

CURRICULUM VITAE

PRASHANT SINGH

Personal

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Education

- 2015** **Ph.D.** University of Missouri, Columbia, MO (Major: Food Science)
- 2015** **Food Safety and Defense Graduate Certificate Program**, University of Missouri, Columbia, MO
- 2006** **M.S.** Vellore Institute of Technology, TN, India (Major: Applied Microbiology)
- 2004** **B. S. (Honors)** Delhi University, Delhi, India (Major: Botany)

Key Interest

I have conducted research in the area of food microbiology. Emphasis of my past research has been: food safety, detection of foodborne pathogens, development of effective intervention treatment for beef and produce safety and dairy microbiology.

Professional Experience

- **Assistant Professor**, Department of Nutrition, Food and Exercise Sciences, Florida State University (2017 – Present)
- **Postdoctoral Research Associate**, Department of Food Science and Technology, University of Georgia (2015 – 2017)
- **Graduate Research Assistant**, Department of Food Science, University of Missouri, Columbia, MO (2010 – 2015)
- **Graduate Teaching Assistant**, Department of Food Science, University of Missouri, Columbia, MO (2012 – 2014)
- **Senior Research Fellow**, Dairy Microbiology Division, National Dairy Research Institute (NDRI), Karnal, India (2008 – 2009)
- **Senior Research Fellow**, National Bureau of Animal Genetic Resources (NBAGR), Karnal, India. (2006 – 2008)

Patent

Patent application submitted (Patent number 20160032366): The patent application comprises of three assays: **(1)** Melting Curve for real-time PCR assay to rapidly detect eight Shiga Toxin-producing *Escherichia coli*. **(2)** Multiplex real-time PCR assay for the detection of extended-spectrum β -lactamase (ESBL) and carbapenemase genes using melting curve analysis. **(3)** High-resolution melt assay for specific identification of *E. coli* O157.

Fellowship and Awards

- **Student Travel Award**, Department of Food Science, University of Missouri (2014)
- **Mizzou Advantage Student Travel Award**, University of Missouri (2014)
- **Feeding Tomorrow, Graduate Scholarship -2014**, Institute of Food Technologists (IFT)
- **Marion L. Fields Graduate Fellowship**, 2013. Department of Food Science, University of Missouri
- Placed 3rd in evaluation of Ice cream and Cottage Cheese in the **91st Annual Collegiate Dairy Products Evaluation Contest (National)**, Springfield, MO, USA (Nov, 2012)
- **Faye W. Furguson Scholarship, 2011 and 2012**. Department of Food Science, University of Missouri
- 2nd prize, **IFT AAFFSIS poster competition**, annual IFT meeting, New Orleans (2011)
- **Italian Government Scholarships 2009-2010**. The scholarship offered for the academic year 2009-2010 to work at the University of Bari, Italy for **8 months** (Did not avail)

Publications

Peer-Reviewed:

- Tian, K., Chen, X., Luan, B., **Singh, P.**, Yang, Z., Gates, K., Lin, M., Mustapha, A., Gu, LQ. (2017). Single LNA-enhanced genetic discrimination of foodborne pathogenic serotype in a nanopore. (Submitted)
- **Singh, P.**, Hung, YC., Qi, H., Efficacy of peroxyacetic acid and other sanitizers for ensuring produce safety. (Submitted)
- Liu, Y., **Singh, P.**, Mustapha, A. (2017). Multiplex real-time PCR assay for reliable detection of *Salmonella*. (Submitted)
- Ouf, J.M.M., Yuan Y., **Singh, P.**, Mustapha, A. (2017). Detection of viable but nonculturable *Escherichia coli* O157:H7 in ground beef by propidium monoazide real-time PCR. *International Journal of Agricultural Science and Food Technology* 3(2), 026-031.
- **Singh, P.**, Pfeifer, Y., Mustapha, A. (2016). Multiplex real-time PCR assay for the detection of extended-spectrum β -lactamase (ESBL) and carbapenemase genes using melting curve analysis. *Journal of Microbiological Methods*, 124, 72-78.

- Forghani, F., **Singh, P.**, & Oh, D. H. (2015). A Novel Pentaplex Real Time (RT)-PCR High Resolution Melt Curve Assay for Simultaneous Detection of Emetic and Enterotoxin Producing *Bacillus cereus* in Food. *Food Control*, 60, 560-568.
- **Singh, P.**, & Mustapha, A. (2015). Multiplex real-time PCR assays for detection of eight Shiga toxin-producing *Escherichia coli* in food samples by melting curve analysis. *International Journal of Food Microbiology*, 215, 101-108.
- Pophaly, S. D., Poonam., **Singh, P.**, Kumar, H., Tomar, S. K., Singh, R. (2014). Selenium enrichment of lactic acid bacteria and Bifidobacteria: A functional food perspective. *Trends in Food Science and Technology*, 39(2), 135-145.
- Kaliyaperumal, A., Nanda, D. K., UmaMaheswari, T., Thiagaraja, H., **Singh, P.**, Singh, R. (2014). Assessment of expression of Leloir pathway genes in wild type galactose fermenting *Streptococcus thermophilus* by real time PCR. *European Food Research and Technology*, 239(5), 895-903.
- Blumhagen, A., **Singh, P.**, Mustapha, A., Yu, Q. (2014). Plasma Deactivation of Oral Bacteria Seeded on Hydroxyapatite Disks as Tooth Enamel Analogue. *American Journal of Dentistry*, 27(2), 84-90.
- **Singh, P.**, & Mustapha, A. (2014). Development of a real-time PCR melt curve assay for simultaneous detection of virulent and antibiotic resistant *Salmonella*. *Food Microbiology*, 44,6-14.
- Kaliyaperumal, A., UmaMaheswari, T., Thiagaraja, H., Nanda, D. K., **Singh, P.**, Singh, R. (2014). Preparation of low galactose yogurt using cultures of Gal⁺ *Streptococcus thermophilus* in combination with *Lactobacillus delbrueckii ssp. bulgaricus*. *Journal of Food Science and Technology*, 51(9), 2183-2189.
- UmaMaheswari, T., Singh, R., **Singh, P.**, Tomar, S. K. (2014). Polyphasic characterization, phylogenetic analysis and technological properties of *Streptococcus thermophilus* strains isolated from plant sources. *International Journal of Dairy Technology*, 67(1), 117-122
- **Singh, P.**, & Mustapha, A. (2013). Multiplex TaqMan Detection of Pathogenic and Multi-Drug Resistant *Salmonella*. *International Journal of Food Microbiology*, 166(2), 213-218.
- Anbukkarasi, K., UmaMaheswari, T., Hemalatha, T., Nanda, D., **Singh, P.**, Rashmi, H. M., & Singh, R. (2013). Production of low browning Mozzarella cheese: Screening and characterization of wild galactose fermenting *Streptococcus thermophilus* strains. *International Journal of Advanced Research*, 1, 83-96.
- Iyer, R., Tomar, S. K., Mohanty, A. K., **Singh, P.**, Singh, R. (2011). Bioprospecting *Streptococcus thermophilus* strains from Indian fermented milk products for folate production. *Dairy Science & Technology* 91(2), 237-246.
- Nanda, D. K., Tomar, S. K., Singh, R., Mal, G., **Singh, P.**, Arora, D. K., Joshi, B. K., Kumar, D. (2011). Phenotypic and genotypic characterization of Lactobacilli isolated from Camel Cheese produced in India. *International Journal of Dairy Technology*, 64(3), 437-443.

- Jain, A., Gour, D. S., Bisen, P. S., **Prashant.**, Dubey, P. P., Sharma, D. K., Joshi, B. K., Kumar, D. (2009). Single Nucleotide Polymorphism in Alpha Lactalbumin 1 Gene of Jamunapari goat. *Small Ruminant Research*, 82, 156-160.
- **Prashant.**, Tomar, S. K., Singh, R., Gupta, S. C., Joshi, B. K., Arora, D. K., Kumar, D. (2009). Phenotypic and Genotypic characterization of *Lactobacillus* from Churpi Cheese. *Dairy Science and Technology*, 89, 531-540.
- Jain A., Gour D. S., Dubey P. P., **Prashant**, Bisen P. S., Kumar D. (2008). Single Strand Confirmation Polymorphism (SSCP) detection in alpha-lactalbumin Gene of Indian Jakhrana milk goats. *Acta Agri Scand A Animal Science*, 58, 205-208.
- **Prashant**, Gour D. S., Dubey P. P., Jain A., ... & Kumar, D. (2008). Sex Determination in 6 Bovid Species by Duplex PCR. *Journal of Applied Genetics*, 49(4), 379-381.

Book chapter:

- Mustapha, A., & **Singh, P.** (2013). Applications of molecular-based foodborne pathogen detection. In: *Microbial Food Safety and Preservation Techniques*. Editors: V Ravishankar Rai and A Jamuna Bai. CRC Press/Taylor & Francis Group ISBN: 9781466593060 (*Invited*)
- **Prashant.**, Pophaly, S. D., Tomar, S. K. (2011). Production of functional biomolecules by Propionibacteria. In: *Functional Dairy Foods: Concepts and applications*. Eds. Tomar, S. K., Singh, R., Singh, A. K., Arora, S., Singh, R. R. B. Delhi: Satish Serial Publishing House. pp. 347-355. ISBN 81- 89304-90-9
- Pophaly, S. D., **Prashant***, Singh, A. K., Tomar, S. K., Singh, R. (2011). Safety aspects of probiotics. In: *Functional Dairy Foods: Concepts and applications*. Eds. Tomar, S. K., Singh, R., Singh, A. K., Arora, S., Singh, R. R. B. Delhi: Satish Serial Publishing House. pp. 367-388. ISBN 81- 89304-90-9

Poster Presented in Conferences

- **Singh, P.**, Hung, YC. A Multiple Hurdle Carcass Washing Protocol for Inactivating Shiga Toxin-Producing *Escherichia coli* on Beef. 2017, IAFP Annual Meeting, 9 -12th July, Tampa, Florida, USA
- **Singh, P.**, Hung, YC., Qi, H. Efficacy of Peroxyacetic Acid and Other Sanitizers for Ensuring Produce Safety. 2017, IAFP Annual Meeting, 9 -12th July, Tampa, Florida, USA
- Liu, Y., **Singh, P.**, Mustapha, A. High-Resolution Melt Curve PCR Assay for Detection of *E. coli* O157:H7 in Beef. 2017, IAFP Annual Meeting, 9 -12th July, Tampa, Florida, USA
- Liu, Y., **Singh, P.**, Mustapha, A. Multiplex Real-time PCR Assay for Reliable Detection of *Salmonella*. 2016, IAFP Annual Meeting, 30th July – 3rd August, St. Louis, Missouri, USA
- **Singh, P.**, Mustapha, A. Detection of Shiga toxin producing *Escherichia coli*, seven stx subtypes and *Salmonella* via a two-tiered multiplex real-time PCR. 2015, IAFP Annual Meeting, July 25 - 28, Portland, Oregon, USA

- Gao, F., Yu, H., Shen, Z., **Singh, P.**, Xu, Y., Sun, H., Mustapha, A. Influence of Novel Chemical Compounds on Virulence Gene Expression by Shiga Toxin-Producing *Escherichia coli*. 2014, IAFP Annual Meeting, Aug 3 - 6, Indianapolis, Indiana, USA
- Kang, J., Yoo, A., **Singh, P.**, Mustapha, A. Differentiation of colony morphology of Shiga toxin producing *Escherichia coli* on commercial agar media. 2014, IAFP Annual Meeting, Aug 3 - 6, Indianapolis, Indiana, USA
- **Singh, P.**, & Mustapha, A. Multiplex Real-time PCR Assay for Detection of Eight STEC Serotypes. 2014, IAFP Annual Meeting, Aug 3 - 6, Indianapolis, Indiana, USA
- **Singh, P.**, & Mustapha, A. Pentaplex TaqMan Assay for the Detection of Pathogenic and Multidrug Resistant Strains of *Salmonella*. 2012, IAFP Annual Meeting, July 22 - 25, Providence, Rhode Island, USA
- UmaMaheswari, T., Singh, R., **Prashant.**, Tomar, S. K. Evaluation of genotypic heterogeneity of *Streptococcus thermophilus* strains isolated from dairy and plant sources in India. 2011, IFT Annual Meeting, June 11 - 14, New Orleans, LA, USA
- Yang, J., **Prashant.**, Liu, Y., Sun, F., Mustapha, A. Phenotypic genotypic and physiological characterization of lactic acid bacteria from Chinese yak milk cheeses. 2011, IFT Annual Meeting, June 11 - 14, New Orleans, LA, USA
- **Prashant.**, Wang, L., Mustapha, A. Molecular and virulence characterization and detection of multi-drug resistant *Salmonella* strains from food and farm. 2011, IFT Annual Meeting, June 11 - 14, New Orleans, LA, USA
- UmaMaheswari, T., Singh, R., Rani, P., **Prashant.**, Anbukkarasi, K., Tomar, S. K. Genetic diversity of *Streptococcus thermophilus* strains isolated from plant sources. P.No-299; Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2009), 2-4 December, Lisbon (Portugal).

Guest Lectures

- “Shiga Toxin Producing *Escherichia coli* (STEC) Detection and Intervention and Detection” (2016) in spring semester series Seminars at Department of Food Science and Technology, University of Georgia - Athens.
- “Foodborne pathogens Intervention and Control” (2016) Fall semester in Foods and Public Health, University of Georgia - Athens.

Professional Societies

- Member of Institute of Food Technologist (IFT) since 2011
- Member of International Association for Food Protection (IAFP) since 2012