

Sujata A. Sirsat

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Conrad N. Hilton College of Hotel & Restaurant Management
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WORK EXPERIENCE

University of Houston

Assistant Professor

Houston, TX

August 2015- present

Projects:

- Received funding from the Teaching Innovation Program to incorporate technology into the classroom to enhance student learning
- Received funding from USDA to address implications of bacterial and viral cross contamination challenges in farmers' markets
- Determining consumer perceptions of restaurants implicated in a foodborne illness outbreak

University of Houston

Research Assistant Professor

Houston, TX

February 2011- present

Projects:

- Received funding from the Texas Department of Agriculture to develop a novel sanitizing device for small farmers' to enhance microbial safety of fresh leafy greens
- Designed novel approaches to simulate *Listeria monocytogenes* cross contamination in retail deli settings
- Worked with community gardens, food banks, and farmers market to address food safety issues such as cross contamination, food quality and spoilage
- Applied the HACCP (Hazard Analysis and Critical Control Points) principle towards hotel room sanitation using microbiological methods

University of Arkansas

Graduate Research Assistant

Fayetteville, AR

2006-2010

- Studied the efficacy of post-processing interventions on the viability of *Salmonella* to decontaminate poultry carcass
- Studied the transcriptome of *Salmonella* Typhimurium using techniques such as microarrays and qualitative real-time PCR analysis
- Studied *Salmonella* adhesion and invasion using intestinal epithelial-like cell line Caco-2
- Studied the viability and gene expression of *Salmonella* using β -galactosidase assays under stress conditions

EDUCATION

University of Arkansas

Ph.D. (Poultry Science)

Fayetteville, AR

December 2010

Dissertation title: The influence of sublethal heat stress and natural interventions on the viability and transcriptome of *Salmonella* Typhimurium

Texas A&M University
M.Biot. (Biotechnology)

College Station, TX
December 2004

University of Mumbai
M.S. (Life Sciences and Biomacromolecules)

Mumbai, India
June 2002

University of Mumbai
B.S. (Life Sciences)

Mumbai, India
June 2000

FUNDED GRANTS

1. "Incorporation of Tablet Applications Into Courses to Enhance Student Engagement and Knowledge Retention" Teaching Innovation Program Grant in the amount of \$22,784 (2015)
2. "Reducing the Risks of Microbial Foodborne Illness Associated with Fresh Leafy Greens in Restaurants" New Faculty Research Program in the amount of \$5,719 (2015)
3. "Development of Effective Behavior Based Standard Operating Procedures for Fresh Cut Leafy Greens in Retail Foodservice Operations" Agriculture and Food Research Initiative Grant in the amount of \$304,163 (2014)
4. "Enhancing Farmers Market Food Safety Practices For Fresh Produce Handling" Agriculture and Food Research Initiative Grant in the amount of \$425,000 (2013)
5. "Food Safety Best Practices Videos and Workbook for Small Farmers in Texas" Texas Department of Agriculture Grant in the amount of \$56,900 (2012)
6. "Agriculture Out of Bounds" Hispanic Serving Institutions Education Grants Program Grant in the amount of \$49,847 (2012)
7. "Economical Post-Harvest Practices for Leafy Greens Grown on Texas Small Farms" Texas Department of Agriculture Grant in the amount of \$58,837 (2011)

PUBLICATIONS

Peer-Reviewed Journal Articles

1. Howton J, Keifer E, Murphy CA, **Sirsat SA**, O'Bryan CA, Ricke SC, Crandall PG, and Neal JA. A comparison of food safety programs using the Customizable Tool for Online Training Evaluation. *Food Control*, 2016, 59: 82-87.
2. **Sirsat SA**, Baker CA, Park SH, Muthaiyan A, Dowd SE, and Ricke SC. Transcriptomic response of *Salmonella* Typhimurium heat shock gene expression under thermal stress at 48° C. *Journal of Food Research*, 2015, 4(5): 51-56.
3. **Sirsat SA** and Neal JA. Titanium dioxide nanoparticles as an environmental sanitizing agent. *J Microb Biochem Technol*, 2015, 7: 61-64.
4. Almanza B, Kirsch K, Kline S, **Sirsat SA**, Stroia O, Choi J, and Neal JA. How clean are hotel rooms: Visual observations versus microbiological contamination. *Journal of Environmental Health*, 2015, 78(1): 8-13.
5. Almanza B, Kirsch K, Kline S, **Sirsat SA**, Stroia O, Choi J, and Neal JA. Examining the concept of cleanliness standards in hotel rooms. *Journal of Environmental Health*, 2015, 78(1): 14-17.
6. Wright K, **Sirsat SA**, Neal JA, and Gibson KE. Growth of local food systems: A review of potential food safety implications. *CAB Reviews*, 2015 10: 1-13.

7. **Sirsat SA**, Kawon K, Gibson KE, Crandall PG, Ricke SC, and Neal JA. Tracking microbial contamination in retail environments using florescent powder - A retail delicatessen environment example. *Journal of Visualized Experiments*, 2014, 85: e51402.
8. Zerio-Egli CN, **Sirsat SA**, and Neal JA. Development of a novel economical device to improve post-harvest processing practices on small farms. *Food Control*, 2014, 4:152-158.
9. Smith L, **Sirsat SA**, Neal JA. Does Food Safety Training for Non-Profit Food Service Volunteers Improve Food Safety Knowledge and Behavior? *Food Protection Trends*, 2014, 34 (3): 156-163.
10. Mertz AW, Koo, OK, O'Bryan CA, **Sirsat SA**, Neal JA, Ricke SC, and Crandall PG. Microbial ecology of meat slicers as determined by density gradient gel electrophoresis. *Food Control*, 2014, 42: 242-247.
11. **Sirsat SA** and Neal JA. Microbial Profile of Soil-Free *versus* In-Soil Grown Lettuce and Intervention Methodologies to Combat Pathogen Surrogates and Spoilage Microorganisms on Lettuce. *Foods*, 2013, 2(4): 488-498.
12. **Sirsat SA**, Choi JKK, Almanza BA, and Neal JA. Persistence of *Salmonella* and *E. coli* on the surface of restaurant menus. *Journal of Environmental Health*, 2013, 75(7): 8–14.
13. Koo OK, Akins EL, **Sirsat SA**, Neal JA, Crandall PG, and Ricke SC. Analysis of microbial diversity on deli slicers using polymerase chain reaction and denaturing gradient gel electrophoresis technologies. *Letters of Applied Microbiology*, 2013, 56(2): 111-119.
14. **Sirsat SA**. Can *Salmonella* survive in the human oral cavity? *Agriculture, Food and Analytical Bacteriology Journal*, 2013, 3: 30-38.
15. Koo OK, **Sirsat SA**, Crandall PG, and Ricke SC. Physical and chemical control of *Salmonella* in ready-to-eat products. *Agriculture, Food and Analytical Bacteriology Journal*, 2012, 2(1): 56-68.
16. Chalova VI, Hernandez OH, Muthaiyan A, **Sirsat SA**, Natesan S, Sanz M, Moreno FJ, O'Bryan CA, Crandall PG, and Ricke SC. Growth and transcriptional response of *Salmonella* Typhimurium LT2 to glucose–lysine-based Maillard reaction products generated under low water activity conditions. *Food Research International*, 2012, 45: 1044-1053.
17. **Sirsat SA**, Burkholder KM, Dowd SE, Muthaiyan A, Bhunia AK, and Ricke SC. Effect of sublethal heat stress on *Salmonella* Typhimurium virulence. *Journal of Applied Microbiology*, 2011, 110: 813-822.
18. **Sirsat SA**, Muthaiyan A, and Ricke SC. Optimization of RNA extraction method for transcriptome studies of *Salmonella* inoculated on commercial raw chicken breast. *BMC research notes*, 2011, 4:60-67.
19. **Sirsat SA**, Muthaiyan A, and Ricke SC. Antimicrobials for foodborne pathogen reduction in organic and natural poultry production. *J Appl Poultry Res*, 2009, 18: 379-388.
20. Chalova VI, **Sirsat SA**, O'Bryan CA, Crandall PG, and Ricke, SC. *Escherichia coli*, an intestinal microorganism, as a biosensor for quantification of amino acid bioavailability. *Sensors*, 2009, 9: 7038-7057.

Book Chapters

1. **Sirsat SA**, Gibson KE, and Neal JA. Food safety at farmers markets: Fact or fiction? In *Emerging Issues in Food Safety Systems and Ecology*, eds S. Ricke, Elsevier, 2015.
2. Neal JA and **Sirsat SA**. Novel approaches to retail food safety education. In *Emerging Issues in Food Safety Systems and Ecology*, eds S. Ricke, Elsevier, 2015.

3. Neal JA and **Sirsat SA**. Food Safety for Restaurant Managers. In Hospitality Management Learning Modules, eds P. Szende, Boston, MA, Pearson Education Inc., 2013.
4. **Sirsat SA**, Muthaiyan A, Dowd SE, Kwon YM, Ricke SC. The potential for application of foodborne *Salmonella* gene expression profiling assays in post harvest poultry processing. In Perspectives on Food Safety Issues of Food Animal Derived Foods, eds. S.C. Ricke and F.T. Jones, University of Arkansas Press, Fayetteville, AR. 2009, 195-222.

Conference Abstracts

1. Norwood H, Choi J, Seo S, **Sirsat SA**, and Neal JA. What's in your salad? An observation of food handlers' practices. International Association of Food Protection, Portland, July 2015.
2. Kirkwood K, Acosta K, Gibson KE, **Sirsat SA**, Neal JA. Farmers; market booths: Does the layout affect microbial cross-contamination? International Association of Food Protection, Portland, July 2015.
3. Choi J, Norwood H, Seo S, **Sirsat SA**, and Neal JA. Employee knowledge associated with handling fresh cut leafy greens in retail foodservice operations. International Association of Food Protection, Portland, July 2015.
4. **Sirsat SA** and Neal JA. The efficacy of titanium dioxide nanoparticles against pathogens, viral surrogates, and environmental microorganisms. ASM General Meeting, Boston, May 2014.
5. Norwood HE, **Sirsat SA**, and Neal JA. Farmers market food safety: educating while engaging. International Association of Food Protection, Indianapolis, August 2014.
6. Liou L, **Sirsat SA**, Gibson KE, and Neal JA. Food safety guidelines for farmers markets in the United States: A need for standardization. International Association of Food Protection, Indianapolis, August 2014.
7. **Sirsat SA**, Neal JA. Can *Salmonella* spp., *L. monocytogenes*, and *E. coli* O157:H7 survive on fresh produce cartons over time? International Association of Food Protection, Charlotte, July 2013.
8. **Sirsat SA**, Neal JA. Microbial quality of leafy greens: A comparative analysis between aquaponic and in-soil grown produce. ASM General Meeting, San Francisco, CA, June 2012.
9. **Sirsat SA**, Neal JA. Efficacy of natural antimicrobial interventions against *Salmonella* and *Escherichia coli* on fresh leafy greens. International Association of Food Protection, Rhode Island, July 2012.
10. Kirsch K, Neal JA, **Sirsat SA**, Almanza BA, Kline S, Stroia O. A microbial analysis of environmental surfaces in hotel rooms. ASM General Meeting, San Francisco, CA, June 2012.
11. Zerio C, **Sirsat SA**, Neal JA. Vinegar as a sanitizing agent for leafy greens on small farms. International Association of Food Protection, Rhode Island, July 2012.
12. **Sirsat SA**, Muthaiyan A, and Ricke SC. Viability and genomic response of *Salmonella* on poultry treated with natural compounds and stored at 4°C. ASM General meeting, San Diego, CA, May 2010.
13. **Sirsat SA**, Muthaiyan A, Crandall PG, and Ricke SC. *Salmonella* Typhimurium viability and gene expression during exposure to citrus-based compounds. ASM General meeting, Philadelphia, PA, May 2009.
14. Muthaiyan A, Illegghems K, Van Hecke E, Limayem A, **Sirsat SA**, Kim JW, and Ricke SC. Alternative biological antimicrobial compounds limit potential *Lactobacillus* contaminants in yeast. ASM General meeting, Philadelphia, PA, May 2009.

15. Chalova VI, Muthaiyan A, Hernandez O, **Sirsat SA**, Sanz M, Moreno F, and Ricke SC. Growth and genomic response of *Salmonella* Typhimurium LT2 to glucose-lysine based Maillard reaction products. ASM General meeting, Philadelphia, PA, May 2009.
16. **Sirsat SA**, Muthaiyan A, and Ricke SC. *Salmonella* survival and virulence gene expression response to antimicrobial combinations. ASM General meeting, Boston, MA, June 2008.
17. **Sirsat SA**, Dowd SE, Chalova VI, Muthaiyan A, and Ricke SC. Effect of temperature stress on gene expression of *Salmonella* Typhimurium. ASM General Meeting, Toronto, ON, May 2007.
18. **Sirsat SA**, Kim WK, Woodward C, and Ricke SC. *Salmonella* Typhimurium virulence gene expression during post-processing treatments of chicken breast meat. ASM General Meeting, Orlando, FL, May 2006.

INVITED PRESENTATIONS

1. “Texas Farmers Markets: Food safety challenges at farmers’ markets”. Hunger Free Texas Annual Conference, Houston, TX, May 2016.
2. “Farmers Market Promotion Kits”. Texas Certified Farmers’ Market Corporation, Fredericksburg, TX, March 2016.
3. “Farmers’ Market Food Safety”. Houston Department of Health and Human Services, Houston, TX, August 2015.
4. “Do Vendor Booth Configurations Affect Farmers’ Market Food Safety?”. Texas Certified Farmers’ Market Corporation, Fredericksburg, TX, February 2015.
5. “Improving Food Safety Behaviors in the Food Service Industry”. Texas Environmental Health Association Annual Conference, Austin, TX, October 2014.
6. “Addressing Food Safety at Farmers’ Markets—Are we doing enough?”. San Antonio Food Bank Annual Conference, San Antonio, TX, February 2014.
7. “Educational Food Safety Videos: Approaches for Effective Outreach”. Texas Certified Farmers’ Market Corporation, Seguin, TX, February 2014.
8. “Produce Safety Standards”. Southwest Regional Retail Food Seminar, San Antonio, TX, September 2013.
9. “Food Safety at Farmers’ Markets”. Central Texas Environmental Health Conference, San Marcus, TX, May 2013.
10. “Demonstrating a Novel and Economical Devise to Improve On-Farm Food Safety”. Texas Certified Farmers’ Market Corporation, Seguin, TX, February 2013.
11. “Aren't Vegetables Supposed to be Good for Us?”. Texas Certified Farmers’ Market Corporation, Seguin, TX, February 2012.
12. “*Salmonella* Typhimurium Viability and Gene Expression During Exposure to Citrus-Based Compounds”. American Society of Microbiology General Meeting, Philadelphia, PA, May 2009.

TEACHING EXPERIENCE

Courses

Safety and Sanitation for the Hospitality Industry (HRMA 1345)	Fall 2014 to present
Food Safety Perspectives (HRMA 4397)	Fall 2012 to Spring 2014

Graduate and undergraduate student committees

Ms. Kristen Kirkwood, Masters Thesis, University of Houston, May 2015
Ms. Hillary Norwood, Masters Thesis, University of Houston, December 2015
Ms. Mary Goodman, Masters Thesis, University of Houston, December 2014
Ms. Jessica Howton, Masters Thesis, University of Houston, 2013
Ms. Cecilia Zerio Egli, Masters Thesis, University of Houston, 2012
Mr. Brain Saxenian, Masters Thesis, University of Houston, 2012
Ms. Katie Kirsch, Bachelors (Honors Thesis), University of Houston, 2012

Mentorship

Graduate research assistants, University of Houston

Mr. Hayao “Chandler” Yu, Ph.D. student, University of Houston, Fall 2015 to present
Mr. Junxing Wang, Masters student, University of Houston, January 2016 to present
Ms. Kailing Chen, Masters student, University of Houston, August 2015 to May 2016

Undergraduate research assistants, University of Houston

Ms. Kristina Infante May 2016 to present
Ms. Karla Acosta January 2014 to May 2016

AWARDS AND SCHOLARSHIPS

Faculty Research Award, University of Houston, 2016
ASM Corporate Activities Program Travel Grant, 2009
ASM Corporate Activities Program Travel Grant, 2006
Regents' Scholarship, Texas A&M University, 2003

PROFESSIONAL SOCIETY MEMBERSHIPS

Institute of Food Technologists
American Society of Microbiology
International Association of Food Protection