

CURRICULUM VITAE

Carla L. Schwan, PhD
Assistant Professor and Extension Food Safety Specialist
Assignment: 75% Extension, 25% Research

1. ACADEMIC HISTORY

Name: Carla L. Schwan

Present rank: Assistant Professor and Extension Specialist

Recommended rank: Associate Professor and Extension Specialist

Allocation of effort (% time) assignments: 75% Extension, 25% Research

Tenure status: Tenure track, non-tenured

Graduate Faculty status: Graduate Faculty, January 2022 – Present

Courtesy Faculty: Department of Food Science and Technology, February 2022 – Present

Center for Food Safety, September 2022 – Present

Administrative Effort: Director, National Center for Home Food Preservation, January 2022 – Present

Highest Degree: Ph.D., Food Science and Technology, Kansas State University, 2020

Academic Positions:

Jan 2022 – Present Assistant Professor and Extension Specialist, Department of Nutritional Sciences, University of Georgia

Other professional employment (current and previous):

2009 – 2014 Undergraduate Assistant, Department of Food Science and Technology, Federal University of Santa Maria, Brazil

2014 – 2015 Graduate Assistant, Department of Animal Science and Industry, Kansas State University, Kansas

2016 – 2017 Graduate Assistant, Department of Food Science and Technology, University of Nebraska-Lincoln, Nebraska

2017 – 2020 Graduate Assistant, Department of Animal Science and Industry, Kansas State University, Kansas

2. INSTRUCTION

2.1 Courses Taught

Semesters	Course Information
Spring 2023, Summer 2023, Fall 2023, Spring 2024, Fall 2024	NUTR 9000. Doctoral Research. Department of Nutritional Sciences. Total credits: 62. Enrollment: 12.
Fall 2024	NUTR 7000. Masters Research. Department of Nutritional Sciences. Total credits: 2. Enrollment: 1.
Fall 2019	FDST 8000. Multidisciplinary, Experiential Learning: U.S. Food Safety and Regulatory Systems, for Grenada, St. Lucia, and St. Vincent and the Grenadines. Co-instructor.

2.1.2 Guest Lectures

FDST 6100, Food Microbiology. Lecture title: “Rapid and Automated Methods” 2 hrs per semester. Enrollment: 37. Fall 2021.

FDST 6100, Food Microbiology. Lecture title: “Pathogenic *E. coli*” 2 hrs per semester. Enrollment: 41. Spring 2021.

FDST 2100, Introduction to Food Science. Lecture title: “International research challenges” 1 hrs per semester. Enrollment: 68. Spring and Fall 2019.

FDST 3210, Introduction to Food Science. Lecture title: “The Science of Food” 1 hrs per semester. Enrollment: 53. Spring 2018.

FDST 3210, Introduction to Food Science. Lecture title: “The Science of Food” 1 hrs per semester. Enrollment: 53. Spring 2018.

2.2 Employee Supervision

Employee	Dept.	Position
Kristin Ingmundson	NUTR	Assistant Food Safety and Preservation Coordinator

2.3 Supervision of Graduate Student Research as Major Professor or Co-Major professor

Student	Dept.	Program	Status	Job Placement
*Sitara Cullinan	NUTR	PhD/DI	Enrolled	
*Mallika Mahida	NUTR	PhD	Enrolled	
**Eden Crain	NUTR	MS	Graduated	
**Pratiksha Kotkar	FDST	MS	Enrolled	
*Lauren Suiter	NUTR	MS/DI	Enrolled	
**Kaylee Gallatin	NUTR	MS/DI	Enrolled	

*Denotes graduate committee chair; **Denotes Committee member

2.4 Internship Supervision

Student	Dept.	Program	Semesters	Job Placement
Jordan Woods West	MSI	BSTCB	SUM '22, F '22, SP '23	Graduated

2.5 Student Recognitions and Outstanding Achievements

Student	Award
Sitara Cullinan, PhD/DI	Virginia Wilbanks Kilgore Scholarship, College of Family and Consumer Sciences, UGA. Fall 2022.
Mallika Mahida, PhD	Communication of Research Scholarship Grant, Graduate School, UGA. Spring 2023.
Mallika Mahida, PhD	Virginia Wilbanks Kilgore Scholarship, College of Family and Consumer Sciences, UGA. Spring 2023.

Mallika Mahida, PhD	Anne and Earl Haltiwanger Scholarship, College of Family and Consumer Sciences, UGA. Fall 2023.
Sitara Cullinan, PhD/DI	Virginia Wilbanks Kilgore Scholarship, College of Family and Consumer Sciences, UGA. Spring 2023.
Sitara Cullinan, PhD/DI	Gwenolyn Brooks O’Connel Scholarship, College of Family and Consumer Sciences, UGA. Fall 2023.

2.6 Guest Lectures or Seminar for Student Instruction

Date	Class	Title
01/26/2022	NUTR 8090	“From informal markets to food deserts: using food safety and preservation to improve food security”
02/01/2022	FDST 8500	“From informal markets to food deserts: using food safety and preservation to improve food security”
10/14/2022	FDST 8500	“From Asia to America: Lessons learned in food safety and preservation”
10/23/2024	NUTR 4630/6630	“Cultural Aspects of Foods and Nutrition: A Trip to Brazil”
11/05/2024	GRSC 7001	“From Counts to Confidence: Analyzing Bacterial Data in Food Safety”
11/06/2024	NUTR 8900	“National Trends in Home Food Preservation and Community Outreach”

2.7 Professional Development

Home Food Preservation, Train the Trainer, University of Tennessee Extension, Trainer: Dr. Janie Burney, May 11 – 13, 2022.

Grant Writing Certificate, Grant writer’s course, Instructor: Dr. Diane Rice, Athens, GA, Mar 16 – May 11, 2022. 24 contact hrs.

Use and Interpretation of the USDA-ARS-Predictive Microbiology Information Portal, Pathogen Modeling Program (PMP) and Combase. Pittsburgh, PA, Jul 30, 2022. 8 contact hrs.

Better Process Control School, Process Authority’s course, Instructor: Dr. Kaitlyn Casulli, Athens, GA, Nov 1 – 2, 2022. 16 contact hrs.

UGA Extension specialist trainings attended, 6 contact hrs.

Inclusive Mentoring Workshop, Instructor: Dr. Erin L. Dolan, University of Georgia Press, December 7 – 9, 2022. 8 contact hrs.

Take Flight Reach New Heights. National Extension Association of Family and Consumer Sciences Conference. Raleigh, NC, USA. September 12 – 15, 2022.

International Association of Food Protection Conference. Pittsburgh, PA, USA. July 31, 2022–August 3, 2022.

Reach the Summit Of Our Potential. Georgia Extension Association of Family and Consumer, Eljay, GA, USA. August 30 – September 1, 2022.

- Georgia Nutrition Council Annual Conference. Georgia Nutrition Council. Online. February 22, 2023.
- International Association of Food Protection Conference. Toronto, Canada. July 16 – 19, 2023.
- Crossing Boundaries. Georgia Extension Association of Family and Consumer, Online. August 29, 2023.
- Exploring Oceans of Opportunities. National Extension Association of Family and Consumer Sciences Conference. Providence, RI, USA. September 11 – 14, 2023.
- Recharge, Connect, Grow. Georgia Extension Association of Family and Consumer. Americus, GA. August 27 – 29, 2024.
- Under One Sky. National Extension Association of Family and Consumer Sciences Conference. Tucson, AR, USA. September 16 – 19, 2024.

3. SCHOLARLY ACTIVITIES AND CREATIVE WORKS

3.1 Publications

3.1.1 Refereed Journal articles - (in print or accepted) - *indicates graduate student supervised research

- *Cullinan, Sitara, Mallika Mahida, Faith Critzer, Valentina Trinetta, Leonardo Bastos, Austin Bryan, Rawane Raad, Kris Ingmundson, Rebecca Hardeman, Jessica Moore, **Carla L. Schwan**. 2024. Determining Critical Food Safety Factors for Safely Homebrewing Kombucha: A Study on Microbial Survivability. Accepted on October 1, 2024, to the *J. Food Prot. Trends*.
- Zelalem, Andarge, Meseret Chimdessa, Kebede Abegaz, Tafesse Koran, Abebe Olani, Abde Aliy, Zelalem Abera, **Carla L. Schwan**, Jessie L. Vipham. 2024. Hygienic status of beef butcher shop facilities and antibiotic resistance profile of *Salmonella enterica* in Ethiopia. *Braz. J. Microbiol.* doi: 10.1007/s42770-024-01312-2.
- Schwan, Carla L.**, Leonardo M. Bastos, Shenya Young, Kelly Domesle, Beilei Ge, Chih-Hao Hsu, Cong Li, Errol Strain, Jessie Vipham, Cassandra Jones, Raghavendra Amachawadi, Tiruvoor G. Nagaraja, Valentina Trinetta. 2023. Genotypic and phenotypic characterization of antimicrobial and heavy metal tolerance in *Salmonella enterica* and *Escherichia coli* isolates from swine feed mills. *J. Food Protection*. doi.org/10.1016/j.jfp.2023.100113.
- Schwan, Carla L.**, Molitor April, Lyda Hok, Paul Ebner, Jessie Vipham, Valentina Trinetta. 2022. Quantitative and qualitative assessments on *Enterobacteriaceae*, coliforms and generic *Escherichia coli* on fresh vegetables sold in Cambodian fresh produce distribution centers. *Food Prot. Trends*. doi:10.4315/FPT-21-023.
- Schwan, Carla L.**, Timothy J. Dallman, Peter Cook, and Jessie Vipham. 2022. A case report of *Salmonella enterica* serovar Corvallis from environmental isolates from Cambodia and clinical isolates in the UK. *Access Microbiol.* Microbiology Society. doi:10.1099/acmi.0.000315.
- Schwan, Carla L.**, Sara Lomonaco, Leonardo Bastos, Joshua Maher, Peter Cook, Valentina Trinetta, Manreet Bhullar, Randall Phebus, Sara Gragg, Justin Kastner, and Jessie Vipham. 2021. Genotypic and phenotypic characterization of antimicrobial resistance profiles in non-typhoidal *Salmonella* strains isolated from Cambodian informal markets. *Front Microbiol.* Sep 16;12:711472. doi: 10.3389/fmicb.2021.711472.
- Schwan, Carla L.**, Karina Desiree, Nora M. Bello, Leonardo Bastos, Lyda Hok, Randall K. Phebus, Sara Gragg, Justin Kastner, and Jessie Vipham. 2021. Prevalence of

- Salmonella enterica* isolated from food contact and non-food contact surfaces in Cambodian informal markets. *J. Food Protection* 84(1):73-79. doi: 10.4315/JFP-20-112.
- Zelalem, Andarge, Kebede Abegaz, Ameha Kebede, Yitagele Terefe, **Carla L. Schwan**, and Jessie Vipham. 2021. Food safety knowledge, attitudes, and hygienic practices of abattoir workers in Ethiopia: A cross-sectional study. *Food Prot. Trends* 41(5):501-509.
- Schwan, Carla L.**, Sara Lomonaco, Valentina Trinetta, Maria Belkey, Randall Phebus, Sara Gragg, Justin Kastner, Peter Cook, and Jessie Vipham. 2020. Draft genome sequences of 81 *Salmonella enterica* strains from informal markets in Cambodia. *Microbiol. Resour. Announc.* American Society for Microbiology. doi:10.1128/MRA.00773-20.
- Desiree, Karina, **Carla L. Schwan**, Visoth Ly, Lyda Hok, Londa Nwadike, Randall K. Phebus, and Jessie L. Vipham. 2020. Defining the flow and food safety behaviors of actors in the Cambodian vegetable value chain. *Food Prot. Trends* 40(5):349-362.
- Desiree, Karina, **Carla L. Schwan**, Jessie Vipham, Randall Phebus, and Londa Nwadike. 2020. Investigating *Salmonella enterica*, generic *Escherichia coli* (*E. coli*) and coliforms on fresh vegetables sold in informal markets in Cambodia. *J. Food Protection* 84(5):843-849. doi: 10.4315/JFP-20-219.
- Channaiah, Lakshmikantha H., Elizabeth S. Holmgren, Minto Michael, Nicholas J. Severt, Donka Milke, **Carla L. Schwan**, Matthew Krug, Amanda Wilder, Randall K. Phebus, Harshavardhan Thippareddi, and George Milliken. 2016. Validation of baking to control *Salmonella* serovars in hamburger bun manufacturing, and evaluation of *Enterococcus faecium* ATCC 8459 and *Saccharomyces cerevisiae* as nonpathogenic surrogate indicators. *J. Food Protection* 79(4):544-552. doi: 10.4315/0362-028X.JFP-15-241.
- Silva, Pablo Teixeira da, Leadir Lucy Martins Fries, Cristiano Ragagnin de Menezes, Augusto Tasch Holkem, **Carla L. Schwan**, Evelin Francine Wigmann, Juliana de Oliveira Bastos, and Cristiane de Bona da Silva. 2014. Microencapsulation: concepts, mechanisms, methods and some applications in food technology. *Cienc. Rural*. 44(7):1304-1311. doi: 10.1590/0103-8478CR20130971.

3.1.1.1 Abstracts & Proceedings of Research Conferences (in print or accepted) - *indicates graduate student or intern coauthor

- Savoie, K., Casulli, K., **Schwan, C. L.**, Ingmundson, K., Peebles, A. G., and Henley, S. C., 2025. Preliminary results to validate a seafood stock recipe for home canners. Consumer Food Safety Education Conference. Texas, March 13-14, 2025.
- Hornbeck, M., Presnal, V., Thomas, R., Soltanmammedova, Z., Davis, A. B., and **Schwan, C.L.** Canning with a Twist. National Extension Association of Family and Consumer Sciences Conference. Arizona, September 16-19, 2024. Awarded first place state, regional, and national food safety awards.
- Henley, S. and **Schwan, C.L.** An exploratory study to identify the need and interest in consumer home canning of seafood. National Extension Association of Family and Consumer Sciences Conference. Arizona, September 16-19, 2024.
- Routh, B., **Schwan, C.L.**, Slipher, S., Linse, G. 2024. National Trends in Home Food Preservation and Outreach. Food & Nutrition Conference and Expo. Minneapolis, Oct 5-8, 2024.
- Routh, B., **Schwan, C.L.** 2024. Exploring Home Food Preservation in Montana: A Quantitative Survey on Practices and Motivations among Home Food Preservers. International Association for Food Protection. California, July 14-17, 2024.

- *Mahida, M., Cullinan, S., Ingmundson, K., Critzer, F., Trinetta, V., Bastos, L., Bryan, A., Raad, R., Peebles, A. G., Presnal, V., **Schwan, C.L.** 2024. Validation of a Kimchi Recipe for Home Food Preservers. International Association for Food Protection. California, July 14-17, 2024.
- *Cullinan, S., Averill, B., Casulli, K., Ingmundson, K., **Schwan, C.L.** Athens-Clarke County, Georgia Community Food Environment and Behaviors Pilot Survey. International Association for Food Protection. California, July 14-17, 2024.
- Ingmundson, K., Henley, S., Simone, A., Schonberger, L., **Schwan, C.L.** 2024. Identifying Gaps and Opportunities in Home Food Preservation: A Needs Assessment Focusing on Extension Professionals. International Association for Food Protection. California, July 14-17, 2024.
- Lou, R., **Schwan, C.L.**, Savoie, K., Liu, C., Tikekar, R., Casulli, K., Henley, S. 2024. Survey Results Towards Validating a Novel Low-Acid Seafood Recipe for Home Canning. International Association for Food Protection. California, July 14-17, 2024.
- *Cullinan, S., Mahida, M., Ingmundson, K., Critzer, F., Trinetta, V., Bastos, L., Moore, J., Hardeman, R., **Schwan, C.L.** Validation of a Kombucha Tea Recipe for Home Food Preservers. International Association of Food Protection Conference, Toronto, Canada. July 16 – 19, 2023.
- Davis, A., Hornbeck, M., Presnal, V., Soltanmanmedova, Z., Thomas, R., **Schwan, C.L.** Canning with a Twist: 5 Approaches to Food Preservation Classes. University of Georgia Extension Conference. Rock Eagle, January 17, 2024.
- *Mahida, M. Cullinan, S., Ingmundson, K., Critzer, F., Trinetta, V., **Schwan, C.L.** Validation of a Kombucha Recipe: The Integration of Teaching and Extension. International Association of Food Protection Conference, Toronto, Canada. July 16 – 19, 2023.
- Mendez E., **Schwan, C.L.**, Vipham, J. Prevalence of *Escherichia coli* and Coliform Bacteria in Lettuce and Soil Samples as a Result of the Use of Organic Fertilizers in Cambodia. International Association of Food Protection, Pittsburgh, PA, July 31-August 3, 2022.
- Casulli, K., **Schwan, C.L.**, Tikekar, R., Henley, S. Home-Canning: Preliminary Results of Electric Pressure Cookers for Canning Low-Acid Foods. International Association of Food Protection, Pittsburgh, PA, July 31-August 3, 2022.
- Schwan C.L.**, Dallman, T., Cook, P., Vipham, J. Genetic Relatedness of *Salmonella enterica* Serovar Corvallis from Environmental Isolates from Cambodia and Clinical Cases in the United Kingdom. International Association of Food Protection, Phoenix, AZ, July 18-21, 2021.
- Molitor, A., **Schwan, C.L.**, Hok, L., Ebner, P., Vipham, J., Trinetta, V. Quantitative and Qualitative Assessments on *Enterobacteriaceae*, Coliforms and Generic *Escherichia coli* on Fresh Vegetables Sold in Cambodian Fresh Produce Distribution Centers. International Association of Food Protection, Phoenix, AZ, July 18-21, 2021.
- Schwan C.L.**, Lomonaco, S., Trinetta V., Cook P., Gragg, S., Phebus, R., Kastner, J., Vipham J. Serotype Characterization of *Salmonella enterica* isolates from Cambodian Informal Markets through Whole-genome Sequencing. International Association of Food Protection, Cleveland, OH, August 2-5, 2020.
- Schwan, C.L.**, Desiree, K., Ayub, K., Vipham, J. Prevalence of *Salmonella* spp. Isolated from Environmental Food Surfaces from Vegetable Markets in Cambodia. International Association of Food Protection, Louisville, KY, July 21-24, 2019.
- Desiree, K., **Schwan, C.L.**, Ayub, K., Vipham, J. Prevalence and Quantification of *Salmonella* spp., Generic *Escherichia coli* and Coliforms on Vegetables Sold in Informal Markets in Cambodia. International Association of Food Protection, Louisville, KY, July 21-24, 2019.

3.1.1.2 Works in progress or submitted but not yet accepted - *indicates graduate student supervised research

Rachael Lou, **Carla L. Schwan**, Kathleen A. Savoie, Kaitlyn Casulli, Chengchu Liu, Rohan T. Tikekar, Shauna C. Henley. 2024. Survey Results Towards Validating a Novel Low-Acid Seafood Recipe for Home Canning. Submitted to the *J. Food Prot. Trends*.

*Mallika Mahida, Sitara Cullinan, Rawane Raad, Faith Critzer, Valentina Trinetta Kris Ingmundson, Lauren Suiter, Leonardo Bastos, **Carla L. Schwan**. 2024. Evaluation of Critical Food Safety Factors and Microbial Survivability in Kimchi Fermentation. In-progress.

3.1.2 Significant Extension Publications and Creative Works

3.1.2.1 Peer-Reviewed Extension Publications - *indicates graduate student supervised Extension and outreach

Schwan, C. L. (2024). *Ensuring the Safety of Infused Oils: Best Practices for Preparation*. Athens, GA: UGA Extension. (Submitted Nov. 2024).

Schwan, C. L., Ingmundson, K., Moore, S., & Cotto-Rivera, E. (2024). *Emergency Preparedness: Long-Term Food Storage for Disasters* (Circular 1310 EN and SP). Athens, GA: UGA Extension. Retrieved from <https://extension.uga.edu/publications/detail.html?number=C1310&title=emergency-preparedness-long-term-food-storage-for-disasters>

Schwan, C. L., Ingmundson, K., & Beltran, I. (2024). *Grill & Chill: Unleash Flavor Safely with Outdoor Cooking/Grilling!* (Circular 1309 EN and SP). Athens, GA: UGA Extension. Retrieved from <https://extension.uga.edu/publications/detail.html?number=C1309&title=grill-chill-unleash-flavor-safely-with-outdoor-cooking-and-grilling>

*Cullinan, S., Mahida, M., Ingmundson, K., Minaya, D. M., Hardeman, R., Moore, J., **Schwan, C. L.**, (2024). *What's the Word on Homemade Kombucha?* (Circular 1312 EN and SP). Retrieved from <https://extension.uga.edu/publications/detail.html?number=C1312&title=whats-the-word-on-homemade-kombucha>

Schwan, C. L., (2024). *Preserving Food: Using Pressure Canners* (Circular FDNS-E-37-3). Athens, GA: UGA Extension. Retrieved from: https://nchfp.uga.edu/publications/nchfp/factsheets/PreservingFood_UsingBoilingWaterCanners.pdf

Schwan, C. L., (2024). *Preserving Food: Using Boiling Water Canners* (Circular FDNS-E-37-2). Athens, GA: UGA Extension. Retrieved from: https://nchfp.uga.edu/publications/nchfp/factsheets/PreservingFood_UsingBoilingWaterCanners.pdf

Hanula G., Harrison J., Hendrix S., **Schwan C. L.** (2023). *Feeding Time is Bonding Time! Tips for Successful Bottle-Feeding*. A Guide for New Parents (Publication No. CHFD-E-86). Available at: <https://www.fcs.uga.edu/docs/CHFD-E-86-4.pdf>

Ingmundson, K., **Schwan C. L.** (2023). *Preventing Foodborne Illness in Infants Mealtime actions you can take to keep your baby healthy*. A Guide for New Parents (Submitted).

Andress, E., **Schwan C. L.**, (2022). *Food Safety Tips for Preparing a Holiday Turkey* (Circular 1226). Athens, GA: UGA Extension. Retrieved from:
<https://extension.uga.edu/publications/detail.html?number=C1226>

Harrison, J., Woods, K., Boyer, R., Harrison, M., Wszelaki, A., Villalba A., Brown, M., I. Beltran, **Schwan, C. L.**, Dunn, L. L. (2022). *Best Practices for Growing, Harvesting, and Handling Produce in the Field and the Packinghouse* (Bulletin 1515). Athens, GA: UGA Extension. Retrieved from
<https://extension.uga.edu/publications/detail.html?number=B1515>

3.1.2.2 Extension Bulletins, reports and media

Schwan, C. L. Food Safety Tips for Preparing a Holiday Turkey. (Email alert to UGA Extension 17 November 2022).

Schwan, C. L. Germ Alert: Listeria Outbreak Linked to Deli Meat and Cheese. (Email alert to UGA Extension 11 November 2022).

Schwan, C. L. Food Safety Emergency, Preparedness and Response materials. (Email alert to UGA Extension 20 September 2022).

Schwan, C. L. Backyard flock management practices. (Email alert to UGA Extension 19 July 2022).

Schwan, C. L. Vidalia onions - recall due to potential contamination with pathogen (Email alert to UGA Extension 4 July 2022).

Schwan, C. L. Baby formula shortage and associated food safety risks (Email alert to UGA Extension 14 May 2022).

Schwan, C. L. Salmonella outbreak and recall of Jif peanut butter - nationwide, including GA. (Email alert to UGA Extension 22 May 2022).

Schwan, C. L. Canning season is coming: how to prevent foodborne botulism. (Email alert to UGA Extension 28 April 2022).

Schwan, C.L. Dial Gauge Testing Unit - Home Food Preservation. (Email alert to UGA Extension 6 January 2023).

Schwan, C.L. Extension Contact Guide - Food Sector Edition (Email alert to UGA Extension February 1, 2023).

Schwan, C.L. Important guidance on the usage of the ServSafe trademark. (Email alert to UGA Extension February 7, 2023).

Schwan, C.L. Germ Alert: Hepatitis A virus linked to frozen organic strawberries (Email alert to UGA Extension March 22, 2023).

Schwan, C.L. Germ Alert: *Salmonella* linked to raw flour (Email alert to UGA Extension April 3, 2023).

Schwan, C.L. Preparing for Idalia: Food safety Resources (Email alert to UGA Extension August 28, 2023).

Davis, Leslie. From the Kitchen of Food Safety Specialist Carla Schwan. Blog post. September 15, 2023.

Schwan, C.L. Germ Alert: *Salmonella* linked to cantaloupes active outbreak (Email alert to UGA Extension November 19, 2023).

Schwan, C.L. Germ Alert: *Listeria* linked to cheeses, crema, and yogurt active outbreak (Email alert to UGA Extension February 7, 2024).

Schwan, C. L. National Center for Home Food Preservation - New Website Announcement (Email alert to UGA Extension March 3, 2024).

Schwan, C. L. Food Safety Resources for Hurricane Season (Email alert to UGA Extension September 24, 2024).

Schwan, C. L. Alert: Check Your Fridge for Recalled Organic Whole/Baby Carrots – *E. coli* Outbreak (Email alert to UGA Extension November 11, 2024).

3.1.2.3 Newspaper and Media Contributions – authored, edited or feature and provided expert review of content. *Coauthors are supervised graduate or undergraduate students.

(a) Website development:

Schwan, C.L., Ingmundson, K., Hansen, J., Brigman, T., & Penn, A. (2024). National Center for Home Food Preservation Website. <https://nchfp.uga.edu>
Average number of page views per year: 1,920,000

(b) National media interviews:

Ragusea, A., **Schwan, C. L.** *Why certain E. coli bacteria are so bad.*
<https://www.youtube.com/watch?v=8RakBX3VnaY&t=3s> (published on 24 October 2022, over 290 thousand views as of 11/28/2022).

Ragusea, A., **Schwan, C. L.** *What is Even Lacto-fermentation?*
<https://www.youtube.com/watch?v=7UdquGa6jBs&t=4s> (published on 17 October 2022, over 550 thousand views as of 11/28/2022).

Buiano, M (Sept 30, 2022). *Your Section-by-Section Guide to Storing Foods in the Fridge, From the Upper Shelves to the Crisper Drawers.* Martha Stewart Magazine. Featured and provided expert review. <https://www.marthastewart.com/8316531/how-to-organize-foods-in-refrigerator>

Elkus, G (Nov 10, 2022). *Is It Okay to Stick My Fingers in the Salt Cellar While I'm Cooking?* Epicurious Magazine – Expert Advice. Featured and provided expert review. <https://www.epicurious.com/expert-advice/salt-cellar-safety>

King, G. (Jan 21, 2023). How To Tell If Soda Has Gone Bad. Mashed Magazine – Expert

Advice. Retrieved from <https://www.mashed.com/1174649/how-to-tell-if-soda-has-gone-bad/>

Jackson, R. (Jan 17, 2023). These common recipe instructions make food safety experts cringe. The Washington Post – Expert Advice. Retrieved from <https://www.washingtonpost.com/food/2023/01/17/recipe-food-safety/>

Buiano, M (March 14, 2024). *Can You Reuse Your Plastic Freezer and Sandwich Bags?* Martha Stewart Magazine. Featured and provided expert review. <https://www.marthastewart.com/reuse-plastic-freezer-sandwich-bags-8608723>

Derwin, N (April 17, 2024). *How to Dry Fresh Herbs to Use in Your Cooking All Year Long.* Martha Stewart Magazine. Featured and provided expert review. <https://www.marthastewart.com/reuse-plastic-freezer-sandwich-bags-8608723>

Rose Hayden-Smith. *Rediscover Food Preservation: Redesigned Website Empowers Consumers and Extension Professionals.* (April 19, 2024). Featured and provided expert review. Retrieved from <https://extension.org/2024/04/19/rediscover-food-preservation-redesigned-website-empowers-consumers-and-extension-professionals/>

Hernandez, Joseph. (2024). *Could KS restaurant worker have spread anything by contaminating the food? What we know.* (May 10, 2024). Featured and provided expert review. Retrieved from <https://www.kansascity.com/news/local/article288447623.html>

(c) State, Local Media or College Interviews:

WDUN radio news program. (January 19, 2022). Jacobs Media. *Should people be drinking the 1980 national championship Cokes?* Interview. Interviewer: Clarke M. <https://accesswdun.com/article/2022/1/1072053/food-safety-expert-uga-professor-dishes-on-safety%20ago>.

Schwan, C. L., Singh, M., Casulli, K., Dunn, L., Diez-Gonzalez, F. *Tailgating Food Safety Tips Video Social Media Kit for National Food Safety Education Month.* <https://www.youtube.com/watch?v=viuyd9mPotU> (published on 30 August 2022, 341 views as of 11/28/2022).

Powell C (Jan 18, 2022). *UGA expert: Best to keep 41-year-old Coke in the bottle.* FACS Media News, Featured and provided expert review. <https://www.fcs.uga.edu/news/story/uga-expert-best-to-keep-41-year-old-coke-in-the-bottle>

Powell C (Jun 1, 2022). *Avoid foodborne illness when preserving food at home.* FACS Media News, Featured and provided expert review. <https://www.fcs.uga.edu/news/story/avoid-foodborne-illness-when-preserving-food-at-home>

Schwan, C. L., (Dec 9, 2022). *‘Tis the season! How to safely infuse oil for homemade gifts.* CAES Newswire. Authored. Retrieved from <https://newswire.caes.uga.edu/story/10102/safely-infuse-oil.html>

Schwan, C. L., (May 17, 2023). *Prevent raw flour from being a recipe for disaster in your kitchen.* FACS Newswire. Authored. Retrieved from

<https://newswire.caes.uga.edu/story.html/10213/flour-recall.html?preview=true>

Schwan, C. L. (May 15, 2023). FACS of Life Podcast. *Food Safety and Chronic Disease*. Podcast Interview. Retrieved from <https://www.youtube.com/watch?v=0P4IJZJXAGw>

Schwan, C. L. (December 7, 2023). Cultivating curiosity. *Healthy holidays: Food safety tips for gifts and gatherings*. Podcast Interview. Retrieved from <https://cultivatingcuriosity.caes.uga.edu/1984244/14108274-healthy-holidays-food-safety-tips-for-gifts-and-gatherings>

Schwan, C.L. (May 8, 2024). *Carla Schwan Discusses the National Center for Home Food Preservation*. Athens CEO interview. Retrieved from <https://athensceo.com/video/2024/05/carla-schwan-discusses-national-center-home-food-preservation/>

Powel, C. (November 22, 2024). *Search for safe seafood broth recipe in the works*. FACS Media News, Featured and provided expert review. FACS Media News, Featured and provided expert review. Retrieved from <https://www.fcs.uga.edu/news/story/search-for-safe-seafood-broth-recipe-in-the-works>

3.1.2.4 Extension Factsheets - *indicates graduate student coauthor

Schwan, C. L., Ingmundson, K. (2022). Storing Food for Emergencies: If the power goes out. https://www.fcs.uga.edu/docs/If_the_Power_Goes_Out.pdf

Schwan, C. L., Ingmundson, K. (2022). Purifying Non-Potable Water. https://www.fcs.uga.edu/docs/Purifying_Non-Potable_Water.pdf

Schwan, C. L., Ingmundson, K. (2022). Storing Food For Emergencies. https://www.fcs.uga.edu/docs/Storing_Food_For_Emergencies.pdf

Schwan C. L., Ingmundson, K. (2022). Storing Water For Emergencies. https://www.fcs.uga.edu/docs/Storing_Water_For_Emergencies.pdf

Schwan C. L., (2022). Food Safety is Based on Science. https://extension.uga.edu/content/dam/extension/topic-areas/2022_food-safety-based-on-science_infographic.pdf

Schwan C. L., (2024). Canning on Portable Burners. <https://nchfp.uga.edu/newsflash#gsc.tab=0>

Schwan C. L., (2024). Food Safety Resources for Disaster Recovery: A Collaborative Extension Guide. <https://extension.uga.edu/topic-areas/timely-topics/emergencies.html#food-safety>

Schwan C. L., (2024). Food Safety Resources for Disaster Recovery: Communication and Outreach Tool. <https://extension.uga.edu/topic-areas/timely-topics/emergencies.html#food-safety>

3.1.2.5 National Webinars

Food Preservation: where to start? ‘Keep Your Food Safe & Fresh’: Simple Canning & Preservation Tips Series. USDA National Agricultural Library. Keynote speaker. September 29, 2022. Attendance: 281 people.

Rising prices, trending recipes, and social media: the importance of food safety in the (mis)information digital space. Partnering for food safety: families, communities, academia, industry, government and media series. United States Food and Drug Administration; University of Georgia; Partnership for Food Safety. Invited speaker. September 22, 2022. Attendance: 68 people.

From Zero to Hero: Starting a Home Food Preservation Program & The Role of a Process Authority in Developing & Validating Preservation Processes. National Extension Association of Family and Consumer Sciences Annual Conference. Invited Speaker. September 11, 2023. Attendance: 72 people.

Leveraging a Food Safety Extension Network for Food Safety Resource Sharing to Support Home Food Preservation, Cottage Foods/Home-based Businesses, and Retail. National Extension Association of Family and Consumer Sciences Annual Conference. Invited Speaker. September 12, 2023. Attendance: 28 people.

Science, Practice, Updates, and FAQs with the National Center for Home Food Preservation. Ohio State University Annual Extension Family and Consumer Sciences Meeting. Invited Speaker. April 18, 2024. Attendance: 33 people.

Inspiring Action: Food Safety Education for All. World Food Safety Education Month. Livestream Global Tech Ag Network Community. Invited Speaker. September 10, 2024. Attendance: 380 people representing 26 countries.

Sealed for Safety: Insights on Home Food Preservation. Partnership for Food Safety Education Webinar. October 17, 2024. Attendance: 63 people from the US and Canada.

3.1.2.6 Invited Extension Workshops or Presentations

Food Safety Extension Network Supporting Consumer, Retail, and Home-Based Businesses. Presenter. 08/23/2022. Food Safety and Preservation Western Region Meeting. Virtual.

Food Safety Extension Network: Supporting Consumer, Retail, and Home-Based Businesses Update. Co-presenter. 09/15/2022. National Extension Association of Family and Consumer Sciences. Raleigh, NC.

Food Safety Extension Network Supporting Consumer, Retail, and Home-Based Businesses. Presenter. 10/06/2022. Eastern Region Home Food Preservation Meeting. Virtual.

Food Safety Extension Network Supporting Consumer, Retail, and Home-Based Businesses. Presenter. 10/21/2022. North Central Region Extension Consumer Food Safety Meeting. Virtual.

Trending: rising prices, quick fixes, & convenience. Presenter. 02/22/2023. Georgia Nutrition Council. Virtual.

From Homemade to Homerun. Co-presenter. 09/30/2023. University of Georgia, Food Product Innovation & Commercialization Center. Griffin, GA.

Canning with a Twist: 5 Approaches to Food Preservation Classes. Co-presenter. 09/13/2023. National Extension Association of Family and Consumer Sciences Conference. Providence, RI.

Preserving Tradition, Embracing Innovation: Unlocking a World of Possibilities in Modern Home Food Preservation. Keynote speaker. 03/01/2024. Modernizing Home Food Preservation Conference. Portland, OR.

3.2 Research Grants, Contracts, and Gifts

Dr. Schwan’s extension and research program has generated over \$900,000 in competitive and non-competitive funding from the United States Department of Agriculture (NIFA), the Extension Foundation and others.

3.2.1 Competitive Extramural Research and Extension Grants (R: research; E: extension; E/R: combined; \$923,214 total):

Year	Proposal Title	Agency	Funding Duration	Personal Amount (Total Amount)	Role (PI/Co-PI/Coop)	
2021	National Center for Home Food Preservation and Regional Food Safety Consortium.	USDA-NIFA (NTAE)	09/01/2021-06/20/2023	\$175,000 (\$175,000)	Co-PI (PI Penn, UGA)	E/R
2021	National Center for Home Food Preservation and Food Safety Consortium: AI Fellowship - Enhancing Electronic Extension.	USDA-NIFA (NTAE)	09/01/2021-06/20/2023	\$25,000 (\$25,000)	Co-PI (PI Penn, UGA)	E/R
2022	Creating a Food Safety Consortium: A Multi-State Effort to Support Customers, Home-based Businesses and Retailers.	USDA-NIFA (NTAE)	09/01/2022-09/01/2023	\$4,000 (\$10,000)	Co-PI (PI Chapman, NCState)	E/R
2023	An integrated approach to developing Extension outreach curricula for home food preservation, retail food safety, and cottage foods: A Food	USDA-NIFA (AFRI)	10/01/2023-08/31/2026	\$211,714 (\$545,144)	PI	E/R

Safety Extension Network Effort						
2023	An Exploratory Study to Identify the Need and Interest in Consumer Home-Canning of Seafood, and Provide Preliminary Results Towards Validating a Novel Consumer Canning of Low Acid Seafood Recipe	NEAFCS	08/01/2023-08/01/2024	\$2,500 (\$4,000)	Co-PI (PI Henley, Univ. Maryland)	E/R
2024	Validation of canning recipes for the National Geographic	The Walt Disney Company	01/01/2024-05/01/2024	\$5,000 (\$10,000)	PI	R
2024	Value-addition Institute for Business Expansion (VIBE): A Georgia-Based Agricultural Innovation Center to Bring Farmers from Fresh to Value-added Markets	USDA Rural Development	10/01/2023-12/31/2026	\$500,000 (\$1,500,000)	Co-PI (PI Casulli, UGA)	E/R
2024	An In-Person Meeting of The Food Safety Extension Network: Supporting Consumer, Retail, and Home-based Businesses	USDA-NIFA	\$50,000	\$5,000 (\$50,000)	Co-PI (PI Shumaker, NC State)	E

3.2.2 Pending Proposals:

Company/Association	Project Description	Amount
GA Commodity Commission for Vegetables	Creating Value Added Pickled Vegetables with a Low-Cost Cold-Fill-Hold	\$15,400
USDA-NIFA Rural Health and Safety Education	Home food Preservation as an opportunity to address systemic health inequity in rural communities.	\$350,000
Extension Foundation	SAFE: Strengthening Awareness for Food Safety Emergencies	\$ 25,000

3.2.3 Unfunded proposals:

Year	Proposal Title	Agency	Funding Duration	Amount	Role (PI/Co-PI/Coop)	
2022	Development of a research-based Vidalia Onion pickle recipe for home-canning preservation	Vidalia Onion Committee	10/01/2022-10/01/2023	\$13,760	PI	E/R
2022	Integrating Teaching and Extension efforts to increase student learning outcomes.	APLU	05/01/2022-01/12/2022	\$5,000	PI	E/R
2022	Protocol for Optimal Temperature Sensor Use for Validation of Home Canning Recipes	IIPA-UGA	01/01/2023-30/06/2023	\$86,201	Co-PI (PI Casulli, UGA)	R
2022	Building food safety capacity for specialty crop value-added products	GDA-GA	10/01/2022-09/29/2025	\$89,961	PI	E/R
2022	Revitalization and Modernization of Community Canneries in Rural Georgia	USDA-NIFA	01/01/2023-12/31/2024	\$296,185	PI	E/R
2023	LOI: Improving the Safety of Home Prepared Powdered Infant Formula Through the Training of Cooperative Extension Agents/Educators	Bobbie Labs, Inc.	04/01/2023-03/31/2024	\$85,000	Co-PI (PI Gallo, UGA)	E/R
2023	Expansion of the Food Safety Extension Network: A Multi-State Effort to Support Consumers, Home-based Business, and Retailers	Extension Foundation (NTAE)	10/01/2023-09/30/2024	\$100,000	Co-PI (PI Chapman, NC State)	E/R
2024	Developing a Thermal Process for a Shelf-Stable Maple Sap Beverage	North American Maple Syrup Council, Inc., Research and Education	10/01/2024-10/01/2026	\$34,846	PI	R

2024	Validation of home food preservation supplies	Le Parfait	01/01/2024-01/01/2027	\$187,538	PI	R
2024	Enhancing the Safety of Home Food Preservation: A Health-Conscious Canning Protocol for Apples, Elderberries, and Tomatoes	Center for Food Safety	01/01/2024-01/01/2025	\$35,000	PI	R
2024	Microbial Profiles of Fresh Herbs and Whole Spices: Evaluating Home Preservation and Disinfection Strategies	Center for Food Safety	01/01/2024-01/01/2025	\$35,000	PI	R
2024	Enhancing Home Food Preservation Through Tailored Freeze-Drying Methodologies: Investigating Pathogen Survival and Quality Factors	Center for Food Safety	01/01/2024-01/01/2025	\$45,000	PI	R

3.3 Supervision of student research

Cullinan S. Dissertation: Extension Food Safety Program Facilitates Enhanced Food and Health Sovereignty in the State of Georgia. Degree: PhD. Status: In-progress. Committee: Schwan, C.L., Casulli, K., Lee, J.S., Bastos, L.M.

Mahida, M. Dissertation: Establishment of Freeze-Drying Standards for Home Food Preservation and Implementation of Findings into Extension-Based Programs. Degree: PhD. Status: In-progress. Committee: Schwan C.L., Mishra, A., Parisi, M., Esseili, M.

Crain, E.E. Thesis: Impact of chronic bacterial LPS exposure in male rats. Degree: MS. Status: Graduated. Major Professor: Rogers, C. Committee: Schwan, C.L., Noble, E.

Kotkar, P. Thesis: Microbial Inactivation of Cold-Filled Acid and Acidified Foods. Degree: MS. Status: In progress. Major Professor: Casulli, K. Committee: Schwan, C.L., Critzer, F.

Suiter, L. Thesis: Survivability of foodborne pathogens on leafy greens treated with home-based ultrasound technology. MS-DI. Status: In progress. Committee: Schwan, C.L., Parisi, M., Dunn, L.

Gallatin, K. Thesis: Social Media as a Tool for Diabetes Support. Degree: MS-DI. Status: In progress. Major Professor: Parisi, M. Committee: Schwan, C.L., Berg, A.

4. PUBLIC SERVICE

4.1 Extension

4.1.2 Significant Extension Programs and Curricula – Extension curricula are integral components of major statewide programming and can either consist of series programs or substantial one-time efforts. These efforts typically involve more than one hour of instructional time and may include complex implementation processes and collaborations with external organizations for recruitment and execution.

Schwan C. L., Harrison J, Andress E. *The Science and Practice in Home Food Preservation*, (Revised 2022, 2023, 2024). **Description:** Curricula to teach the scientific principles guiding different methods of preserving foods, including canning, fermenting, drying, freezing, making jams and jellies, and pickling, while also raising awareness of food safety risks in home-preserved foods, specifically botulism. Medium: Direct Education. Includes lectures with script, activities, posters, handouts, and hands-on demonstrations of food preservation methods. Sessions: 1. Making jams and jellies (length: 3 – 3.5 hrs, 43 slides); 2. Canning pickle green beans (length: 2.5 – 3 hours, 30 slides); 3. Canning salsa (length: 3 – 3.5 hours, 30 slides); 4. Pressure canning vegetables (4 – 4.5 hours, 39 slides); 5. Canning tomatoes (3 – 3.5 hours, 30 slides); 6. Canning apple relish (2.5 – 3 hours, 32 slides); 7. Freezing green beans (2.5 – 3 hours, 66 slides); 8. Kombucha (1 – 1.5 hours, 28 slides). Target audience: Adults (21-70 y). Original author: E Andress, PhD, J Harrison, PhD. Revised annually by C.L Schwan (2022, 2023, 2024).

Evaluation: Retrospective self-report knowledge of different home food preservation methods, risks associated with unsafe practices, and intention to use recommended practices and research-based resources. **Scholarship:** three poster presentations at state and national conferences and one national presentation; All posters were collaborations with agents and/or students; Manuscript under review: *J. Food Prot. Trends*. **Impact:** Over 40 FACS Extension Agents trained. 1940 Georgians reached. Significant ($P < 0.001$) knowledge change observed in food safety and home food preservation principles. Program led to the development of a funded USDA-NIFA grant (\$545,144, PI: Schwan) to expand the program and develop a hybrid train-the-trainer curriculum for Extension agents in the Southern region in the area of home food preservation.

Schwan C. L. *ServSafe Food Manager Certification*, (Revised 2023). **Description:** Curricula to teach and certify food protection managers about foodborne illnesses prevention, proper food handling and storage, food safety regulations, and Hazard Analysis Critical Control Points (HACCP) principles. Medium: Direct Education. Includes lectures with script, activities, summaries, handouts, and hands-on demonstrations of food safety, hygiene, and food handling practices. Session(s): 1. Length: 8 – 16 hrs. 322 slides. Target audience: food protection managers in retailer settings. Original author: Despite being a private curriculum owned by the National Restaurant Association Educational Foundation (NRAEF), I had to make revisions in 2023 due to the delayed materials from NRAEF following the release of the 2022 FDA Food Code. Nevertheless, our agents continued teaching and serving the community during this time. Revised by C.L Schwan (2023). **Evaluation:** Knowledge increase with a minimum passing score of 70% to receive the *Food Protection Manager* certification. **Impact:** Over 45 FACS Extension Agents trained. 1320 Food Protection Managers certified in Georgia on how to utilize food safety concepts and practices to reduce the risk of foodborne illness, resulting in a total of \$4,839,120 in savings from the prevention of foodborne illness cases from retail establishments.

4.1.3 Certifications

Date	Certification
09/2021	HACCP Trainer

4.1.4 Extension In-service Trainings (conducted for agents or other professionals)

Date	Type of Training and Location	Attendance	Teaching Evaluations
1/6/22	Taught "Home Food Preservation Update" (agents; 4 h webinar)	26	4.8/5
8/6/22	Trained "FACS Foundations: Home Food Preservation" (agents and educators; Athens, GA. 24 h workshop)	5	4.8/5
10/4/22	Taught "ServSafe Instructors Update" (agents; McDonough, GA. 7 h workshop)	31	4.9/5
10/26/22	Trained "FACS Foundations: Consumer Food Safety and Preservation." (agents; Athens, GA. 3 h workshop)	10	4.9/5
3/9/23	Taught "ServSafe Instructors Update" (agents; McDonough, GA. 7 h workshop)	24	4.7/5
4/26/23	Trained "ServSafe: A Train the Trainer Opportunity for Extension Professionals" (agents; Athens, GA. 16 h workshop)	16	4.9/5
5/3/23	Taught "Kombucha Brewing at Home" (agents; Tifton, GA. 2 h)	12	4.8/5
5/9/23	Taught "Home Food Preservation Update" (agents; 4 h webinar)	22	4.9/5
5/16/23	Taught "Kombucha Brewing at Home" (agents; Reidsville, GA. 2 h)	14	4.9/5
6/6/23	Trained "FACS Foundations: Home Food Preservation" (agents and educators; Athens, GA. 24 h workshop)	14	4.9/5
8/1/23	Trained "Home Food Preservation" (agents and educators; Baton Rouge, LA. 24 h workshop)	34	4.8/5
10/24/23	Trained "FACS Foundations: Consumer Food Safety and Preservation." (agents; Athens, 3 h workshop)	11	4.8/5
11/14/23	Taught "Science and Practice in Food Safety" (EFNEP and SNAP-Ed Pas and agents; McDonough, 2.5 h)	48	4.7/5
11/16/23	Taught "Science and Practice in Food Safety" (EFNEP PAs and agents; Helena, 2.5 h)	17	4.8/5
1/17/24	Trained "Kombucha Crafting at Home: A Guide to Food Safety and Best Practices (agents; Rock Eagle, 1.5 h workshop)"	19	4.9/5

3/13/24	Taught “ServSafe Instructors Update” (agents; McDonough, GA. 7 h workshop)	32	4.9/5
4/10/24	Trained “ServSafe: A Train the Trainer Opportunity for Extension Professionals” (agents; Athens, GA. 16 h workshop)	8	4.8/5
4/17/2024	Trained “FACS Foundations: Consumer Food Safety and Preservation.” (agents; Athens, 3 h workshop)	11	NA
4/26/2024	Co-taught “Preparing for and Recovering from Natural Disasters” (agents; online, 2 h)	17	NA
5/8/2024	Taught “Home Food Preservation Update” (agents; 4 h webinar)	25	4.8/5
6/4/2024	Trained “FACS Foundations: Home Food Preservation” (agents and educators; Athens, GA. 24 h workshop)	9	4.7/5
6/10/2024	Trained “Home Food Preservation Bootcamp for the Food Safety Extension Network” (agents, educators and specialists; Raleigh, NC. 24 h workshop)	22	NA
10/23/2024	Trained “FACS Foundations: Consumer Food Safety and Preservation.” (agents; Athens, 3 h workshop)	6	NA
10/24/2024	Co-taught “Winemaking at Home” (agents and educators, online, 1.5 h)	24	NA
11/19/2024	Co-taught “Food Safety for Farmers Market” (agents; Monroe County, GA, 2 h)	15	NA

4.1.5 Training and workshops provided for public audiences

Canning Class. Hands-on Activity Preparing Apple Preserves. General Public Audience. Attendance: 21, Duluth, GA, Sept 10, 2022.

4.1.6 Event Judging

Georgia 4-H District Project Achievement, March 5, 2022
 4-H State Congress – Food safety and Preservation and Food For Fitness, July 20, 2022
 4-H Egg Preparation Demonstration, September 17, 2022
 Georgia 4-H District Project Achievement, March 4, 2023
 4-H Egg Preparation Demonstration, September 16, 2023
 Georgia 4-H District Project Achievement, March 9, 2024
 4-H Egg Preparation Demonstration, September 21, 2024

4.1.7 International Programs

4.1.7.1 International Invited Presentations

05/23/2022 Nutrition and Health in Bolivia. Presented “Characterization of *Salmonella enterica* from informal markets.” Santa Cruz de La Sierra, Bolivia.

4.1.8 Community Services and Relations

4.1.8.1 Onsite Outreach:

10/12/2022 Georgia Master Gardner (Bogart, GA)
10/19/2022 Farm to Campus Markets (Athens, GA)
07/29/2023 Walk into Wellness Series – BBQ Food Safety (Athens, GA)

4.1.8.2 Service and Relations to Governmental and Nongovernmental Agencies

Liaison, Advisement, and Public Relations Activities with Industry Groups:

Ball/Newell Brands. Canning Advisory Network Advisory Committee. Board member (2022-present)

Liaison, Advisement, and Public Relations Activities with Extension Groups:

Food Safety Extension Network: Supporting Consumer, Retail, and Home-Based Businesses. Board member (2022-present)

Liaison, Advisement, and Public Relations Activities with Governmental Groups:

Georgia Department of Agriculture. Georgia Food and Feed Rapid Response Team. Member (2023-present)

5. PROFESSIONAL SERVICE

5.1 Current Membership in Professional Societies

American Society for Microbiology
International Association for Food Protection (IAFP)
Georgia Association for Food Protection
National Extension Association of Family and Consumer Sciences (NEAFCS)
Georgia Nutrition Council

5.2 External Reviewer Activity for Grants, Manuscripts, Books

Extension Publication Review:

Preparing for Natural Disasters: Considerations for Food and Water. 2022. Family and Consumer Sciences Extension, University of Kentucky, Department of Dietetics and Human Nutrition, Lexington, Kentucky, United States.

Responding to Natural Disasters: Keeping Food and Water Safe. 2022. Family and Consumer Sciences Extension, University of Kentucky, Department of Dietetics and Human Nutrition, Lexington, Kentucky, United States.

Research Publication Review:

Reviewer for the Journal of Food Microbiology. 2022-present.
Reviewer for the Journal of Pesquisa Veterinaria Brasileira. 2022-present

5.3 Service on Departmental, College, or University Committees:

Years(s)	Service Level	Committee and Position
2022	University	Program Development Coordinator (member)
2022	University	Extension Specialist: 4-H Health and Living (member)
2022-present	College	FACS Innovation & Entrepreneurship Committee (member)
2023	University	Extension Program Development Specialist (member)
2023	University	Extension Conference 2024 Hospitality Committee (member)
2024	University	Extension Program Development Specialist (member)
2024-present	University	Extension Specialist: 4-H Health and Wellness
2024-present	University	VIBE Program Coordinator (member)
2024-present	College	National Center for Home Food Preservation Advisory Committee (chair)
2024-present	University	Emergency, Preparedness and Response Team
2024-present	Department	NUTR Awards Committee
2024-2025	University	FACS Extension Program Development Conference Planning Committee

5.4 Event Administration

Event administrator. Food Safety Extension Network: Supporting Consumer, Retail, and Home-Based Businesses Conference. June 20, 2022–June 22, 2022. Athens-GA.

Event administrator. International Association for Food Protection Exhibitor. July 31, 2022–August 3, 2022. Pittsburgh-PA.

Co-administrator. IAFP breakfast sponsored by the Food Safety Extension Network: Supporting Consumer, Retail, and Home-Based Businesses. August 1, 2022. Pittsburgh-PA.

Co-event administrator. National Extension Association of Family and Consumer Sciences Exhibitor. September 11–14, 2023. Providence-RI, USA.

Co-administrator. IAFP breakfast sponsored by the Food Safety Extension Network: Supporting Consumer, Retail, and Home-Based Businesses. July 17, 2023. Toronto, Canada.

Carla Schwan, PhD - Candidate's Statement Major Accomplishments and Impact

My major accomplishments are Extension and applied research in food safety and home food preservation. Specifically, I have been successful in securing external funding for Extension and outreach education and applied research, and development and revision of Extension programs in home food preservation and food safety at retail. Moreover, I have effectively communicated the results of Extension programs and research activities through multiple technical reports, scientific articles, and presentations at local, state, and national meetings. In addition, I maintain direct communication with the citizens of Georgia and across the US through regular Extension publications and media contributions, and through my role as the Director of the National Center for Home Food Preservation (NCHFP). My appointment since the time of hire in January 2022 has been 25% research and 75% Extension, and my dossier and this summary of accomplishments are evidence of successful progress toward promotion and tenure. Given

the integral relationship between my research and Extension efforts, it is most appropriate to discuss my accomplishments together, particularly within key program areas.

Accomplishments in Extension and Applied Research

Food Safety and Home Food Preservation

I provide leadership to various UGA Extension Food Safety programs, with a particular focus on the Science and Practice in Home Food Preservation (SPHFP) program. The SPHFP educates participants on scientific principles guiding different methods of preserving foods, including canning, fermenting, drying, freezing, making jams and jellies, and pickling, while also raising awareness of food safety risks in home-preserved foods, specifically botulism. While initially developed by my predecessor, I have significantly revised the program, incorporating outcomes of new research in fermentation methods, updating lesson plans, presentation slides, scripts, handouts, program evaluation, and agent training materials. After successfully implementing the program in 2022 under existing grant funds, I collaborated on a grant proposal securing external funding (\$175,000, Co-PI: Schwan) from the Extension Foundation to expand the program in the Southern region through the creation of an Extension Food Safety Network (FSEN). Since its inception, I lead the home food preservation subcommittee within FSEN, offering guidance on programming for 13 states and 18 institutions. Through this collaborative effort, in 2023, I secured additional funding from USDA-NIFA (\$545,144, PI: Schwan) to develop a hybrid train-the-trainer program for home food preservation and expand the reach beyond the Southern region. **Figure 1** illustrates the states with ongoing collaborations I have. With this grant, we are researching program effectiveness, delivery and impact on food safety and food preservation practices, knowledge, and behavior.

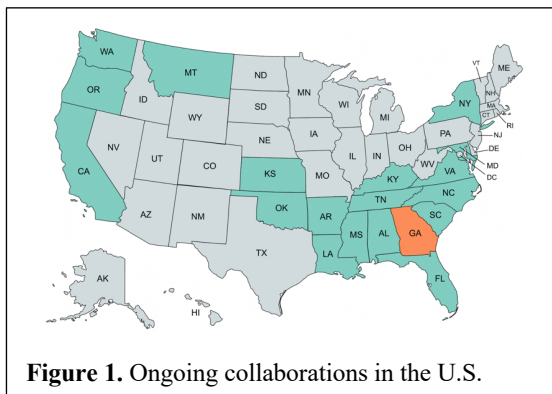


Figure 1. Ongoing collaborations in the U.S.

Since 2022, I have trained 65 UGA Family and Consumer Sciences (FACS) agents (approximately 20 per year) who have delivered 147 programs to more than 2000 Georgians. Program evaluation data indicate a significant increase in participants' knowledge of home food preservation methods, foodborne illness risks, and research-based resources. Participants have reported potential household savings from canning, averaging \$75 per participant and totaling \$149,000 overall annually. In addition, I was invited to train 34 agents at Louisiana State University since they did not have a food safety specialist at the time. I also conducted training in North Carolina State University for 22 agents and specialists from the Food Safety Extension Network, representing 14 institutions, along with three industry representatives. During these training sessions, I trained them on technical content related to home food preservation, facilitated hands-on practice of food preservation methods, guided participants on curriculum utilization and program delivery, and evaluation measures.

Importantly, I have worked collaboratively with Extension Agents and graduate students to advance scholarly outcomes from these efforts. We have presented 13 posters at state, national and international meetings and two refereed conference presentations at national meetings. Our posters and conference presentations have won state, regional, and national awards, and one of the sessions was voted the top concurrent session for the National Extension Association for Family and Consumer Sciences annual meeting in 2023. My first graduate student completed a research project on the microbial validation of a kombucha recipe for home food preservers from which a manuscript has been accepted for publication on the *Journal of Food Protection Trends*.

As the Director of the NCHFP, I provide nationwide leadership in research and Extension efforts focused on home food preservation. I have delivered ten national webinars, presentations, and workshops

in this role since 2022. In addition, I was the project director for the development of a new website for the NCHFP funded by the Extension Foundation (\$25,000, Co-PI: Schwan). The website redesign for the NCHFP is an important milestone, enhancing communication and accessibility for its extensive global user base, averaging 160,000 weekly accesses. With innovative communication features, the NCHFP now engages consumers on a broader scale, amplifying its impact and outreach.

Food Safety at Retail

I lead efforts in retail food safety in Extension, specifically the ServSafe Manager and Handler programs. This program is vital as all food establishments are legally required to have a certified food protection manager present during operational hours. Through this program, I have trained 56 UGA FACS agents (approximately 18 per year), resulting in 317 programs delivered to over 2400 Georgians. Specifically, the ServSafe Manager training program has certified 1792 individuals in Georgia, equipping them with the knowledge and practices to mitigate the risk of foodborne illnesses. This has led to an estimated total savings of \$6,569,472 by preventing outbreaks at retail establishments. Although a proprietary curriculum, I have developed and extensively updated the materials used by agents to align with the FDA's new Food Code published in 2022.

In 2023, the USDA-NIFA grant mentioned previously (\$545,144, PI Schwan) included food safety enhancement at retail, particularly through the development of a hybrid train-the-trainer program in collaboration with North Carolina State University. Currently, we are in the process of developing a new program to address the training needs of food handlers, set for completion by the end of 2025. Moreover, I have developed a strong relationship with the Georgia Department of Public Health, working together to provide training and information on specific Georgia regulations and inspection audits to our agents. This collaboration empowers our agents to better assist the retail community by ensuring compliance and fostering a food safety culture.

Accomplishments in Instruction/Teaching

Despite not having a formal teaching assignment, I actively support the university's teaching mission through diverse avenues, including delivering high-quality Extension trainings, guest lectures for UGA faculty, and mentoring graduate and undergraduate students. In Extension, I focus on training Extension agents, many of whom hold graduate degrees, alongside other professionals such as high school teachers, program assistants, Expanded Food and Nutrition Education Program (EFNEP) and Supplemental Nutrition Assistance Program Education (SNAP-Ed) professionals. I have developed and delivered over 213 hours of training to more than 470 participants, consistently receiving evaluation scores averaging 4.8 out of 5. Moreover, I have delivered six guest lectures across two departments and two colleges, and I serve as a major professor for three graduate students and am on two additional graduate committees, while also mentoring an undergraduate student.