

Aim 4 - Develop a "food safety track" within existing food science undergraduate programs

Aim 4 Title:

Develop a "food safety track" within existing food science undergraduate programs

Aim 4 Project Team:

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Aim 4 Completed Efforts:

In Spring 2016, Joyce Gao and Danielle Corrado are projected to graduate from the Department of Food Science at **Cornell University** with a concentration in Food Safety.

During 2014, **NC State University** spearheaded a study to prioritize identified competencies from a recent Delphi procedure. While the previously identified core competencies (see below) offer a starting point for curriculum development, the goal of this study was to prioritize those competencies, based on the current needs of the workforce. The objectives supporting this goal include: 1) identifying knowledge and skill strengths, as well as weaknesses among the previously identified set of food safety subdomains within a population of recent food science graduates; and 2) identifying the relative importance of each subdomain as ranked by food safety professionals for inclusion within an undergraduate food science curriculum. This study was presented at the annual International Association for Food Protection meeting in Portland, OR in 2015 by Dr. Lee-Ann Jaykus. A manuscript reporting the results of this study will be submitted to the Journal of Food Science Education during early 2016.

In Spring 2015, Erica Rausch and Clarice Lin graduated from **Cornell University's** Department of Food Science with a concentration in Food Safety. They were the sophomore group to complete the Food Safety curriculum.

Crystal Ji, Catherine Nease, and Zach Shirk graduated from **Cornell University's** Department of Food Science with concentrations in food safety at the end of the spring 2014 semester. These were the first graduates from the department's newly implemented food safety track (see below).

Cornell University continues to explore and facilitate food safety related internship and externship opportunities for undergraduate students. For example, one Food Science undergraduate student at Cornell conducted an externship in the 2013/14 winter break at **Garelick Farms**.

From August 2013 - April 2013, **North Carolina State University** developed core competencies to support an undergraduate food safety program using a modified Delphi approach. The purpose of this study was to identify and refine core competencies relevant to post-secondary food safety education. Twenty-nine experts representing food safety professionals in academia, government and industry contributed to the development of specific food safety competencies defined within core domains and subdomains. These core domain included: (1) Food Production, Manufacturing and Retail; (2) Foodborne Hazards; (3) Public Health; (4) Legislation and Policy; and (5) Communication and Education. This study provided a framework for the development of a vetted, standardized undergraduate food safety curriculum. The Delphi method, with its inclusion of food safety experts, provided relevant perspectives for curriculum design, and the opportunity to participate in the education of future food safety professionals.

The Department of Food Science at **Cornell University** has recently added a Food Safety concentration to the already existing Basic Food Science and Operations & Management tracks in the program. A copy of the **Food Safety curriculum** with a list of course requirements can be found [here](#). A copy of the **Food Safety learning outcomes** can be found [here](#).

Developing undergraduate interest in food safety includes the [recruitment of new students](#) through the Discovery Undergraduate Research Internship (DURI) program at **Purdue University**. From June-Aug 2012 an undergraduate student with no previous food safety experience conducted an independent research project entitled, "*Listeria monocytogenes* Persistence and Growth in Cantaloupe". The student summarized her progress in a [poster presentation](#) then continued her research during the 2012-13 academic year.

Haley Oliver, Assistant Professor at **Purdue University**, developed undergraduate laboratories implementing PFGE and PCR in 2011.