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PROFESSIONAL EXPERIENCE

Jan 2020 – present	**Research Assistant Professor (Produce Safety)** Department of Horticulture and Natural Resources Food Science Institute Kansas State University, Olathe, KS
Jan 2017 – Dec 2019	**Graduate Research Assistant (Ph.D., Food Science and Technology)** Department of Food Science and Human Nutrition Iowa State University, Ames USA
Jan 2015 – Dec 2016	**Graduate Research Assistant (MS, Food and Animal Sciences)** Department of Agricultural and Environmental Sciences Tennessee State University, Nashville USA
Aug 2013 – Dec 2014	**Research Assistant** Department of Food Science and Technology Punjab Agricultural University, Ludhiana, INDIA

EDUCATION

Dec 2019	**Doctor of Philosophy in Food Science and Technology** *Iowa State University, Ames, Iowa* Dissertation: Ensuring the Food Safety Modernization Act Produce Safety Rule compliance through water testing and sanitation validation programs.
Dec 2016	**Master of Science in Food and Animal Sciences** *Tennessee State University, Nashville, Tennessee* Thesis: Application of low wave-length UV irradiation to inactivate pathogenic microbes in highly opaque liquid foods.
June 2013	**Bachelor of Science in Agricultural Sciences** *Punjab Agricultural University, India*

TEACHING EXPERIENCE

Fall 2022 **Guest Lecture, HNR 793 Farm to Fork Produce Safety**

Horticulture and Natural Resources, Kansas State University

Delivered lecture on the topic 'Food Safety Regulations and Food Policy'

Spring 2021 **Guest Lecture: FDSCI600 Food Microbiology**

Horticulture and Natural Resources, Kansas State University

- Presented class lectures on food irradiation and ultraviolet light technologies with implementing active learning practices

Fall 2020 **Guest Lecture, HNR 793 Farm to Fork Produce Safety**

Horticulture and Natural Resources, Kansas State University

- Delivered lectures on different modules of the Food Safety Modernization Act Produce Safety Rule
  - Module 5.1 and 5.2 Agricultural Water (Production and Postharvest water)
  - Module 6 Postharvest Handling and Sanitation

Spring 2019 **Teaching Assistant, Food Microbiology Lab**

Food Science and Human Nutrition, Iowa State University

- Organized laboratory activities assisting students with microbiology skills and delivered lectures,
- Implemented active learning using multimedia approaches (Kahoot, Mentimeter),
- Graded reports with detailed feedback and suggestions, assisted students with designing final term projects and troubleshooting for failures in project results

Spring 2016 **Teaching Assistant, Advanced Food Processing and Engineering**

Agricultural and Environmental Sciences, Tennessee State University

- Delivered lectures focusing on non-thermal technologies, developed class assignments,
- Conducted lab tours to acquaint students with processing equipment

EXTENSION EXPERIENCE

- Developed extension food safety videos and factsheets in English and Spanish
- Trainer for Produce Safety Alliance Grower Course; delivered lectures on different modules of Produce Safety Rule (both in-person and remote delivery modes)
- Food Safety Preventive Control Alliance Qualified Individual for FSPCA Preventive Control for Human Food. This certification allows me to assist food manufacturers with developing a food safety plan.

- Certified for On-Farm Readiness Reviews through NASDA. It enables me to assist growers with a farm walkthrough, identifying key food safety issues, providing technical assistance, and assuring readiness for compliance under Produce Safety Rule.
- Developed and reviewed extension factsheets to simplify and provide concrete information to fresh produce growers, disseminating key details on Produce Safety Rule
    1. Produce Safety and Agricultural Water Quality https://www.ksre.k-state.edu/foodsafety/produce/docs/produce-safety-ag-water-ref-guide.pdf
    2. FSMA Compliant On-Farm Thermophilic Composting https://www.ncrfsma.org/files/page/files/ncr_bsaao_final.pdf
    3. Domesticated Animals Factsheet – Produce Safety Rule https://www.ncrfsma.org/files/page/files/ncr_domesticated_animals_factsheet.pdf
    4. FSMA Produce Safety Rule – Dealing with Wildlife https://www.ncrfsma.org/files/page/files/ncr_wildlife_fsma.pdf
- Directed and acted in several extension videos focusing on FSMA Produce Safety Rule; all videos can be accessed at the YouTube playlist

RESEARCH GRANTS

Grants funded (as PI): 2020-2022

Funding agency	Project title	Funds received
Global Food Systems Seed Grant Program, Kansas State University	Enhancing microbial safety of hydroponic systems with the use of ultraviolet irradiation	$174,854
Kansas Department of Agriculture	Evaluating electrostatic spraying to improve food contact surface disinfection and produce safety and quality	$66,705
Global Food Systems Seed Grant Program, Kansas State University	Application of Ultraviolet light technology to enhance the safety of agricultural water on Kansas fresh produce farms	$36,600
Sarin Energy Solutions, Overland Park, KS	Testing antibacterial activity and efficacy of UV-C light products for Sarin Energy Solutions	$7,220
Natural Choice Company, KS	Testing antibacterial efficacy of essential oil formulations from Natural Choice Company	$4,927
Iowa State University Extension and Outreach	Assessing the Food Safety Knowledge Gained from Underserved Refugee Populations in Iowa	$10,000

Iowa State University Extension and Outreach	Enhancing water testing in the state of Iowa using portable testing kit	$9,906

Grants funded (as Co-PI) (2020-2022)

Funding agency	Project title	Funds received
USDA NIFA OREI	Novel sanitation approaches to control Listeria biofilms in the organic produce industry	$1,499,999
Center for Produce Safety	A validation study for the tree fruit industry: Effective strategies to sanitize harvesting bins and picking bags	$251,381
USDA NIFA FSOP	Strengthening FSMA Agricultural Water Outreach and Education for Produce Growers in Kansas and Missouri	$290,173
Kansas Department of Agriculture	Improving safety, nutritional quality and consumer acceptability of lettuce growing with movable high tunnels in Kansas	$108,732
USDA NIFA FSOP	Addressing Produce Safety Educational Needs for Non-English Speaking Produce Growers in the Midwest	$97,640
Kansas Department of Agriculture	Safety for produce growers: Worker Protection Standard training certification and GAPs certification funding and outreach	$81,546
Global Food Systems Seed Grant Program, Kansas State University	Evaluating the effect of innovative food labeling technology on produce quality, safety and consumer acceptability	$76,013
USDA NIFA OREI	A multistate approach for assessing the needs of postharvest practices in order to improve quality and safety of organic produce	$49, 586
USDA NIFA	Ensuring Food Safety Competency of Produce Growers and Processors in the NCR Through Expanded Collaboration with Diversified Populations	$6,000

Grants with decision pending (*as PI) (2022)*

Funding Agency	Project Title	Funds requested
NSF CAREER	CAREER: Investigating and understanding cell mechanisms in the Long-Term Survival Phase of bacterial cells	$464,548

Grants with decision pending (*as Co-PI) (2022)*

Funding Agency	Project Title	Funds requested
USDA NIFA Urban Indoor and Emerging Agriculture	Assessing Economic Feasibility and Food Safety Concerns of Organic Hydroponic Productions	$1,000,000

NSF Convergence Accelerator Phase 1	NSF Convergence Accelerator Track J: Creating a Harvest Hub Food Council in a Rural Kansas Community	$749,611

Grants not funded (2020-2022)

Funding Agency	Project Title	Funds requested
USDA-AMS	Advancing grower adoption of ultraviolet light (UV) technologies to treat agricultural water by developing UV guidance for the produce industry (PI)	$1,000,000
USDA NIFA OREI	Growing cover crops to improve food safety and security on organic fresh produce farms (PI)	$750,000
USDA NIFA AFRI Foundational and Applied Science Program	Developing Resilient Food Systems Through the Integration of Emerging Technologies in High Tunnels (PI)	$649,999
Kansas Department of Agriculture	Food Safety Begins on Farms: Effective Cleaning and Sanitation Practices (Co-PI)	$81,980
USDA-NIFA	Sustainable Ultraviolet Light-based Technologies to Control SARS-CoV-2 and Select Human Respiratory Viruses in Food Environments (Co-PI)	$1,000,000
USDA-NIFA	Developing resilient food systems through the integration of emerging technologies in high tunnels (Co-PI)	$500,000
USAID	An Integrated and sustainable approach to enhance safety and quality of nutrient-dense vegetables in Kenya (PI)	$697,495
USDA-NIFA-OREI	Using bio-mitigation to improve food safety and security of organic produce with cover crops (PI)	$750,000
USDA-NIFA-OREI	Novel Sanitation approaches to control Listeria biofilms in the organic produce industry (Co-PI)	$1,500,000
USDA-NIFA-AFRI	Application of Ultraviolet light technologies to reduce food losses by improving postharvest safety and quality of fresh produce (PI)	$648,248
USDA-NIFA-AFRI	Tolerance of Long-Term Survival Phase Cells of Pathogenic Escherichia coli to Decontamination Methods for Agricultural Water (PI)	$649,999

PUBLICATIONS

*Represent graduate student in the research program

1. Zhao, Y.*, Stoeckel, D., **Bhullar, M.S.**, & Nwadike, L. 2022. Knowledge and current practices related to agriculture water microbial quality among Kansas and Missouri produce growers. Food Protection Trends
2. Haley, O.C.*, Zhao, Y.*, Maher, J., Gragg, S., Trinetta, V., **Bhullar, M.S.**, & Nwadike, L. 2022. Comparative assessment of the microbial quality of agricultural water on Kansas and Missouri fresh produce farms. *Food Protection Trends*
3. Haley, O. C.*, Zhao, Y.*, & **Bhullar, M.S.** 2022. Protocol for Evaluating the Microbial Inactivation of Commercial UV Devices on Plastic Surfaces. *Methods and Protocols, 5(4), 65.*

4. Irakoze, Z., Nwadike, L., Stoeckel, D., **Bhullar, M.S.**, Byers, P., and Gragg, S.E. 2022. Evaluation of Peroxyacetic Acid and Chlorine as Treatments for Surface Water for Post-Harvest Uses in the Produce Industry. Water, 14(23), 3890.
5. Schwan, C.L., Lomonaco, S., Bastos, L.M., Cook, P.W., Maher, J., Trinetta, V., **Bhullar, M.S.**, Phebus, R.K., Gragg, S., Kastner, J., & Vipham, J.L. 2021. Genotypic and phenotypic characterization of antimicrobial resistance profiles in non-typhoidal Salmonella enterica strains isolated from Cambodian informal markets. *Frontiers in Food Micobiology*
6. **Bhullar, M.S**., Shaw, A., Mendonca, A., Monge, A., Nabwire, L., & Thomas-Popo, E. 2021. Shiga Toxin–Producing *Escherichia coli* in the Long-Term Survival Phase Exhibit Higher Chlorine Tolerance and Less Sublethal Injury Following Chlorine Treatment of Romaine Lettuce. *Foodborne Pathogens and Disease*, *18*(4), 276-282.
7. **Bhullar, M. S**., Monge-Brenes, A., Perry, B., Nabwiire, L., & Shaw, A. 2021. Determining the potential food safety risks associated with dropped produce on floor surfaces in grocery stores. Journal of Food Protection, 84(2), 315-320.
8. **Bhullar, M.S.**, Perry, B., Monge, A., Nabwiire, L., & Shaw, A. 2021. *Escherichia coli* Survival on Strawberries and Unpacked Romaine Lettuce Washed Using Contaminated Water. Foods, 10(6), 1390.
9. Misra, N. N., Dixit, Y., Al-Mallahi, A., **Bhullar, M. S.**, Upadhyay, R., & Martynenko, A. 2020. IoT, big data and artificial intelligence in agriculture and food industry. *IEEE Internet of Things Journal*.
10. **Bhullar, M.S.**, Shaw, A., Hannan, J., & Andrews, S. 2019. Extending the holding time for agricultural water testing method EPA 1603 for produce growers. *Water:* In Press
11. **Bhullar, M. S.**, Patras, A., Kilonzo-Nthenge, A., Pokharel, B., & Sasges, M. 2019. Ultraviolet inactivation of bacteria and model viruses in coconut water using a collimated beam system. *Food Science and Technology International*, 1082013219843395.
12. **Bhullar, M. S.**, Patras, A., Kilanzo-Nthenge, A., Pokharel, B., Yannam, S. K., Rakariyatham, K., Pan, C., Xiao, H. & Sasges, M. 2018. Microbial inactivation and cytotoxicity evaluation of UV irradiated coconut water in a novel continuous flow spiral reactor. *Food Research International*, *103*, 59-67.
13. Vergne, M. J., Patras, A., **Bhullar, M. S.**, Shade, L. M., Sasges, M., Rakariyatham, K., Pan, C., & Xiao, H. (2018). UV-C Irradiation on the Quality of Green Tea: Effect on Catechins, Antioxidant Activity, and Cytotoxicity. *Journal of Food Science*, *83*(5), 1258-1264.
14. Gunter-Ward, D. M., Patras, A., **Bhullar, M. S.**, Kilonzo-Nthenge, A., Pokharel, B., & Sasges, M. (2018). Efficacy of ultraviolet (UV-C) light in reducing foodborne pathogens and model viruses in skim milk. *Journal of Food Processing and Preservation*, *42*(2), e13485.

PUBLICATIONS (In Preparation)

1. Haley, O.C.*, Zhao, Y.*, Griffin, T., Hefley, T., Nwadike, L., & **Bhullar, MS** 2022. The application of ultraviolet light to improve the microbial safety of agricultural surface water. Journal of Food Protection (under review)
2. Haley, O.C.*, Nwadike, L., Pliakoni, E., Rivard, C., & **Bhullar, M.S.** 2022. The Application of Ultraviolet Light Technologies in Fresh Produce Production and Processing: Trends and Challenges in Produce Safety and Quality. Comprehensive Reviews in Food Science and Food Safety (under review)
3. Haley, O.C.*, Nwadike, L., Pliakoni, E., Rivard, C., & **Bhullar, M.S.** 2022. Not 'berry' fruitful. The attenuation of UV-LED microbial reduction efficacy in blueberry fruit despite 360º treatment. Food Protection Trends (submitted)

4. Zhao, Y.*, Haley, O.C.*, Xu, X. Jaberi, M., Pliakoni, E., Rivard, C., Nwadike, L & **Bhullar, M.S.** 2022. Potential for cover crops to reduce bacterial pathogen load in contaminated soil. Journal of Food Protection (submitted)
5. Khadka, D.*, Haley, O.C.*, Jenkins, T. Abeli, P., Pliakoni, E. & **Bhullar, M.S.** 2022. QR codes on fresh produce: Evaluating microbial safety and postharvest quality. Food Protection Trends
6. Khadka, D.*, Brar, J., Talavera, M., P., Pliakoni, E. & **Bhullar, M.S.** 2022. Consumer acceptability and intent to buy for QR labeled fresh produce. Journal of Food Science
7. Manville, E., Nwadike, L., **Bhullar, M.S**., & Trinetta, V. 2022. Characterization of Escherichia coli Isolated from Produce Irrigation Water in Kansas and Missouri by Whole-Genome Sequencing. Food Protection Trends
8. Abeli, P. Jenkins, T., Haley, O.C*., Rivard, C., **Bhullar, MS**, & Pliakoni, E. 2022. Improving safety, nutritional quality and consumer acceptability of lettuce growing with movable high tunnels in Kansas. MDPI Horticulturae
9. Haley, O.C.*, **Bhullar, M.S**., Enderton, A., & Nwadike L. 2022. Grower Knowledge, Attitudes, and Perceptions Regarding the Use of Ultraviolet Light for Agricultural Water Disinfection. Food Protection Trends
10. **Bhullar, M.S**., Shaw, A., & Mendonca A. 2022. Characterizing the morphological differences between stationary and long-term survival phase cells of *Escherichia coli*. *Foodborne Pathogens and Disease*

BOOK CHAPTERS

1. **Bhullar, M.S.,** Gavahian, M., & Misra, N. N. 2022. Plasma-Activated Water: Methods and Protocols in Food Processing Applications. In Emerging Food Processing Technologies (pp. 47-57). Humana, New York, NY.
   Role: Bhullar wrote the sections on the methodologies used for application of plasma activated water and provided pictures for graphical illustration of the methods used.
   Contribution: 40% concept; 40% writing and editing
   Significance: The chapter provides detailed information on the methods used for production of plasma activated water and its application in the food processing.
2. **Bhullar, M.S.,** Gavahian, M., & Misra, N. N. 2022. Cold Plasma Processing: Methods and Applications in Study of Food Decontamination. In Emerging Food Processing Technologies (pp. 31-45). Humana, New York, NY.
   Role: Bhullar wrote the sections on the methodologies used for application of plasma activated water and provided pictures for graphical illustration of the methods used.
   Contribution: 40% concept; 40% writing and editing
   Significance: The chapter provides detailed information on the methods used for production of plasma activated water and its application in the food processing.
3. **Bhullar, M. S.,** Tayal, M., Kashyap, S., & Sandhu, R. 2021. Novel Whole-Grain Foods: Nutritional and Phytochemical Properties for Healthcare. Cereals and Cereal-Based Foods: Functional Benefits and Technological Advances for Nutrition and Healthcare, 151.

Role: Bhullar led writing the chapter focusing on the development of novel whole-grain foods and their significant health advantage. Bhullar discussed various studies from the literature and demonstrated the benefits of consuming whole-grain foods to human health care.
Contribution: 100% concept, 100% interpretation, 80% writing and editing
Significance: Whole grains are packed with nutrients, including protein, vitamins, and trace minerals that protect human health from several diseases. The consumer demand to increase the intake of fiber in the diet has evolved whole-grain product development for the food industries. With this high demand, the chapter discusses the approaches of the food product developers, the composition of new whole-grain foods, and the potential health benefits.

4. Patras, A., **Bhullar, M.S.**, Pendyala, B., & Ferdinando, C. 2020. 'Ultraviolet treatment of opaque liquid foods: From theory to practice' In: K. Muthukumarappan & K. Knoerzer. 'Innovative Food Processing Technologies: A comprehensive review.' Elsevier: *In Press*
Role: Bhullar assisted co-authors writing sections of the chapter focusing on the characterization of processing parameters of UV technology: applied energy, fluence/dose, delivered UV dose, and the factors influencing UV disinfection.
Contribution: 40% concept; 50% interpretation; 50% writing and editing
Significance: The purpose of this chapter is to provide comprehensive technical information on the application of UV irradiation for inactivation of microbial hazards of liquid foods.

POSTER PRESENTATIONS

1. Haley, O.*, Zhao, Y.*, Hefley, T. & **Bhullar, M.S**. 2022. The Application of Ultraviolet Light Technology to Enhance the Safety of Agricultural Water on Kansas Fresh Produce Farms. Research and the State, Manhattan, November 2022.
2. Haley, O.*, Zhao, Y.*, Hefley, T. & **Bhullar, M.S**. 2022. The Application of Ultraviolet Light Technology to Enhance the Safety of Agricultural Water on Kansas Fresh Produce Farms. Kansas City One Health Day, November 2022.
3. Haley, O.*, Zhao, Y.*, Maher, J.M., Gragg, S.E., Trinetta, V., **Bhullar, M.S.**, & Nwadike L. 2022. Comparative assessment of the microbial quality of agricultural water on Kansas and Missouri fresh produce farms. 2022 Great Plains Growers Conference. St. Joseph, MO, USA.
4. Khadka, D.*, Haley, O., Jenkins, T. Abeli, P., **Bhullar, M.S.** & Pliakoni, E. 2022. QR codes on fresh produce: Evaluating microbial safety and postharvest quality. Kansas City One Health Day, November 2022.
5. Khadka, D.*, Haley, O.*, Jenkins, T. Abeli, P., **Bhullar, M.S.** & Pliakoni, E. 2022. QR codes on fresh produce: Evaluating microbial safety and postharvest quality. Olathe Horticulture Research and Extension Center Annual Veggie Field Day, August 8th, 2022
6. Haley, O.*, Zhao, Y.*, Hefley, T. & **Bhullar, M.S**. 2022. The Application of Ultraviolet Light Technology to Enhance the Safety of Agricultural Water on Kansas Fresh Produce Farms. K-State Grad Forum, March 2022
7. Haley, O.*, & **Bhullar, M.S.** 2022. There's a photon in my water! The application of ultraviolet light technology to enhance the safety of agricultural water. 3MT thesis competition. Feb-March 2022

8. Haley, O.*, Zhao, Y.*, Hefley, T. Britton, L., & **Bhullar, M.S.** 2022. he Application of Ultraviolet Light Technology to Enhance the Safety of Agricultural Water on Kansas Fresh Produce Farms. International Association for Food Protection Annual Conference (IAFP) 2022
9. Zhao, Y.*, Haley, O.*, Xu, X. Jaberi, M., Pliakoni, E., Rivard, C., Nwadike, L & **Bhullar, M.S.** 2022. Potential for cover crops to reduce bacterial pathogen load in contaminated soil. International Association for Food Protection Annual Conference (IAFP) 2022
10. Zhao, Y.*, Stoeckel, D., **Bhullar, M.S.**, & Nwadike, L. 2021. Knowledge and current practices related to agriculture water microbial quality among Kansas and Missouri produce growers. International Association for Food Protection Annual Conference (IAFP) 2021
11. Haley, O.*, Zhao, Y.*, & **Bhullar, M.S.** 2021. Antibacterial activity and microbial inactivation efficacy of UV-C reactor test devices. K-State GRAD Forum, 2021
12. Haley, O.*, Zhao, Y.*, & **Bhullar, M.S.** 2021. Demonstration of Ultraviolet-C devices for on-farm disinfection of agricultural water. K-State Olathe Horticulture Research and Extension Center, Veggie Field Day 2021.
13. Zhao, Y.*, Stoeckel, D., **Bhullar, M.S.**, & Nwadike, L. 2021. Knowledge and current practices related to agriculture water microbial quality among Kansas and Missouri produce growers. 10th Annual Kansas Governor's Water Conference on November 17th-18th, 2021
14. Maher J.M., Nwadike L., Trinetta V., Gragg S.E., & **Bhullar M.S.** 2020. Survey of agricultural water microbial quality in Kansas and Missouri. Urban Food Systems Symposium, Virtual event, October 14th, 2020.
15. Maher J.M., Nwadike L., Trinetta V., Gragg S.E., & **Bhullar M.S.** 2020. Survey of agricultural water microbial quality in Kansas and Missouri. International Association for Food Protection (IAFP) Annual Conference, Virtual event, October 27th, 2020.
16. **Bhullar M.S**., Monge-Brenes A., Perry B., Nabwiire L., & Shaw A. 2019. Determining the potential food safety risk associated with dropped produce on floor surfaces in the grocery store. International Association for Food Protection (IAFP) Conference, Louisville, Kentucky, July 20-24, 2019.
17. **Bhullar M.S.,** Shaw A., Hannan J., & Andrews S. 2019. Extending the holding time for agricultural water testing EPA Method 1603 for produce growers. FSMA North Central Region Annual Conference, Indianapolis June 10-11, 2019.
18. **Bhullar M.S.,** Shaw A., Hannan J., & Andrews S. 2018. Development of user-friendly *E. coli* water testing method for Iowa produce farmers to enhance food safety. International Association for Food Protection (IAFP) Annual Meeting, Salt Lake City, Utah, July 8 – July 12, 2018.
19. **Bhullar M.S.,** Shaw A., Hannan J., & Andrews S. 2018. Development of user-friendly *E. coli* water testing method for Iowa produce farmers to enhance food safety. Center for Crop Utilization Research BioCentury Research Farm Poster Competition. March 28, 2018.
20. **Bhullar M.S.,** Shaw A., Hannan J., & Andrews S. 2018. Development of user-friendly *E. coli* water testing method for Iowa produce farmers to enhance food safety. Iowa Fruits and Vegetable Growers Association Annual Conference, Jan 25-26, 2018.
21. **Bhullar M. S.**, Patras A., Kilanzo-Nthenge A., Pokharel B., & Sasges M. 2016. UV-C inactivation of Bacteria and viruses in coconut water. International Association for Food Protection (IAFP) Annual Meeting, St. Louis, MO, July 31 – Aug 4, 2016.
22. Patras A., **Bhullar M. S.**, Julakanti S. C., & Sasges M. 2015. Advancements in UV treatment of liquid foods: A dose delivery study. 12th International Congress on Engineering and Food (ICEF 12), Quebec City, Canada. June 14 – 18, 2015

ORAL PRESENTATIONS

1. Haley, O.*, Zhao, Y.*, Hefley, T. & **Bhullar, M.S**. 2022. The Application of Ultraviolet Light Technology to Enhance the Safety of Agricultural Water on Kansas Fresh Produce Farms. Governor's Water Conference, Manhattan, November 2022.
2. Haley, O.*, Zhao, Y.*, Hefley, T. & **Bhullar, M.S**. 2022. The Application of Ultraviolet Light Technology to Enhance the Safety of Agricultural Water on Kansas Fresh Produce Farms. International Association for Food Protection Annual Conference, Pittsburg, August 2022.
3. Haley, O.*, & **Bhullar, M.S**. 2022. There's a photon in my water! UV Light, Food Safety, and You. 2022 K-State Three Minute Thesis (3MT) Competition. Manhattan, KS, USA.
4. Khadka, D.*, Haley, O., Jenkins, T. Abeli, P., **Bhullar, M.S.** & Pliakoni, E. 2022. QR codes on fresh produce: Evaluating microbial safety and postharvest quality. American Society for Horticulture Science Annual Conference, Chicago, August 2022
5. **Bhullar, M.S.** 2022. QR codes on fresh produce: Evaluating microbial safety and postharvest quality. BioKansas Innovation Festival AgTech Conference, August 2022
6. **Bhullar, M.S**., Shaw, A., Mendonca, A., Monge-Brenes, & Nabwiire, L. 2020. Chlorine resistance and sublethal injury of long-term survival phase *Escherichia coli* as in-vitro planktonic cells and cells attached to Romaine Lettuce. International Association for Food Protection (IAFP) Annual Conference, Virtual event, October 27th, 2020.
7. **Bhullar M.S**., Monge-Brenes A., Perry B., Nabwiire L., & Shaw A. 2019. The fate of fallen produce – Uncovering the 5-sec rule. Food Service Workshop, Iowa State University, July 2019.
8. **Bhullar M.S**. 2019. Key Insight: How to make an effective technical poster. George Washington Carver Summer Intern Program, Iowa State University, Ames, July 10, 2019.
9. **Bhullar M.S**., Monge-Brenes A., Perry B., Nabwiire L., & Shaw A. 2019. Determining the potential food safety risk associated with dropped produce on floor surfaces in the grocery store. North Central Region Annual Conference, Indianapolis, June 10-11, 2019.
10. **Bhullar M.S.,** Shaw A., Hannan J., & Andrews S. 2019. Extending the holding time for agricultural water testing EPA Method 1603 for produce growers (e-poster). Institute of Food Technologists (IFT) Annual Conference, New Orleans, June 2-5, 2019.
11. **Bhullar M.S**., Monge-Brenes A., Perry B., Nabwiire L., & Shaw A. 2018. Determining the potential food safety risk associated with dropped produce on floor surfaces in the grocery store. Iowa State University Graduate College 3M Thesis Competition, November 2018.

CERTIFICATIONS

1. On Farm Readiness Review (NASDA)
2. Preparing Future Faculty (PFF) Associate
3. Produce Safety Alliance Grower – Train the Trainer
4. FSPCA Preventive Controls for Human Food
5. Bridging the GAPs: Approaches for Treating Preharvest Agricultural Water On-Farm Train-the-Trainer

PROFESSIONAL AFFILIATIONS

- Phi Tau Sigma (Honor Society of Food Science and Technology)

- Institute of Food Technologists (IFT)
- International Association for Food Protection (IAFP)
- Indian Affiliate for Food Protection North America (IAFPNA)
- American Association for the Advancement of Science (AAAS)
- American Society for Microbiology (ASM)
- International Ultraviolet Association (IUVA)
- National Ground Water Association (NGWA)
- Sigma Xi
- Gamma Sigma Delta
- Kansas Public Health Association
- National Center for Faculty Development and Diversity

GRADUATE STUDENTS

Student name	Degree	Research Project
Olivia Haley	Ph.D.	Application of ultraviolet light technologies to enhance the safety and quality of fresh produce
Yeqi Zhao *(graduated)*	M.S.	Developing extension factsheets and handouts on best practices for safer use of agricultural water at fresh produce farms
Durga Khadka	M.S.	Evaluating the effect of innovative food labeling technology on produce quality, safety and consumer acceptability
Markanna Moore	M.S.	Enhancing microbial safety of hydroponic systems with the use of ultraviolet irradiation

MENTORSHIP

Dates	Name	Project title	Comment
Summer 2022	Menaka Garapaty	Evaluating effect of laser QR codes on fresh produce commodities	Student at Olathe North High School
Summer 2021	Lauren Fenton	Application of ultraviolet light technologies to enhance the safety and quality of fresh produce	Undergraduate Student at Oklahoma State University
Summer 2019	Kelvin Lopez	Antimicrobial efficacy of chlorine wash solutions against long-term survival cells of *Escherichia coli* and *Salmonella enterica*	George Washington Carver Intern graduated from University of Puerto-Rico
Summer 2018	Keith Fennel	Determining the survival rate of *Escherichia coli* in washed Strawberries and unpacked Lettuce using contaminated water	George Washington Carver Intern, Senior at North Carolina A&T University
Summer 2018	Briana Young	Extending the holding time for agricultural water testing EPA Method 1603 for produce growers	George Washington Carver Intern, Senior at

			Central Michigan University
Summer 2017	Yazrah Randall	Extending the holding time for agricultural water testing EPA Method 1603 for produce growers	George Washington Carver Intern, Production supervisor grocery products at Hormel Foods

AWARDS

- Research Excellence Award, Iowa State University
- IFT Feeding Tomorrow Travel Award, Annual Conference - 2019
- Outstanding Graduate Student Award (IFT) – Iowa Section
- 3M Thesis Competition 'People's Choice Award'
- College of Human Sciences Scholarship, Iowa State University
- Kemin Industry Scholarship, (IFT) – Iowa Section
- University Merit Scholarship, Punjab Agricultural University

SCIENTIFIC REVIEW ACTIVITY

- Journal of Food Science
- Frontiers in Food Science and Technology (Reviewer)
- Frontiers in Food Science and Technology (Topic editor for research topic 'Impact of integrating traceability in the Food Supply Chains')
- Foodborne Pathogens and Diseases
- Food Science and Technology International
- LWT Food Science and Technology
- Journal of the Science of Food and Agriculture
- Applied Engineering in Agriculture
- Biomass Conversion and Biorefinery
- Plant Foods for Human Nutrition (Springer)
- Critical Reviews in Food Science and Nutrition

LEADERSHIP AND SERVICE ROLES

- Organized and convened a symposium session titled "Agricultural Water Quality 2022
  for Produce: Recent Advances, Current Challenges, and Future Opportunities" at the International Association for Food Protection Annual Conference
- Served as a judge for the Developing Scientist Competition at the
  2022
  International Association for Food Protection Annual Conference

- Chair, Marketing Committee, Urban Food Systems Symposium 2022
- Member, Organizing Committee, Urban Food Systems Symposium 2022
- Member, Scientific Committee, Urban Food Systems Symposium 2022
- Vice President – Indian Association for Food Protection North America (IAFPNA) 2022-23
- Technical Research Paper (TRP) Lead – Food Microbiology Division (IFT) 2022-23
- Secretary-Elect, Gamma Sigma Delta 2022-23
- Panelist for discussion on Diversity, Inclusion and Equity 'Food LogiQ Virtual 2022
  Reconnect 2022' – Food Safety – Representation Matters
- Delivered a presentation on the topic 'Sikhs: Who are they?' to raise awareness 2022
  on cultural diversity and inclusion on the K-State campus
- President - Kansas City chapter of the Institute of Food Technologists (KC-IFT) 2021-22
- Secretary – Indian Association for Food Protection North America (IAFPNA) 2021-22
- Member at Large – Food Microbiology Division (IFT) 2021-22
- Served as a search committee member for a faculty position at K-State Olathe in 2021
  the School of Applied and Interdisciplinary Studies
- Served as a search committee member for a farm manager position at K-State 2021
  Olathe Horticulture Research and Extension Center
- Co-chaired a technical session on Produce at the IAFP Annual Conference 2021
- Served as Senator in the Graduate and Professional Student Senate (GPSS) at 2018-19
  Iowa State University for a one-year term to develop and disseminate
  ideas for the improvement of graduate and professional education, and
  contribute to the formation of relevant University policies
- Served as GPSS representative on International Student Advisory Board, 2018-19
  to promote an inclusive campus environment at Iowa State University
- Voluntarily participated as a student member for 2018 Men of Color 2018-19
  Empowerment Summit at Iowa State University, a comprehensive
  forum on issues of the importance of education, best practices and choices
  to increase graduation rates and close the achievement gap for men of color
  enrolled at Iowa State University and beyond
- Served on board for both college and department computer advisory 2018-19
  Committees to address the technological needs and efficient expenditure of the
  students' technology fees/funds
- Volunteered to present at Iowa State Conference on Race and 2018
  Ethnicity (ISCORE) on "Sikhs: Who are they?", educating others about
  Sikh religion, fostering campus diversity and community engagement
- Served as Judge for Future Farmers of America (FFA) Food Science 2018
  Product Development Competition, Iowa State University, Ames, evaluating
  high school student teams on creative food product development ideas

- Served as Judge for Iowa State Science and Technology Fair of Iowa, Iowa State University, Ames, grading high school students' research projects 2017