food chemists and support personnel

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NATIONAL CENTER FOR FOOD SAFETY AND TECHNOLOGY
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ILLINOIS INSTITUTE OF TECHNOLOGY

The National Center for Food Safety and Technology (NCFST), founded in 1988, is a unique research consortium of the U.S. Food and Drug Administration (FDA) Center for Food Safety and Applied Nutrition (CFSAN) Division of Food Processing Science and Technology, Illinois Institute of Technology (IIT) and the food industry. The NCFST is the only center where industry can work collaboratively with FDA scientists on food safety, nutrition and technology research.

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CHEMICAL CONSTITUENTS AND ALLERGENS PLATFORM

Risks associated with chemical contaminants and allergens are global concerns, garnering more attention as national governments, international non-governmental agencies and food supply chain companies seek answers from scientists about the toxicological potential of a growing array of naturally occurring and industrial food and water contaminants, including acrylamide, ethyl carbamate polycyclic aromatic hydrocarbons (PAHs), benzene, furan and dioxins. In addition, the allergenicity of certain foods and the challenges posed by the cleanup and removal of allergen-containing ingredients to prevent cross-contamination in the food processing environment remain a significant concern to industry.

NCFST scientists investigate the effects of food processing on the formation of hazardous contaminants in order to better understand how to prevent, reduce or eliminate them in the food processing environment, as well as how to mitigate the cross-transfer of preformed natural toxins and allergens in foods.

▼ CHEMICAL CONTAMINANTS AND ALLERGENS PLATFORM MISSION

NCFST's Chemical Contaminants and Allergens Platform generates knowledge on chemical constituents for industry and regulators to make science based decisions that influence food safety quality and public health. When working with NCFST, industry members get the latest scientific expertise and research data on the following focus areas:

- >> Effects of processing on chemical contaminants and beneficial bioactives in foods
- >> Detection and decontamination methods for food defense, chemical threat agents
- >> Validation of procedures to prevent food allergen cross-contact
- >> Effects of processing on food allergens

NCFST provides a critical link between FDA's regulatory responsibilities for food safety in these areas and the food industry's need to provide safe food products to consumers.

> BREAKTHROUGH SCIENCE

> INNOVATIVE TECHNOLOGY

> CUTTING-EDGE NUTRITION

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