

**Nicole L. Arnold, PhD**

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Assistant Professor  
Department of Nutrition Science  
College of Allied Health Sciences  
East Carolina University  
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**EDUCATION**

**Doctor of Philosophy of Life Science, Food Science and Technology**

Virginia Polytechnic Institute and State University, Blacksburg, VA

**Dissertation:** Assessment of Consumer Perceptions About Food Processing Technologies for Cooperative Extension Educational Initiatives

Research Advisor: Dr. Renee Boyer

Completed August 2019

**Graduate Certificate – Preparing the Future Professoriate Certificate**

Virginia Polytechnic Institute and State University, Blacksburg, VA

**Pedagogical Research:** Exploring Unconventional Grading Methods in an Introductory Level Food Science Course Study

Teaching Advisor: Dr. Donna Westfall-Rudd

Completed December 2019

**Master of Science, Food Science**

**Minor, Agricultural and Extension Education**

North Carolina State University, Raleigh, NC

**Thesis:** Assessment of Risk Communication and Food Safety Messages Associated with High-risk Foods

Research Advisor: Dr. Benjamin Chapman

Completed August 2016

**Bachelor of Science, Food Science – Technology Concentration**

**Minor, Agricultural Business Management**

North Carolina State University, Raleigh, NC

Completed May 2014

**PROFESSIONAL EXPERIENCE**

*Assistant Professor*, East Carolina University, Greenville, NC

August 2019 – Current

- Instruction at undergraduate and graduate level
- Develop externally funded research program in food science/food policy
- Contribute to professional service at the departmental, community, and university

*Research Assistant*, barfblog News Team, Raleigh, NC

October 2013 – July 2016

Advised by Dr. Benjamin Chapman

- Media analysis, compilation, and distribution

**STEC-CAP Intern**, United States Department of Agriculture Eastern Regional Research Center, Wyndmoor, PA

June 2015 – August 2015

Advised by Drs. John Luchansky and Anna Porto-Fett

- Determined fate of Shiga-toxin producing *Escherichia coli* (STEC) in marinade and brine used in vacuum tumbling
- Determined fate of Shiga-toxin producing *Escherichia coli* (STEC) using cleaning and sanitation techniques for equipment used to mechanically tenderize beef products

**Entrepreneurial Program Technician**, North Carolina State University, Raleigh, NC

March 2012 – May 2014

Advised by Dr. Fletcher Arritt and Nick Fragedakis

- Provided food entrepreneurs with food analysis and technical services
- Maintained detailed records of entrepreneurs' food products
- Performed standardized product testing (i.e. utilizing a pH meter and water activity meter) in support of developing process authority letters for acidified food products and water activity testing letters for entrepreneurs

**Lab Assistant**, Howling Cow, Raleigh, NC

May 2012 – May 2014

Advised by Randy Kotzian and Carl Hollifield

- Conducted microbiological and quality testing on raw and pasteurized dairy samples
- Carried out fat analysis with CEM Smart Trac on milk, cream, and ice cream products to be sold at retail

## TECHNICAL PRESENTATIONS

- **Arnold, N.**, Drape, T., Chase, M., Williams, R., Boyer R. Consumer Food Safety Education Conference: “Consumer Knowledge, Perceptions, and Purchasing Behaviors Associated with Food Processing Technologies in the United States” in Orlando, FL, March 2019
- **Arnold, N.**, Cope, Sarah; Overdiep III, Jacques L. A.; Rupert, Christopher L.; Simmons, Otto; Chapman, Benjamin J. International Association for Food Protection Conference: “Knowledge and Risk Communication for Undercooked Oyster Preparation in Restaurants” in St. Louis, MO, July 2016
- Yang, L., Duong, M., Chapman, B., Archibald, T., Williams, R., Schroeder, Matt., **Arnold, N.**, Boyer, R. International Association for Food Protection Conference: “Use of Focus Groups to Assess Consumer Knowledge and Behaviors Related to Safe Handling of Mechanically Tenderized and Enhanced Beef Products” in St. Louis, MO, July 2016
- **Arnold, N.**, Feist, S., Chapman, B. International Association for Food Protection Conference: “An Environmental Scan of Food Safety Educational Initiatives Targeted at Consumers in the United States” in Portland, OR, July 2015

## POSTER PRESENTATIONS

- **Arnold, N.**, Yang, L., Drape, T., Chase, M., Williams, R., Boyer R. International Association for Food Protection Conference: “How Virginia Extension Agents Engage with the Public about Food Processing Perceptions” in Louisville, KY, July 2019
- **Arnold, N.**, Drape, T., Chase, M., Williams, R., Boyer R. International Association for Food Protection Conference: “Consumer Knowledge, Perceptions, and Purchasing Behaviors Associated with Food Processing Technologies in the United States” in Salt Lake City, UT, July 2018
- **Arnold, N.**, Drape T., Boyer R. National Institute of Food and Agriculture Food Safety Project Directors’ Meeting: “Educating Consumers About Food Processing Technologies Using Cooperative Extension As A Delivery System” in Tampa, FL, July 2017
- Poudel, D., **Arnold, N.**, Duong, M., Yang, L. 2017 STEC CAP Annual Conference: “Prevalence and Condition of Mechanical Tenderization and Enhancement of Beef at Independent Meat Retailers in Virginia” in Lincoln, NE, June 2017
- **Arnold, N.**, Rupert, C., Overdiep, J., Yavelak, M., Cope, S., Porter, K., Boyer, R., Chapman, B., International Association for Food Protection Conference: “Prevalence and Conditions of Mechanical Tenderization and Enhancement of Beef at Independent Meat Retailers in Wake County, North Carolina” in St. Louis, MO, July 2016
- **Arnold, N.**, Shane, L., Dluzneski, A., Holinka, S., Luchanksy, J., Porto-Fett, A., Shoyer, B. STEC CAP Annual Conference: “Fate of Shiga-Toxin Producing *Escherichia coli* (STEC) in Marinade and Brine used in Vacuum Tumbling and Fate of Shiga-Toxin Producing *Escherichia coli* (STEC) Using Cleaning and Sanitation Techniques for Equipment Used to Mechanically Tenderize Beef Products” in Lincoln, Nebraska, June 2016
- Yang, L., Duong, M., Archibald, T., Chapman, B., **Arnold, N.**, Williams, R., Boyer, R. Virginia Tech Food Science Department Poster Session: “Preliminary Assessment of Consumer Knowledge and Behavior Related to Safe Handling of Beef Products” in Blacksburg, VA, April 2015

## ORGANIZED CONFERENCE SYMPOSIA AND WORKSHOPS

- **Arnold, N.**, Kirchner, M., Yang, L., Barnes, S., Duong, M. International Association for Food Protection Conference: “How to Meet the Food Safety Concerns Surrounding Meat-Alternatives” Symposium in Cleveland, OH, July 2020 (Submitted)
- **Arnold, N.**, and Steele, C. VTGrATE: “From PhD to Professor: Speak with VT alum about their First Years in Academia” in Blacksburg, VA (and virtually), October 2019
- Crist, C., Yang, L., Gensler, C., **Arnold, N.**, Barnes, S. International Association for Food Protection Conference: “Cottage Foods: Harmonizing Food Safety Practices for a Growing Entrepreneurial Industry” Roundtable in Louisville, KY, July 2019
- **Arnold, N.**, Ferelli, A., Yang, L., Murphy, S., Schonberger, L. International Association for Food Protection Conference: “Revitalizing the Future of Food Safety Extension” Roundtable in Louisville, KY, July 2019
- Chapman, B., Yang, L., **Arnold, N.**, Yavelak., M., Cope, S., Boyer., R. Consumer Food Safety

Education Conference: “Demystifying Mechanically Tenderized Beef - Risks from the Consumer Perspective”; N. Arnold presented “Retail Handling of Mechanically Tenderized Beef” section in Orlando, FL, March 2019

- Yang, L., **Arnold, N.**, Brown, S., Weller, D. International Association for Food Protection Conference: “Identifying Knowledge Gaps Surrounding the Safe Production, Sale and Consumption of Cannabis and Cannabis-related Products” Roundtable in Salt Lake City, UT, July 2018
- Yang, L., **Arnold, N.**, Brown, S., Kirchner, M. International Association for Food Protection Conference: “3 Minute Thesis Competition” Special Session in Tampa, FL, July 2017 and Salt Lake City, UT, July 2018
- **Arnold, N.**, Yang, L., Brown, S., Bardsley, C. International Association for Food Protection Conference: “Can Industry and Government Take Safe Food Handling Preparation Risks Out of the Hands of the Consumer” Roundtable in Tampa, FL, July 2017

## PUBLICATIONS

- **Arnold, N.**, Rupert, C., Overdiep, J., Yavelak, M., Cope, S., Porter, K., Boyer, R., Chapman, B. *Food Protection Trends*: “Prevalence and Conditions of Mechanical Tenderization and Enhancement of Beef at Independent and Minor Chain Meat Retailers in North Carolina”
- **Arnold, N.**, Yang, L., Drape, T., Chase, M., Williams, R., Boyer R. *Journal of Extension* – Tools of the Trade: “Safe Food, Safe Processing: Developing Food Processing Infosheets Designed for Extension Educators” (Under review)
- **Arnold, N.**, Yavelak, M., Cope, S., Hanson, D., Chapman, B. “Creation and Implementation of BBQ Camp for Youth Interested in Agriculture” (In preparation – to be submitted to *Journal of Extension*)
- Yang, L., **Arnold, N.** Drape, T., Williams, R., Archibald, T., Chapman, B., Boyer, R. “Consumer awareness and attitudes towards mechanically tenderized beef products (MTBs): a survey of United States’ consumer purchasing a preparation of MTBs” (in preparation – to be submitted to *Food Protection Trends*)
- **Arnold, N.**, O’Keefe, S., Drape, T., Boyer, R., Westfall-Rudd, D. “Exploring Unconventional Grading Methods in an Introductory Level Food Science Course Study” (In preparation – to be submitted to *Journal of Food Science Education*)

## PEER-REVIEWED EXTENSION PUBLICATIONS

- **Arnold, N.**, Yang, L., Boyer, R. “Safe Processing, Safe Foods: How is Cold Plasma Used to Process Foods?” Available at: <https://www.pubs.ext.vt.edu/FST/FST-314/FST-314.html>
- **Arnold, N.**, Yang, L., Saunders, T., Boyer, R. “Safe Processing, Safe Foods: How is Pasteurization Used to Process Foods?” Available at: <https://www.pubs.ext.vt.edu/FST/FST-315/FST-315.html>
- **Arnold, N.**, Yang, L., Saunders, T., Boyer, R. “Safe Processing, Safe Foods: How is High Pressure Processing Used to Process Foods?” Available at: <https://www.pubs.ext.vt.edu/FST/FST-323/FST-323.html>

- **Arnold, N.**, Yang, L., Boyer, R. “Safe Processing, Safe Foods: How is Chlorine Dioxide Gas Used to Process Foods?” Under review
- **Arnold, N.**, Yang, L., Saunders, T., Boyer, R. “Safe Processing, Safe Foods: How is Microwave Processing Used to Process Foods?” Under review
- **Arnold, N.**, Yang, L., Boyer, R. “Safe Processing, Safe Foods: What is Food Processing?” Under review
- **Arnold, N.**, Yang, L., Boyer, R. “Safe Processing, Safe Foods: How is Pulsed-Life Used to Process Foods?” Under review
- **Arnold, N.**, Yang, L., Boyer, R. “Safe Processing, Safe Foods: How is Ozone Gas Used to Process Foods?” Under review

### FDA MODEL FOOD CODE AMENDMENTS

- **Arnold, N.** and Chapman, B. Conference for Food Protection: “Harmonize Labeling for Mechanically Tenderized Beef” in Richmond, VA, April 2018
- **Arnold, N.** and Chapman, B. Conference for Food Protection: “Update Definition of ‘Mechanically Tenderized’” in Richmond, VA, April 2018

### TEACHING EXPERIENCE

**Instructor**, Food Science, East Carolina University, Greenville, NC  
August 2019 – Current

**Instructor**, Food Science Lab, East Carolina University, Greenville, NC  
August 2019 – Current

**Graduate Teaching Scholar**, College of Agriculture and Life Sciences, Virginia Tech, Blacksburg, VA  
August 2016 – Current

- Completed courses in pedagogy lead by teaching advisor every semester for teaching support
- Created lesson plans during summer months
- Worked with teaching mentors to create learning-centered syllabus and curriculum
- Observed teaching faculty throughout various university colleges
- Participated in peer evaluation process

**Instructor of Record**, Introduction to Food Science, Virginia Tech, Blacksburg, VA  
January 2018 – May 2018

- Student evaluations = 5.3 (6.0 scale)
- Responsible for correspondence with 90 multidisciplinary undergraduate students
- Responsible for student accommodations and student athlete reports
- Developed all student assessments
- Completed all grading and final grade assignments

**Teaching Assistant**, Introduction to Food Science, Virginia Tech, Blacksburg, VA  
August 2017 – December 2017

- Aided in curriculum development that aligned with new textbook choice

- Served as instructor when teaching faculty was unavailable
- Graded all homework and classwork assignments

**Academic Tutor**, Corral Riding Academy, Cary, NC  
September 2015 – July 2016

- Assisted middle school to high school age females on classwork, homework, and projects
- Served as an academic mentor for tutoring mentee (i.e. communicating with teachers, checking assignment completion, working through academic barriers, etc.)

**Teaching Assistant**, Introduction to Food Science, North Carolina State University, Raleigh, NC  
January 2015 – May 2015

- Attended weekly meetings to assist with lecture content and quiz question development
- Assisted with demonstration preparation for multiple class sections
- Graded homework and classwork assignments

## **MENTORSHIP**

### **East Carolina University**

- Graduate Research Assistant, Seth Smith, MS in Nutrition at East Carolina University  
August 2019 – Current
- Graduate Teaching Assistant for Food Science course, Meredith Nelson, MS in Nutrition at East Carolina University  
August 2019 – Current
- Undergraduate Researcher, Jonathan Farris, Nutrition and Dietetics student at East Carolina University  
October 2019 – Current
- Undergraduate Researcher, Merrick Rogers, Nutrition and Dietetics student at East Carolina University  
October 2019 – Current

### **Virginia Tech**

- Undergraduate Researcher, Katelyn Barker, Human Nutrition, Foods, & Exercise student at Virginia Tech  
June 2018 – October 2018
- Graduate Teaching Assistant for Introduction to Food Science course, Kat Racine, Food Science & Technology student at Virginia Tech  
January 2018 – May 2018
- STEC Coordinated Agricultural Project (CAP) Student Training and Education Program (STEP) Intern (\$4,500 stipend), Deepak Poudel, Food Science & Technology student at Virginia Tech  
January 2017 – June 2017

## **GUEST LECTURES AND PANEL PARTICIPATION**

- VTGrATE: “From PhD to Professor: Speak with VT alum about their First Years in Academia” (virtually) October 2019
- Central Academy Middle School Field Trip to Virginia Tech Department of Food Science & Technology: “Science of Food Preservation” in Blacksburg, VA, November 2017
- Woods Charter School Biology Class: “Introduction to Food Science and Foodborne Pathogens” in Chapel Hill, NC, April 2015
- National Food Safety Education Conference Breakout Session: “Environmental Scan of Food Safety Educational Initiatives Targeted at Consumers in the United States” in Arlington, VA, December 2014

## **EXTENSION PRESENTATIONS AND WORKSHOPS**

- Extension Master Gardener Meeting: “Implementing Good Agriculture Practices in School and Community Gardens” in Smithfield, NC, March 2016
- BBQ Boot Camp Extension Program: “Meat Safety” in Fletcher, NC, August 2015
- BBQ Boot Camp Extension Program: “Meat Safety” in Tarboro, NC, May 2015

## **CERTIFICATIONS AND MEMBERSHIPS**

- Produce Safety Alliance (PSA) Grower Training, January 2019
- International Association for Food Protection (IAFP), 2014-2019
- Conference for Food Protection Member, 2016-2019
- Institute of Food Technologists (IFT), 2010-2019
- North American Colleges of Teachers of Agriculture (NACTA), 2018
- ServSafe Food Manager, February 2017

## **ACTIVITIES AND LEADERSHIP ROLES**

- Virginia Tech Graduate Academy for Teaching Excellence (VTGrATE), 2018-2019
  - Member, 2018
  - Associate Member status, approved October 2018
- Active member, Food Science Club, Virginia Tech, 2016-2019
  - Industry Representative, 2016-2017
- Phi Tau Sigma Honor Society, IFT, 2015-2019
  - Virginia Tech Chapter President, 2017-2018
  - Virginia Tech Chapter Reactivation Member, February 2017
- Student Professional Development Group, IAFP, 2014-2019
  - Student Professional Development Group Chair, IAFP, 2016-2017
  - Student Professional Development Group Vice Chair, IAFP, 2015-2016
- North Carolina Triangle Alumnae Club, Pi Beta Phi Sorority, 2014-2016
- Quality Assurance Division Student Representative and Secretary, IFT, 2014-2016
- Active member, Food Science Club, North Carolina State University, 2010-2016
  - Public Service Committee Co-Chair, 2012-2013
  - Dairy Bar Manager, 2013-2016

## **AWARDS/HONORS**

- 2<sup>nd</sup> Place – Applied Research Category for Virginia Cooperative Extension Showcasing Scholarship Poster Contest, March 2019
- Virginia Tech Chapter of Phi Tau Sigma - Chapter of Excellence (as President), October 2018
- Global Perspectives Program Participant, Selected by Dean Karen DePauw, May 2018
- Phi Tau Sigma Student Achievement Scholarship, February 2018
- IAFP Student Travel Scholarship, July 2015
- Student Scholarship for the National Consumer Food Safety Education Conference, November 2014
- Student Fellowship for the NC Agriculture and Biotechnology Summit, October 2014
- Omega Phi Alpha National Service Sorority Individual Achievement in Service (IAS) Award, April 2014

- IFT Quality Assurance Division Travel Scholarship, April 2014
- Scholarship Recipient, Agribusiness Study Abroad Program, November 2011
- First Year Student Outstanding Woman Nominee, Outstanding Women's Awards, January 2011
- Scholarship Recipient, Wake County Farm Bureau, September 2010

## **ADDITIONAL PROFESSIONAL SERVICE**

### ***Departmental Service***

- Teaching Evaluator, for faculty and student instructors, 2017 – 2019
- Judge, Southwest Virginia Governor's School Science Fair, 2017
- Volunteer, Graduate Student Recruitment Event, 2017

### ***College Service***

- Doctoral Student Representative, College of Agriculture and Life Sciences Outstanding Senior Award Selection Committee, 2019

### ***University Service***

- Volunteer, The Campus Kitchen Project, Virginia Tech, 2017 – 2018
- Big Sister Mentor, Big Brothers Big Sisters, Southwest Virginia & Virginia Tech, 2016 – 2017

### ***National Service***

- Conference for Food Protection Council Member (Council I: Food Laws & Regulations), 2019 – 2020
- Mentor, IAFP Student Mentorship Program, 2019-2020

## **MEDIA REPRESENTATION**

- Science Communicator/Co-Founder, *Don't Eat the Pseudoscience*, 2015 – Current
  - Facebook: <http://www.facebook.com/DontEatPseudo>
  - Twitter: <https://twitter.com/donteatpseudo>
  - YouTube: <https://www.youtube.com/channel/UC5bMVsnU6l-YGcxdwPxsEgg/>
  - Selected Mentions
    - Forbes, Should Customers Fall For Panera's New Gimmick? Food Scientists Weigh In: <https://www.forbes.com/sites/kavinsenapathy/2016/09/13/should-customers-fall-for-paneras-new-gimmick-food-scientists-weigh-in/#18caf4875ddb>
    - The Washington Post, These friendly food scientists want to make you feel good about eating chemicals: <https://www.washingtonpost.com/news/speaking-of-science/wp/2015/09/04/these-friendly-food-scientists-want-to-make-you-feel-good-about-eating-chemicals/>
- Writer, Science Meets Food, Institute of Food Technologist Student Association Blog, 2015 – 2018
  - Selected Articles
    - Cracking the [Food] Code: <http://sciencemeetsfood.org/cracking-food-code/>
    - Should the Hepatitis A vaccine be made mandatory for those working in the food industry?: <http://sciencemeetsfood.org/hepatitis-vaccine-made-mandatory-working-food-industry-get-rundown-hepatitis-virus/>
    - The Road to Ramen: <http://sciencemeetsfood.org/the-road-to-ramen/>
  - Selected Mentions
    - International Food Information Council Foundation: <https://foodinsight.org/food-fraud/>
    - Barfblog.com: <https://www.barfblog.com/2015/10/collaboration-the-scientific-love-story/>



- Guest Writer, Barfblog.com, Communicating Food Safety is Tricky, May 2015:  
<https://www.barfblog.com/2015/05/communicating-food-safety-is-tricky/>
- IFT Food Communicator Workshop/Media Training Participant (selected), April 2015