DEEPTI SALVI
Department of Food, Bioprocessing, and Nutritional Sciences,
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RESEARCH INTERESTS

- Food processing techniques such as cold atmospheric pressure plasma, high pressure processing, microwave processing, extrusion, ultraviolet processing to ensure food safety and quality
- Investigate the role of physical properties of food to control excessive caloric intake and enhance nutrient absorption in human gastrointestinal tract
- Numerical modeling of transport phenomena in biological and food engineering

EDUCATIONAL BACKGROUND

2005-2008 **Doctor of Philosophy,** Biological and Agricultural Engineering, Louisiana State University, Baton Rouge, LA

2003-2005 **Master of Engineering,** Food Engineering and Bioprocess Technology, Asian Institute of Technology, Pathumthani, Thailand

1999-2003 **Bachelor of Technology,** Agricultural Engineering, Dr. B. S. Konkan Agriculture University, Dapoli, India

PROFESSIONAL/WORK EXPERIENCE

2018-present **Assistant Professor** (Food Engineering), Department of Food, Bioprocessing and Nutrition Sciences, North Carolina State University, Raleigh, NC

2016-2018 **Assistant Research Professor** (Non-tenure track faculty), Food Science Department, Rutgers University, New Brunswick, NJ

2013-2016 **Research Associate (**Non-tenure track faculty), Food Science Department, Rutgers University, New Brunswick, NJ

2008-2010 **Post-doctoral Researcher,** Audubon Sugar Institute, Louisiana State University AgCenter, St. Gabriel, LA

HONORS AND AWARDS

2021 **Winner**, **Outstanding Postdoc Mentorship Award**, from the Office of Postdoctoral Affairs and the Graduate School at the 9th Annual NC State postdoctoral research symposium, North Carolina State University. This award recognizes faculty mentors who have gone above and beyond to support NC State University postdoctoral scholars during the 2020-2021 academic year.

2021 **Nominee**, **Goodnight Early Career Innovator Award,** College of Agriculture and Life Sciences at North Carolina State University. This award is used to recognize and reward early career faculty with outstanding promise for scholarly achievement and impact in STEM or STEM education.

2021 Selected for "**Rising Stars**" seminar series by University of California (Davis), wherein Assistant Professors from around the world who are considered to be academic stars.

2019 Selected as a participant for '**Emerging Leaders Network'** by Institute of Food Technologists (IFT), New Orleans, LA

2008 Gamma Sigma Delta **Graduate Student Merit Honor Roll** (Year 2008)

2003 Awarded Netherlands Government's Scholarship and AIT Fellowship for graduate studies at Asian Institute of Technology, Bangkok (Year 2003-2005)

2003 Awarded scholarship for graduate studies at IIT by Ministry of HRD, Govt. of India (Year 2003)

TEACHING EXPERIENCE

North Carolina State University

Principles of Food and Bioprocess Engineering (FS231: 4 credits)
(Spring 2019: Overall evaluation- 4.3, Spring 2020, Spring 2021)
Emerging Research in Healthy and Sustainable Food (FS623: 1 credit)
(Spring 2021)

Rutgers University

Introduction to Food Engineering (Short Course for Industry Professionals)
(Summer 2015; Summer 2016; Summer 2017)
Principles of Food Science Laboratory
(Fall 2014)
Food Engineering Fundamentals (Guest Lecturer)
(Spring 2014, Spring 2015, Spring 2016, Spring 2017)
Byrne Seminar on Processed Food (Guest Speaker)
(Spring 2015, Spring 2016)
Science of Food (Guest Speaker)
(Fall 2015, Fall 2016, Fall 2017)
Thermal and Non-Thermal Processing (Guest Lecturer)
(Fall 2013, Fall 2014, Fall 2015, Fall 2017)
Foods: from Field to Table (Guest Speaker)
(Spring 2016)

GRANTS FUNDED

1. PI for award "Plasma-activated water as a cleaning in place solution for fouling removal and microbial inactivation" by Center for Advanced Processing and Packaging Studies – CAPPS, a NSF IUCRC Founded Center. Co- PI: H. Zheng. May 2021 (Awarded $ 60,000)

2. PI for Instructional Design Assistance Program at FBNS to develop 'Non-thermal Processing' course by Distance Education and Learning Technology Applications (DELTA), NCSU. June 2020 (Awarded $ 5,000)

3. PI for award "Plasma-activated water (PAW) for inactivation of mixed-species biofilms" by Center for Advanced Processing and Packaging Studies – CAPPS, a NSF IUCRC Founded Center. May 2020 (Awarded $ 119,999)

4. PI for award “Natural Antimicrobial Edible Coatings for Enhancing Microbial Safety and Prolonging Shelf-Life of Raw Poultry Meat” by North Carolina Agricultural Foundation, Inc. Co- PI: N. Lavoine. Fall 2020 (Awarded $ 31,960/year for 3 years)

5. PI for award “High-quality manufacturing of packaged fresh produce with conformable in-package cold atmospheric plasma” Co-PIs: K. Stapelmann and A. Mazzeo. USDA NIFA AFRI 2019. September 2020 (Awarded $ 468,000)

6. Co PI for award “Harnessing (bio-)electrochemical technologies as sustainable sources for on demand precision agriculture” by Game-Changing Research Incentive Program for Plant Sciences Initiative. PI: K. Stapelmann et al. February 2020. (Awarded $656,250)

7. PI for award “Evaluating efficacy of plasma-activated water in egg washing” Co-PIs: S. Kathariou. USDA NIFA AFRI 2019. May 2020 (Awarded $ 478,500)

8. Co PI for award “Biodegradable and recyclable paper-based alternative to single use beverage plastic products” by Center for Advanced Processing and Packaging Studies – CAPPS, a NSF IUCRC Founded Center. PI: N. Lavoine. October 2019 (Awarded $ 15,000)

9. PI for award “Plasma treatment for inactivation of bacteria and bacterial biofilm on conveyor belt surfaces” by Center for Advanced Processing and Packaging Studies – CAPPS, a NSF IUCRC Founded Center. Co-PIs: N. Lavoine and K. Stapelmann. May 2019 (Awarded $ 55,000)

10. PI for award “Evaluating Microbial Inactivation Efficacy of Plasma-Activated Water, a Novel Surface Disinfectant for Food” by Center for Advanced Processing and Packaging Studies –CAPPS, a NSF IUCRC Founded Center. Co-PIs: S. Kathariou, and K. Stapelmann. October 2018 (Awarded $ 14,965.50)

11. PI (May-June 2018), co-PI (June 2018 onwards) for award “An Integrated Approach for Improving Growth and Quality of Sweet Basil Using Cold Plasma Activated Water and Mist” Current PI: M. V. Karwe, Co-PIs: D. W. Schaffner, J. E. Simon, Q. Wu, S. Guran, D. Specca, A. Fridman, G. Fridman, V. Miller, A. Rabinovich. USDA NIFA AFRI 2017 (Awarded $ 688,799: NCSU Share $ 106,838)

12. Co PI for award "Recycling and value addition of fish skin waste to produce bioactive peptides" International Collaborative Research Grants by Centers for Global Advancement and International Affairs. April 2017 (Awarded: $ 4,000)

13. Co PI for incentive award “Process induced modifications of whole bean flour to tailor bioaccessibility of carbohydrates and proteins” by The Northarvest Bean Growers Association, January 2017. (Awarded: $20,000)

14. Co PI for award “Extrusion of gluten-free pasta from a combination of cassava flour, pea starch, rice flour, and corn flour” for American Key Food Products, NJ, 2016 (Awarded: $16,060)

15. Assisted in writing proposal “Pressure induced transformations of food proteins for the creation of new textures and improved food quality: effects on network formation ability and digestibility” 2016-2018: USDA- NIFA AFRI Grant 2016. (Awarded –Rutgers’ share: $ 189,283)

16. Co PI for award “Effect of composition and extrusion processing conditions on properties of extrudates made from cassava flour and potato flakes” for American Key Food Products, NJ, 2015 (Awarded: $ 7,500)

17. Assisted in writing proposal “An Integrated Approach to Eliminate Cross-Contamination during Washing, Conveying and Handling of Fresh Produce” USDA- NIFA Food Safety Grant 2015. (Awarded –Rutgers’ share: $ 499,270)

18. Co PI for award " Effect of degree of gelatinization of starch in the Cassava flour and processing conditions on the properties of extruded products" for American Key Food Products, NJ, 2015 (Awarded: $ 6,000)

19. Co PI for award "Taste response study of amaranth-quinoa healthy snacks by Indian population" International Collaborative Research Grants by Centers for Global Advancement and International Affairs 2014 (Awarded: $ 8,000)

20. Co PI for award “Destruction of sucrose within the milling process by microbial contamination: Microbial and chemical analysis and guidelines for the implementation of good housekeeping measures and preventive maintenance” for American Sugarcane League 2009 (Awarded: $ 10,000)

21. Co PI for award “Preparation of hydrolyzed material from acid treated bagasse” for British Petroleum, IL, 2008 (Awarded: $ 82,000)

22. Assisted in writing the project proposal for ‘Microwave assisted extraction of rice bran oil’ for LSU ORGS Faculty Research Grant, 2006 (Awarded: $ 10,000)

INVITED MAGAZINE ARTICLES

1. **Salvi, D.** and M.V. Karwe (2021) Sustainable and safer indoor farming of produce using new technologies: challenges and opportunities. The International Union of Food Science and Technology (IUFoST), Scientific Information Bulletin (SIB). http://www.iufost.org/news/urban-food-production-new-sib.

2. **Salvi, D.** (2017). Understand Produce Contamination. CEP Magazine- An AICHE Publication, May 2017 Issue, pp. 33-39

3. Aita, G.A., **Salvi, D.A.** (2009) Lignocellulose as a source for fuels and chemicals. Louisiana Agriculture Magazine, Fall 2009 Issue

BOOK CHAPTERS

1. **Salvi, D.**, Arserim, E.H., Karwe, M.V. (2017) Innovative technologies for processing mangoes and mango products. In: Handbook of Mango Fruit Production, Postharvest Science, Processing Technology and Nutrition (eds. Zafar, T & Sidhu, J.). Wiley-Blackwell

PEER REVIEWED RESEARCH PUBLICATIONS

1. Wang Q., Salvi D. (2021). Recent progress in the application of plasma-activated water (PAW) for food decontamination. Invited article. Current Opinion in Food Science, 42, 51-60.

2. Wang Q., Salvi D. (2021). Evaluation of plasma-activated water (PAW) as a novel disinfectant: effectiveness on *Escherichia coli* and *Listeria innocua*, physicochemical properties, and storage stability. Accepted, LWT- Food Science & Technology.

3. Karthikeyan J. S., Salvi D., & Karwe M. V. (2021). Modeling of fluid flow, carbohydrate digestion, and glucose absorption in human small intestine. Journal of Food Engineering, 292, 110339. DOI: https://doi.org/10.1016/j.jfoodeng.2020.110339

4. Arserim E. H., Salvi D., Fridman G., Schaffner D. W., & Karwe M. V. (2020). Microbial Inactivation by Non-equilibrium Short-Pulsed Atmospheric Pressure Dielectric Barrier Discharge (Cold Plasma): Numerical and Experimental Studies. Food Engineering Reviews, 1-12. DOI: https://doi.org/10.1007/s12393-020-09256-7

5. Huang K., Tian, Y. J., Tan, **Salvi**, **D.,** Karwe, M.V., and Nitin, N. (2020) Role of contaminated organic particles in cross-contamination of fresh produce during washing and sanitation. Postharvest Biology and Technology POSTEC_2019_1277_R2

6. Hemker, A. K., Nguyen, L. T., Karwe, M., & **Salvi, D.** (2020). Effects of pressure-assisted enzymatic hydrolysis on functional and bioactive properties of tilapia (Oreochromis niloticus) by-product protein hydrolysates. *LWT*, 109003.

7. Karthikeyan, J.S., **Salvi D.,** Corradini, M., Ludescher, R., and Karwe, M.V. (2019) Effect of bolus viscosity on carbohydrate digestion and glucose absorption processes: an in vitro study. Physics of Fluids. Fluids 31.11: 111905.

8. Gosavi, N.S., **Salvi, D.**, and Karwe, M.V. (2019) High Pressure Assisted Infusion of Calcium into Baby Carrots Part II: Influence of Process Variables on β-Carotene Extraction and Color of the Baby Carrots. Food and Bioprocess Technology, 12(4), 613-624. DOI: 10.1007/s11947-019-2236-4

9. Gosavi, N.S., **Salvi, D.,** and Karwe, M.V. (2019) High Pressure-Assisted Infusion of Calcium into Baby Carrots Part I: Influence of Process Variables on Calcium Infusion and Hardness of the Baby Carrots. *Food and Bioprocess Technology*, pp.1-12. https://doi.org/10.1007/s11947-018-2203-5

10. Joshi I., **Salvi D.**, Schaffner D.W., Karwe M.V. (2018). Characterization of Microbial Inactivation Using Plasma-Activated Water and Plasma-Activated Acidified Buffer. *Journal of Food Protection*, In press. doi:10.4315/0362-028X.JFP-17-487

11. Huang K., Tian Y., **Salvi D.,** Karwe M.V., and N. Nitin (2018). Influence of exposure time, shear stress, and surfactants on detachment of Escherichia coli O157:H7 from fresh lettuce leaf surface during washing process. Food and Bioprocess Technology, 11 (3), 621–633

12. **Salvi D.,** Khurana M., Karwe M.V. (2017). Prediction of temperature distribution in a horizontal high pressure food processing vessel and its impact on process uniformity. *Journal of Food Process Engineering*, 40 (5), e12547. doi: https://doi.org/10.1111/jfpe.12547

13. Bhide S., Schaffner D.W., **Salvi D.,** Karwe M.V. (2017). Effect of surface roughness in model and fresh fruit systems on microbial inactivation efficacy of cold atmospheric pressure plasma. *Journal of Food Protection*, 80(8):1337-1346. doi: http://dx.doi.org/10.4315/0362-028X.JFP-17-064

14. **Salvi, D.**, Gosavi, N.S., Karwe, M.V. (2016). High Pressure Cold Pasteurization. Reference Module in Food Sciences. Elsevier, pp. 1–6. doi: http://dx.doi.org/10.1016/B978-0-08-100596-5.21075-5

15. Karwe, M.V., **Salvi, D.**, Gosavi, N.S. (2016). High Pressure–Assisted Infusion in Foods. Reference Module in Food Sciences. Elsevier, pp. 1–6. doi: http://dx.doi.org/10.1016/B978-0-08-100596-5.21042-1

16. Mahadevan, S., Nitin, N., **Salvi, D.** and Karwe, M.V. (2016). High-Pressure Enhanced Infusion: Influence of Process Parameters. *Journal of Food Process Engineering*, Volume 39, Issue 1, February 2016, pp. 53–60. doi: 10.1111/jfpe.12190

17. Mahadevan, S., **Salvi, D.** and Karwe, M. V. (2015). High Pressure-Enhanced Infusion in Fresh and Frozen-Thawed Cranberries: A Comparative Study. *Journal of Food Process Engineering,* 39(1), 53–60 doi: 10.1111/jfpe.12198

18. Karthikeyan J. S., Desai K. M., **Salvi D.**, Bruins R., and Karwe M. V. (2015). Effect of temperature abuse on frozen army rations. Part 1: Developing a heat transfer numerical model based on thermo-physical properties of food, *Journal Food Research International*, 76(3), 595–604. doi: 10.1016/j.foodres.2015.07.007

19. Karthikeyan J. S., Desai K. M., **Salvi D.**, Bruins R., Schaffner D., and Karwe M. V. (2015). Effect of temperature abuse on frozen army rations. Part 2: Predicting microbial spoilage, *Journal Food Research International*, 76(3), 587–594. doi: 10.1016/j.foodres.2015.07.012

20. DeQueiroz, G.A., **Salvi, D.A.,** Walker, M.S. (2011). Enzyme hydrolysis and ethanol fermentation of dilute ammonia pretreated energy cane. *Bioresource Technology*, 102, 4444–4448

21. **Salvi, D.A.,** Boldor D., Aita G. M., Sabliov C. M. (2011). COMSOL Multiphysics model for continuous flow microwave heating of liquids. *Journal of Food Engineering*, 104, 422–429

22. **Salvi, D.A.,** Boldor D., Ortego J., Aita G. M., Sabliov C. M. (2010). Numerical Modeling of Continuous Flow MicrowaveHeating: A Critical Comparison of COMSOL and ANSYS. *Journal of Microwave Power and Electromagnetic Energy,* 44 (4), 187-197

23. **Salvi, D.A.,** Aita, G.A., Robert, D., Bazan, V. (2010). Dilute ammonia pretreatment of sorghum and its effectiveness on enzyme hydrolysis and ethanol fermentation, *Applied Biochemistry and Biotechnology,* 161(1-8), 67-74

24. **Salvi, D.A.,** DeQueiroz, G.A., Robert, D., Bazan, V. (2009). Ethanol production from sweet sorghum by a dilute ammonia solution. *Journal of Industrial Microbiology and Biotechnology,* 37 (1), 27-34, DOI:10.1007/s10295-009-0645-5

25. **Salvi, D.A.**, Boldor, D., Sabliov, C.M., Ortego, J., Arauz, C. (2009). Experimental temperature measurement of liquids during continuous flow microwave heating to study effect of different dielectric and physical properties on temperature distribution. *Journal of Food Engineering*, 93(2), 149–157

26. Boldor, D., Balasubramanian, S., Purohit, S., Guiterrez-Wing, M.T., Rusch, K. A., **Salvi, D.A.**, Sabliov, C.M. (2008). A continuous microwave treatment system for prevention of invasive species during de-ballasting operation. *Journal of Microwave Power and Electromagnetic Energy*, 42 (3), 27-38

27. **Salvi, D.A.**, Boldor, D., Sabliov, C.M., Rusch, K.A. (2008). Numerical and experimental analysis of continuous microwave heating of ballast water as preventive treatment for introduction of invasive species. *Journal of Marine Environmental Engineering*, 9 (1), 45-64

28. Sabliov, C.M., **Salvi, D.A.**, Boldor, D. (2007). High frequency electromagnetism, heat transfer, and fluid flow coupling in ANSYS Multiphysics. *Journal of Microwave Power & Electromagnetic Energy*, An invited paper in special issue 'Contemporary Modeling on Microwave Power Engineering', 41(4), 4-16

29. Dandekar, S.R., **Salvi, D.A.**, Jain, S.K., Kad, V.P., Powar, A.G. (2005). Effect of direct steam roasting on whole kernel recovery of cashew-nut. *Journal of Beverage and Food World*, 32(10), 39-45

30. Jain, S.K., Kad, V.P., Dandekar, S.R., **Salvi, D.A.**, Dhekale, J.S., Powar, A.G. (2004). Effect of direct steam roasting on organoleptic properties of cashew kernels. *The Cashew Journal,* 18(1), 20-26

CONFERENCE PAPERS & PRESENTATIONS

1. Wang Q., **Salvi D.** (2021). Cold atmospheric pressure plasma (CAPP) treatment for the inactivation of bacteria and bacterial biofilm on conveyor belt surfaces. Institute of Food Technologist Annual Meeting and Food Expo 2021, Virtual

2. Rivero W., Wang Q., **Salvi D.** (2021). Comparison of cold atmospheric pressure plasma (CAPP) and plasma-activated mist (PAM) for inactivation of *E. coli* DH5α, *Listeria innocua*, and *Salmonella* Typhimurium. Institute of Food Technologist Annual Meeting and Food Expo 2021, Virtual

3. Ahuja M., Wang Q., **Salvi D.** (2021). Comparison of inactivation efficacy of plasma-activated water against biofilms on two types of lettuce. International Association for Food Protection Annual Meeting, Virtual

4. Shah U., Wang Q., Kathariou S., **Salvi D.** (2021). Optimization of nonthermal plasma-activated water processing conditions for inactivation of *Salmonella* Typhimurium. International Association for Food Protection Annual Meeting, Virtual

5. Rivero W., Wang Q., **Salvi D.** (2021). Development of plasma-based decontamination treatment for hydroponic nutrient solution. International Association for Food Protection Annual Meeting, Virtual

6. Ahuja M., Wang Q., **Salvi D.** (2021). Inactivation efficacy of plasma-activated water (PAW) against mixed-species biofilms on biotic and abiotic surfaces. Institute of Food Technologist Annual Meeting and Food Expo 2021, Virtual

7. Wang Q., Salvi D. (2020). Evaluation of physicochemical properties and microbial inactivation efficacy of plasma-activated water under storage. 3rd Food Innovation and Engineering (FOODIE) Conference, November 4 - 6, 2020, Virtual

8. Wang Q., Kathariou S., **Salvi D.** (2020) Plasma-activated Water as a Novel Disinfectant: Effectiveness against Selected Bacteria and Application to Produce and Egg Washing. International Association for Food Protection Annual Meeting, October 25-28, 2020, Virtual

9. Wang Q., **Salvi D.** (2020) Evaluation of Plasma-Activated Water as A Novel Disinfectant: Microbial Inactivation Efficacy, Physicochemical Properties, and Activity During Storage. Institute of Food Technologist Annual Meeting and Food Expo 2020, Chicago, Il

10. Campbell V., Hall S, Wang Q., and **Salvi D.** (2020) Effects of plasma-activated salt water (PASW) on bacterial inactivation. North Carolina Ag and Life Sciences Research Foundation (NCALS) meeting. Awarded third prize in a poster presentation competition.

11. Rivero W, Shin E, Wang Q., and **Salvi D.** (2020). Effect of Plasma-activated Nutrient Solution on the Growth and Quality of Hydroponic Sweet Basil. 7th Latin American Research Symposium, North Carolina State University, Raleigh, NC. Awarded first prize in a poster presentation competition.

12. Wang Q., Pal R., Mazzeo A., **Salvi D.** (2019) Conformable Surface Dielectric Barrier Discharge Plasma Treatment of Fresh Produce: Evaluation of Microbial Inactivation Efficacy and Quality Attributes. 2nd Food Innovation and Engineering (FOODIE) Conference, Philadelphia, PA

13. Rivero, W., Wang Q., **Salvi D.** (2019) Effect of Plasma-Activated Water (PAW) on Microbiological and Quality Characteristics of Broccoli and Alfalfa Sprouts 2nd Food Innovation and Engineering (FOODIE) Conference, Philadelphia, PA

14. Hemker A.K., Nguyen L.T, Karwe M.V, and **Salvi D.** (2018) Pressure assisted enzymatic hydrolysis of fish waste protein and functionalities of the hydrolysates. Abstract #679 IUFoST- World Congress of Food Science and Technology 2018, Mumbai, India

15. Gosavi N.S., Karwe M.V, and **Salvi D.** (2018) High pressure assisted infusion of calcium in fruits and vegetables: influence of processing parameters and food microstructure. IUFoST- World Congress of Food Science and Technology 2018, Mumbai, India

16. Navare S.S., **Salvi D.**, Karwe M.V. (2018). Effect of High Pressure Processing on the Physiochemical and Functional Properties of Yellow Lentil Protein. Conference on Food Engineering (COFE 18), Minneapolis, MN

17. Arserim E.H., **Salvi D**., Karwe M.V. (2018). Numerical Simulation and Experimental Investigation of Microbial Inactivation Efficacy of Cold Atmospheric Pressure Plasma. Institute of Food Technologist Annual Meeting and Food Expo 2018, Chicago, Il

18. Tian T., **Salvi D**., Kang, H., Nitin, N., and Karwe M.V. (2017). Understanding effect of shear stress on microbial attachment and detachment – A numerical Study. Institute of Food Technologist Annual Meeting and Food Expo 2017, Las Vegas, NM (Won second prize in Food Engineering Division)

19. Joshi I.G., **Salvi D**., Schaffner D.W., and Karwe M.V. (2017). Microbial inactivation using plasma activated water and plasma activated buffer in model and fruit systems. Institute of Food Technologist Annual Meeting and Food Expo 2017, Las Vegas, NM

20. Shruthi L. N., **Salvi D**., Schaffner D.W., and Karwe M.V. (2017). Efficacy of Cold Plasma Generated Novel Sanitizers in Egg Washing, International Association for Food Protection Annual Meeting 2017, July 9-12 in Tampa, Florida

21. Joshi I.G., Schaffner D.W., **Salvi D.**, Karwe M.V. (2016). Effect of Surface Roughness in Fruit Systems on Microbial Inactivation Plasma Activated Water (PAW). Conference on Food Engineering (COFE 16), Columbus, Ohio

22. Karthikeyan J.S., **Salvi D.,** Karwe M.V. (2016). Effect of Viscosity of Food on Glycemic Index: a Human In Vitro Digestive Study. Conference on Food Engineering (COFE 16), Columbus, Ohio

23. Gosavi N.S., **Salvi D.,** Karwe M.V. (2016). High Pressure Assisted Infusion of Calcium in Baby Carrots pretreated with pectin methylesterase. Conference on Food Engineering (COFE 16), Columbus, Ohio

24. Ji L., Di R., **Salvi D.,** Karwe M.V. (2016). Effects of Different Fruit Drying and Drink Processing Methods on Vitamin C, Total Phenolics, Cellular Antioxidant Activity, and Mogroside V of Luo Han Guo (Siraitia Grosvenorii) Drink. Conference on Food Engineering (COFE 16), Columbus, Ohio

25. **Salvi D**., and Karwe M.V. (2016) Understanding microbial attachment and detachment to produce surface during washing. Institute of Food Technologist Annual Meeting and Food Expo, Session no. 013, Chicago, IL

26. Manivannan M., Schaffner D.W., **Salvi D.,** Karwe M.V. (2016). Sequential Treatment of Mild Heat Followed by Ultraviolet Radiation to Inactivate *Alicyclobacillus Acidoterrestris* Spores in Apple Juice. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. P03-075, Chicago, IL

27. Chandran C., **Salvi D.,** Karwe M.V. (2016). Developing Quinoa-Cassava Extrudates Fortified with Cranberry Concentrate and Studying the Effect of Extrusion on Their Physicochemical Properties. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. P06-078, Chicago, IL

28. Ji L., Di R., **Salvi D.,** Karwe M.V. (2016). Effects of Different Fruit Drying and Drink Processing Methods on Vitamin C, Total Phenolics, Cellular Antioxidant Activity, and Mogroside V of Luo Han Guo (Siraitia Grosvenorii) Drink. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. P02-078, Chicago, IL

29. Gosavi N.S., **Salvi D.,** Karwe M.V. (2016). High Pressure Assisted Infusion of Calcium in PME Treated Baby Carrots. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. P01-087, Chicago, IL (Won third prize in non-thermal division)

30. Karthikeyan J.S., **Salvi D.,** Karwe M.V. (2016). Effect of Viscosity of Food on Glycemic Index: a Human In Vitro Digestive Study. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. P01-100, Chicago, IL (Won first prize in nutrition division)

31. Joshi I.G., Bhide S., Schaffner D.W., **Salvi D.**, Karwe M.V. (2016) Effect of Surface Roughness on Microbial Inactivation Using Cold Atmospheric Pressure Plasma (CAPP) and Plasma Activated Water (PAW). 1st International Workshop on Plasma Agriculture, Drexel Plasma Institute, Camden, NJ

32. Karthikeyan J. S., Desai K. M., **Salvi D.**, Bruins R., Schaffner D., and Karwe M. V. (2015). Effect of temperature abuse on freeze-thaw characteristics and microbial quality of frozen army rations: a numerical study. International Conference on Predictive Modelling in Food (ICPMF 9), Rio de Janeiro, Brazil, reference number: 0109

33. Gosavi N.S., **Salvi, D.,** and Karwe M.V. (2015). High pressure-assisted infusion of calcium in PME pre-treated baby carrots, 12th International Congress on Engineering and Food, Quebec City, Canada.

34. Khurana M., **Salvi D.,** and Karwe M.V. (2015). Prediction of temperature distribution in a horizontal high pressure food processing vessel and its impact on process uniformity. ICHMT International Symposium on Advances in Computational Heat Transfer- 2015, Rutgers University, Piscataway, USA

35. Maldonado J.A, Schaffner D.W., Cuitino A., **Salvi D.,** Karwe M.V. (2015). Real-Time Measurements of Microbial Inactivation during High Pressure Processing of Bacteria Suspensions. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. 94-123, Chicago, IL

36. Bhide S., Schaffner D.W., **Salvi D.,** Karwe M.V. (2015). Effect of Surface Roughness in Model and Fresh Fruit Systems on Microbial Inactivation Efficacy of Cold Atmospheric Pressure Plasma. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. 94-63, Chicago, IL

37. Oliveira C., Marczak L., Gurak P., **Salvi D.,** Karwe M.V. (2015). Application of High Pressure Process to Enhance Extraction of Pectin from Passion Fruit Peel. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. 32-010, Chicago, IL

38. Aita, G.A., **Salvi, D.A.** (2010). Enzyme hydrolysis and ethanol fermentation of ammonia treated energy cane. 32nd Symposium on Biotechnology for Fuels and Chemicals. Clearwater Beach, FL

39. Aita, G.A., **Salvi, D.A.** (2010). Technical Developments in Ethanol Production from Energy Crops. American Chemical Society (ACS) Carbohydrate Chemistry Division Spring 2010 National Meeting, San Francisco, CA

40. **Salvi, D.A.,** Aita, G.A. (2009). Comparison of enzyme hydrolysis and fermentation yield for two ammonia pretreated energy crops. American Society for Microbiology-South Central Branch Meeting, Thibodaux, LA

41. Ortego, J., Boldor, D., **Salvi, D. A.,** Rusch, K.A., Sabliov, C. (2009). An investigation of temperature distribution in fluids during continuous flow microwave heating within a resonant cavity system. International Microwave Power Institute 43rd Annual Symposium, Washington, DC

42. **Salvi, D.A.,** DeQueiroz, G.A., Robert, D., Bazan, V. (2009). Ethanol production from sweet sorghum by a dilute ammonia solution. 31st Symposium on Biotechnology for Fuels and Chemicals, San Francisco, CA

43. **Salvi, D.A.**, Ortego, J., Sabliov C.M., Boldor, D. (2009). Numerical modeling of continuous flow microwave heating by one-way coupling of electromagnetism, heat transfer, and fluid flow in COMSOL Multiphysics. Conference of Food Engineering, Columbus, OH

44. **Salvi, D.A.**, Boldor, D., Sabliov C.M., Ortego, J., Arauz, C. (2008). Experimental study of temperature profile in liquids heated in a continuous flow microwave system - effect of flow rate, physical and dielectric properties on temperature distribution. Institute of Food Technologist Annual Meeting and Food Expo, Paper no. 207-05, New Orleans, LA

45. Boldor, D., Ortego, J., **Salvi, D.A.**, Rusch, K.A., Sabliov C.M. (2008). Temperature profiling of fluids in a continuous flow microwave system using fiber-optic technology. ASABE Annual International Meeting, Paper no. 084229, RI

46. **Salvi, D.A.**, Boldor, D., Sabliov, C.M., Rusch, K.A. (2007). Finite element analysis and experimental validation of continuous microwave heating using synthetic ballast water as a model, 11th International Conference on Microwave and High Frequency Heating, Oradea, Romania

47. **Salvi, D.A.**, Sabliov, C.M., Boldor, D. (2007). Numerical modeling and validation of heat transfer in flowing fluid in a focused microwave system. ASABE Annual International Meeting, Minneapolis, MN

48. **Salvi D. A.**, Dandekar, S.R., Jain, S.K. (2005). Effect of steaming treatment on quality attributes of steam roasted cashew kernels. The 2nd International Conference on Innovations in Food Processing Technology and Engineering, Bangkok, Thailand

GRADUATE STUDENTS ADVISED AS PRIMARY ADVISOR

1. Wen Rivero Pena (Ph.D. Student), In-progress.
2. Urvi Shah (Ph.D. Student), In-progress.
3. Sudarshan Medagam (Ph.D. Student), In-progress.
4. Manveen Kaur Ahuja (M.S. Student), In-progress.
5. Wen Rivero Pena (M.S.), Completed.

INVITED PRESENTATIONS

1. Salvi D. (2019) High Pressure Processing of Dairy Products: Current Status and Future Applications. Southeast Dairy Foods Research Center (SDFRC) Annual Meeting. August 6-7, 2019

2. Salvi D. (2019). Food Science and Nutrition. Green Hope Elementary, Cary, NC. Oct 30, 2019

3. Salvi D. (2020). Novel Food Processing Methods for Improving Food Safety and Quality. North Carolina State Emerging Research Showcase: Food, Biochemical & Engineered system, North Carolina State University, Raleigh, NC. February 19, 2020

4. Salvi D. (2020). Applications of Cold Atmospheric Pressure Plasma in Food and Agriculture. Cornell Institute for Food Systems. October 13, 2020

5. M.V. Karwe, J. Simon, and Salvi D. (2020) Effect of Cold Plasma on Physical and Quality Parameters of Hydroponically Grown Sweet Basil. Sweet Basil: Managing Basil Under increasingly Challenging Conditions: A Virtual Workshop. December 11, 2020

6. Salvi D. (2020). Applications of Cold Atmospheric Pressure Plasma in Agriculture. BASF. January 12, 2021

7. Salvi D. (2020). Applications of Cold Atmospheric Pressure Plasma in Food and Agriculture. "Rising Stars" seminar series. University of California, Davis. January 13, 2021

CONTINUING EDUCATION

2021 Emerging Leaders Network Alumni Program (February-March 2021)
2019 Agricultural Leadership Learning Institute (ALLI) for Faculty, NCSU, Raleigh, NC (September 2019)
Emerging Leaders Network 2019 by Institute of Food Technologists (IFT), New Orleans, LA (June 2019)
Statistics for Food Scientist (September 2015)
Internal Auditing, Ahold USA, Carlisle, PA (September 2012)
Safe Quality Food, Global Food Safety Initiative, Steritech, Charlotte, NC (September 2012)
USDA HACCP, Steritech, Charlotte, NC (November 2011)
SCP & Seafood HACCP, LSU AgCenter Baton Rouge (September 2009)
Affinity Based Separation Technologies: Existing Applications and New Challenges, Baton Rouge (June 2009)

COMSOL hands-on workshop, Houston (December 2007)
Introduction to ANSYS- Part I and II, Pittsburgh (April 2007)
MIT-UT- AIT Program on Sustainability on Food Security and Safety, Thailand (August 2004)
Central Institute of Post Harvest Engineering and Technology, Ludhiana, India (Summer 2002)
Northern Region Farm Machinery Training & Testing Institute, Hissar, India (Summer 2001)

PROFESSIONAL MEMBERSHIPS

- Institute of Food Technologists
- Society of Women Engineers