

CAO THI THANH LOAN

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EDUCATION

Dual Ph.D. in Food Science and Environmental Toxicology 2012 – Dec 2018

Michigan State University

Dissertation: Arsenic and other heavy metals: concentrations in apple juices, distribution in orchard soils and plant tissues, and effects on human cells.

M.Sc. in Food Science 2010 - 2012

Michigan State University

Thesis: Influence of apple pomace and its fraction on intestinal tumor the development in APC Min/ + mice.

B.Sc. in Biotechnology 2003 - 2007

Nong Lam University, Vietnam.

Thesis: Analysis the alkaloid composition in *Catharanthus roseus*.

TEACHING EXPERIENCE

Department of Food Science and Human Nutrition, Michigan State University:

Research Associate 2018- 2019

- Develop and deliver training content to support compliance with US regulatory requirements by catfish producers and processors.
- Assess impacts of food safety training courses for catfish processors and Michigan cider makers and develop reports summarizing these efforts.

HACCP and PCQI Trainer 2016- 2019

- Complete training to become a lead instructor for the Food Safety Preventive Controls Alliance (2016).
- Work with the broader MSU Extension Food Safety Team to deliver Preventive Controls Qualified Individual (PCQI) and Hazard Analysis and Critical Control Point (HACCP) training for clients in Michigan.
- Participate in the project funded by the United States Department of Agriculture which focus on Food Safety and HACCP Principles to support compliance with US regulatory requirements by catfish producers and processors in Vietnam.

Teaching Assistant 2016 – 2018

- Teaching responsibilities have included courses on: Food Processing: Unit Operations (55-

100 junior and senior/graduate students, majors and non-majors) and Fruit and Vegetable Processing course (26-35 senior and graduate students).

- Continue to develop and improve lab materials related to food processing operations.
- Help students to build practical experience in handling and storage of horticultural crops; processing and evaluating fruit and vegetable through conducting the experiment in a pilot plant.
- Prepare all the lab materials and teaching the students the concepts will be applied to basic unit operations involved in the processing of fruits and vegetables, such as preparative operations, blanching, filling, canning, dehydration, freezing and fermentation.
- Incorporate field trips e.g. Dairy Store, Meat Laboratory to help students better understand materials being taught in lecture.

Teaching Assistant

2014 – 2015

- Teaching Food and Nutrition Laboratory (90 - 100 undergraduate and graduate students).
- Teaching the students principles and application of analytical techniques such as buffers, titration, proximate analysis (carbohydrates, lipids, proteins, minerals, ash, etc.), gas chromatography, mass spectrometry, protein analysis, electrophoresis, food allergen detection, GMO detection using PCR, and oral glucose tolerance tests.
- Help to evaluate student's learning outcomes initiative by conforming to current departmental standards.
- Helped to improve laboratory protocols, create examinations, and host office hours to answer student queries

Department of Biotechnology, Nong Lam University, Vietnam:

2008 – 2010

Instructor

- Help to design, teach and create syllabus and course materials for the department Sophomore and Senior level courses: Introduction to Food Chemistry, Analytical Chemistry Lab
- Independently led weekly lab sessions covering topics such as buffers, titration, proximate analysis, electrophoresis, PCR.

Atomic Absorption Spectroscopy Lab

- Mentor students doing their research and conduct experiments that evaluate the content of heavy metals in soil, fruit, and vegetables.

TEACHING AND MENTORING

Michigan State University

Future Academic Scholars in Teaching (FAST), Graduate Fellowship

2017- 2018

- Conduct a Teaching as Research project: "Effects of Implementing Flipped Classroom Elements and In-class Discussion on Student Performance".
- Gain familiarity with materials on teaching and assessment techniques.
- Improve teaching abilities and enhance knowledge by conducting an IRB approved experiment to increase student learning in Food Science major course - Unit Operations.

- Mentored Laboratory Research Training** 2010- 2017
- Train team of undergraduate students on various assays as well as common laboratory procedures and using analytical equipment such as PCR, Microplate Readers, High Performance Liquid Chromatography.
 - Train undergraduate students to conduct independent research on effect of polyphenol extracts from apple pomace on tumor development *in vitro*.
 - Train undergraduate students on culturing human cell lines (Caco2, HT29, HTC116) for cancer research.
 - Guide undergraduate students to prepare and submit manuscripts for publication and conference presentation.

ACADEMIC AND PROFESSIONAL HONORS

- First place in the 3-Minute Thesis Competition** at the International Association for Food Protection annual meeting in Salt Lake City, Utah 2018
- J. Robert Brunner Fund for Food Science and Human Nutrition Research,** Department of Food Science and Human Nutrition, Michigan State University. 2018
- Sara Lee Endowment Fund for Food Safety in Food Science and Human Scholarships,** Department of Food Science and Human Nutrition, Michigan State University. 2016, 2017, 2018
- MSU College of Agriculture and Natural Resources Summer Fellowship.** 2016
- Gerber Endowment Fund in Pediatric Nutrition and Food Science Scholarships,** Department of Food Science and Human Nutrition, Michigan State University. 2015
- Stiver Endowed Fellowship,** Department of Food Science and Human Nutrition, Michigan State University. 2013
- LeAnn B. Goodwin Graduate Research Fellowship,** Department of Food Science and Human Nutrition, Michigan State University. 2012
- Vietnam Education Foundation Fellowship,** Vietnam 2012
- Stiver Endowed Fellowship,** Department of Food Science and Human Nutrition, Michigan State University. 2011
- Vietnam International Education Development Fellowship,** Vietnam. 2010

PRESENTATIONS

Annual Meeting of International Association for Food Protection, Salt Lake City, Utah “Relationship of Metal Concentrations in Soil and That in Fruit and Leaves of Apple Trees at Selected Orchards in Michigan.” July 10, 2018

Future Academic Scholars in Teaching Fellowship Program 12th Annual Symposium, East Lansing, Michigan “Effects of Implementing Flipped Classroom Elements and In-class Discussion on Student Performance”. May 3, 2018

Center for the Integration of Research, Teaching and Learning All-Network Teaching-as-Research Presentations “Effects of active learning on student’s performance in Food Processing class.” April 18, 2018

Annual Meeting of International Association for Food Protection, Tampa, Florida "Assessment of selected metal concentrations in Shelf-stable Commercial Apples Juices and Fresh Apple Ciders in Michigan.” July 11, 2017

Annual Meeting of International Association for Food Protection, St. Louis, Missouri "Arsenic and Lead Concentrations in Shelf-stable Commercial Apples Juices and Fresh Apple Ciders in Michigan” Aug 1, 2016

Center for Research on Ingredients Safety Research Colloquium, Michigan State University, East Lansing, MI “Heavy metals Concentrations in Shelf-stable Commercial Apples Juices and Fresh Apple Ciders in Michigan.” Oct 5, 2016

Experimental Biology Conference, Boston "Influence of Apple Pomace and its fractions on intestinal tumor development in APC Min/+ mice." April 21, 2013

PROFESSIONAL AFFILIATIONS

Viet Agriculture Global Vice President 2017- 2018

- Organize annual meeting and invite speakers on different fields cover food safety, farming, post-harvest technology, plant pathology, soil science, etc. (www.vietagglobal.com)
- Create a global network of Vietnamese agricultural experts and connect them with other scientists in US., Japan, Germany, Australia, etc.

International Association for Food Protection member 2016-2018
Conference Section Monitor

Institute of Food Technologist member 2012-2017

Vietnamese Association of Students and Scholars Board of Directors 2010-2014
Michigan State University, USA

ADDITIONAL ACTIVITIES

International Food Technology (IFT), Developing Solutions for Developing Countries competition, 2012 – 2013.

International Food Technology (IFT), Product Development Team, 2012.

90th Collegiate Dairy Products Evaluation Contest, MSU Dairy Products Evaluation team, 2012.

MANUSCRIPTS

Loan Thi Thanh Cao, Leslie D. Bourquin. Relationship of Arsenic and Lead in Soil and that in Fruit and Leaves of Apple Trees at Selected Orchards in Michigan. (Journal of Food Protection, Vol. 83, No. 6, 2020, Pages 935–942)

Loan Thi Thanh Cao, Jeffrey Swada. Effects of Implementing Flipped Classroom Elements and In-class Discussion on Student Performance. (Submitted and revised)

Loan Thi Thanh Cao, Supun Chathuranga, Angela Fraser. Factors associated with environmental cleaning practices in health care settings – a systematic review. (Submitted)

Dilhani Jayawardhana, **Loan Thi Thanh Cao**, Angela Fraser. Environmental assessment related to good agriculture practice in produce farms – a systematic review. (Submitted)

Loan Thi Thanh Cao, Leslie D. Bourquin. Assessment of Selected Metal Concentrations In Shelf-Stable Commercial Apple Juices and Fresh Apple Ciders in Michigan. (in preparation)

Loan Thi Thanh Cao, Deepa G. Thiagarajan, Leslie D. Bourquin. Assess the aflatoxin contamination in groundnut kernel, groundnut flour and peanut butter samples in Malawi. (in preparation)