

FOOD SCIENCE AND TECHNOLOGY (GRADUATE FIELD)

Program Website (<https://cals.cornell.edu/food-science/degrees-programs/graduate/>)

Field Description

Candidates for the M.S. degree select one major in the field and one minor outside the field. Candidates for the Ph.D. degree select one major in the field and two minors outside the field. There are no general course credit requirements for the M.S. or Ph.D. degrees. M.S. and Ph.D. degree candidates must make at least one research seminar presentation prior to graduation and are required to assist with the teaching program for at least one semester. In addition to the examinations required by the Graduate School, a qualifying examination is required of the M.S. and Ph.D. degree candidates before the start of their second semester of residence. M.F.S. degree candidates must meet the CALS credit requirements (<https://cals.cornell.edu/undergraduate-students/student-services/degree-requirements/graduation-requirements/>) in addition to field requirements, which include a project presentation prior to graduation. All graduate students must take the field seminar (FDSC 6000) each term and Principles and Applications of Food Science and Technology (FDSC 6010) their first Fall semester.

Data and Statistics

- Professional Master's Program Statistics (<https://gradschool.cornell.edu/about/program-metrics-assessments-and-outcomes/professional-masters-program-statistics/?SelectGradField=50>)
- Doctoral Program Statistics (<https://gradschool.cornell.edu/about/program-metrics-assessments-and-outcomes/doctoral-program-statistics/?SelectGradField=50>)

Field Manual

- Manual (<https://cals.cornell.edu/education/degrees-programs/graduate-field-food-sciences-technology/food-science-and-technology-doctor-philosophy/>)

Subject and Degrees

Food Science and Technology

- Food Science (MFS) (<https://catalog.cornell.edu/programs/food-science-technology-mfs/>)
- Food Science and Technology (MS) (<https://catalog.cornell.edu/programs/food-science-technology-ms/>)
- Food Science and Technology (PhD) (<https://catalog.cornell.edu/programs/food-science-technology-phd/>)

Concentrations by Subject

Food Science and Technology

- food science

Faculty

Alireza Abbaspourrad (<http://cals.cornell.edu/alireza-abbaspourrad/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Food emulsion and lipid bio accessibility

Terry Edward Acree (<http://cals.cornell.edu/terry-edward-acree/>)

- **Campus:** Ithaca - (Graduate School Professor)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** food and flavor chemistry; wine quality; analytical instrumentation

Aaron Ashok Adalja (<http://sha.cornell.edu/about/directory/instructors/aaa362/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** economics of food safety, quality certification and labeling, food and agriculture economics

Samuel David Alcaine (<http://cals.cornell.edu/samuel-david-alcaine/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** dairy fermentations

David Mark Barbano (<http://cals.cornell.edu/david-mark-barbano/>)

- **Campus:** Ithaca
- **Concentrations:** Food Science and Technology: food science
- **Research Interests:** dairy science; cheese technology

Carl A Batt (<http://www.bme.cornell.edu/faculty-directory/carl-batt/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** microbiology; genetic engineering of industrial microorganisms; biopolymers

Tolunay Beker Aydemir (<http://www.human.cornell.edu/people/tb536/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Micronutrients, zinc, manganese, chronic inflammatory and metabolic disorders, including inflammatory bowel disease, obesity and type 2 diabetes, nutrient-gene-disease and nutrient-nutrient interactions in health and disease.

Dwayne Bershaw (<http://cals.cornell.edu/dwayne-bershaw/>)

- **Campus:** Ithaca - (Divisional Member)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Beverage production, beverage packaging, aroma and flavor sensory analysis

Elizabeth A. Bihn (<http://cals.cornell.edu/elizabeth-bihn/>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Fruit and vegetable microbial safety; Good Agricultural Practices (GAPs); Produce safety training; Curriculum development; Focus group facilitation

Kathryn Jean Boor (<http://cals.cornell.edu/kathryn-jean-boor/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** bacterial food safety; dairy product quality and safety

John Woodbury Brady (<http://cals.cornell.edu/john-w-brady/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** food chemistry; chemical attributes and functional properties of food macromolecules

Chang Chen (<http://cals.cornell.edu/chang-chen-0/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** • Postharvest Technologies for Specialty Crops
• Food Quality and Safety Control • Food Sensing and Chemistry and Physics Analysis • Mathematical Modeling of Food Processes

Kevin J. Cummings (<http://www2.vet.cornell.edu/research/faculty/kevin-cummings-dvm-phd/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** epidemiology of salmonella and other foodborne pathogens among domestic animal and wildlife populations, antimicrobial resistance

Robin Dando (<http://cals.cornell.edu/robin-dando/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** sensory neuroscience; chemoreception; psychophysics

Ashim K Datta (<http://cals.cornell.edu/ashim-k-datta/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** heat and mass transfer in food processing; microwave heating; freezing

Patrick Gibney (<http://cals.cornell.edu/patrick-gibney/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Understanding how yeast metabolic pathways regulate growth control and stress response activation; developing, understanding, and optimizing yeast biology methods; wine microbiology

Raymond P Glahn (<http://cals.cornell.edu/ray-glahn/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** bioavailability of trace minerals and micronutrients from crops and foods

Julie Melissa Goddard (<http://cals.cornell.edu/julie-m-goddard/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** biomaterials and biointerfaces

Renata Ivanek Miojevic (<http://www2.vet.cornell.edu/research/faculty/renata-ivanek/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** epidemiology

Xingen Lei (<http://cals.cornell.edu/xingen-lei/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** genetic engineering; overexpression; application of hydrolytic enzymes phytase and protease to improve human and animal nutrition; environmental pollution of low-quality foods and feeds

Rui Hai Liu (<http://cals.cornell.edu/rui-hai-liu/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** lipid chemistry; phytochemicals; functional foods; diet and cancer; toxicology

Christopher Randall Loss (<http://cals.cornell.edu/chris-loss/>)

- **Campus:** Ithaca - (Divisional Member)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** research focus is food microbiology, flavor quality and perception and science based understanding of culinary techniques. Interested in the culinary medium as a point of inquiry for exploration of ingredient functionality, food safety strategies and flavor perception

Anna Katharine Mansfield (<http://cals.cornell.edu/anna-katharine-mansfield/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** enological viability of new grape cultivars; processing parameters in quality wine production; characterization of regional typicity in wine; wine phenols; fermentation nutrition

Nicole Helen Martin (<http://cals.cornell.edu/nicole-martin/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Dairy product quality and safety

Carmen I Moraru (<http://cals.cornell.edu/carmen-moraru/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** dairy foods processing

Sam Rasmussen Nugen (<http://cals.cornell.edu/sam-r-nugen/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science

- **Research Interests:** rapid detection of pathogens; biosensors; lateral flow assays; bacteriophages; sample preparation

Olga I Padilla-Zakour (<http://cals.cornell.edu/olga-padilla-zakour/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** processing; quality and safety of plant-based foods

Joe Mac Regenstein (<http://cals.cornell.edu/joe-regenstein/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** poultry, fish, and egg quality; protein functionality; kosher, halal; composting

Syed S H Rizvi (<http://cals.cornell.edu/syed-sh-rizvi/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** food processing; engineering; bioseparation; extrusion

Gavin L. Sacks (<http://cals.cornell.edu/gavin-lavi-sacks/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** wine and grape flavor chemistry; instrumentation/methods development in isotope and molecular mass spectrometry

Abigail B Snyder (<http://cals.cornell.edu/abby-snyder/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** To develop practical solutions to ongoing challenges in microbial food safety and spoilage. This work requires an enhanced understanding of incidence, harborage, transfer, resistance to removal, and tolerance to inactivation in order to develop risk-based interventions.

Elad Tako (<http://cals.cornell.edu/elad-tako/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Mineral bioavailability in standard and fortified food crops; iron and zinc intestinal absorption

Ke Wang (<http://cals.cornell.edu/ke-wang/>)

- **Campus:** Ithaca - (Divisional Member)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** My research interests are inspired by the desire to foster a world with zero food loss and waste through harnessing the power of microbes and establish a holistic approach to sustain the population in the context of growing societal and environmental challenges. The three focus areas of my research program are: (1) to engineer cell factories to upcycle underutilized bioresources into value-added bioproducts such as biomaterials and novel foods; (2) to develop efficient bioprocesses with high-throughput technology and process modeling with artificial intelligence assisted tools; and (3)

to translate the scientific research outcomes to the food and biotech industries and support circular economy.

Lorin D Warnick (<http://www2.vet.cornell.edu/research/faculty/lorin-d-warnick/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** epidemiology of infections and antimicrobial resistance in Salmonella and other zoonotic enteric bacteria in dairy cattle; detection and transmission of Salmonella in animal populations; resistance to antimicrobial drugs

Christopher Brian Watkins (<http://cals.cornell.edu/christopher-brian-watkins/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** postharvest physiology and biochemistry of fruit

Martin Wiedmann (<http://cals.cornell.edu/martin-wiedmann/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** food microbiology; dairy science; food science

Randy W Worobo (<http://cals.cornell.edu/randy-w-worobo/>)

- **Campus:** Ithaca
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** food microbiology; antimicrobial peptides; genetic engineering of microorganisms; biopreservation

Bruno Meireles Xavier (<http://cals.cornell.edu/bruno-xavier/>)

- **Campus:** Ithaca - (Divisional Member)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Senior Extension Associate and Processing Authority at the Cornell Food Venture Center, which provides training in food processing and safety to food manufacturers and regulators, as well as product development and safety validation services to food companies in NY State and beyond, helping to bring more than 2000 products to market yearly.

Leanne Le Zhu (<http://cals.cornell.edu/le-zhu/>)

- **Campus:** Ithaca - (Divisional Member)
- **Concentrations:** *Food Science and Technology*: food science
- **Research Interests:** Food Chemistry