PURDUE UNIVERSITY

Department of Food Science

# Quarterly Newsletter

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**November 30, 2017**

*A report on Scholarship and Academic Activities of Interdepartmental Food Science Graduate Program (IFSGP)*




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**Greetings!**

The Interdepartmental Food Science Graduate Program is pleased to publish its first newsletter highlighting the scholarship and academic success of graduate students, postdoctoral scientists and the faculty members in the program. Our goal is to publish the newsletter quarterly. We welcome everyone's contribution towards the continued success of this newsletter. In the first issue, we included articles with complete journal citation information from January 1, 2017 - November 10, 2017. If any information is missing from this issue, it is truly unintentional and will be included in the next issue. Please continue to send information to Mitzi Barnett for future issues.

Sincerely,

Prof. Arun Bhunia
Chair, Interdepartmental Food Science Graduate Program

## Peer-reviewed Publications

1. **Allan, M.** and**, L. J Mauer.** 2017. RH-temperature phase diagrams of hydrate forming deliquescent crystalline ingredients. Food Chemistry. Data in Brief 12:364-369.
2. **Arioglu-Tuncil, S.**, V. Bhardwaj, L. S. Taylor, and **L. J. Mauer**. 2017. Amorphization of thiamine chloride hydrochloride: A study of the crystallization inhibitor properties of different polymers in thiamine chloride hydrochloride amorphous solid dispersions. Food Research International 99:363-374.
3. Cantu-Jungles, T. M., T. R. Cipriani, M. Iacomini, **B. R. Hamaker**, and L. M. Cordeiro. 2017. A pectic polysaccharide from peach palm fruits (*Bactris gasipaes*) and its fermentation profile by the human gut microbiota in vitro. Bioactive Carbohydrates and Dietary Fibre 9:1-6.
4. Castillo Pedraza, M. C., T. F. Novais, R. C. Faustoferri, R. G. Quivey Jr, **A. Terekhov**, **B. R. Hamaker**, and M. I. Klein. 2017. Extracellular DNA and lipoteichoic acids interact with exopolysaccharides in the extracellular matrix of *Streptococcus mutans* biofilms. Biofouling:1-19.
5. Cediel, G., M. Reyes, M. L. da Costa Louzada, E. M. Steele, C. A. Monteiro**, C. Corvalán**, and R. Uauy. 2017. Ultra-processed foods and added sugars in the Chilean diet (2010). Public Health Nutrition:1-9.
6. **Chen, H.** and **Y. Yao**. 2017. Phytoglycogen to increase lutein solubility and its permeation through Caco-2 monolayer. Food Research International 97:258-264.
7. **Chen, T.**, C. Y. Kim, A. Kaur, **L. Lamothe**, M. Shaikh, A. Keshavarzian, and **B. R. Hamaker**. 2017. Dietary fibre-based SCFA mixtures promote both protection and repair of intestinal epithelial barrier function in a Caco-2 cell model. Food & Function 8(3):1166-1173.
8. **Chen, T.**, W. Long, C. Zhang, S. Liu, L. Zhao, and **B. R. Hamaker**. 2017. Fiber-utilizing capacity varies in *Prevotella*-versus *Bacteroides*-dominated gut microbiota. Scientific Reports 7.
9. **Cheng, C. J.** and **O. G. Jones**. 2017. Stabilizing zein nanoparticle dispersions with ι-carrageenan. Food Hydrocolloids 69:28-35.
10. **Cisse, F.**, **E. A. Pletsch**, **D. P. Erickson**, **M. Chegeni**, **A. M. Hayes**, **and B. R. Hamaker**. 2017. Preload of slowly digestible carbohydrate microspheres decreases gastric emptying rate of subsequent meal in humans. Nutrition Research 45:46-51.
11. Colantuono, A., P. Vitaglione, R. Ferracane, **O. H. Campanella**, and **B. R. Hamaker**. 2017. Development and functional characterization of new antioxidant dietary fibers from pomegranate, olive and artichoke by-products. Food Research International 101:155-164.
12. **Du, J.**, **Y.-H. Cho**, **R. Murphy**, and **O. G. Jones**. 2017. Impact of chitosan molecular weight and attached non-interactive chains on the formation of α-lactalbumin nanogel particles. Gels 3(2):14.
13. Duvarci, O. C., **G. Yazar,** and **J. L. Kokini**. 2017. The comparison of LAOS behavior of structured food materials (suspensions, emulsions and elastic networks). Trends in Food Science & Technology 60:2-11.
14. Duvarci, O. C., **G. Yazar**, and **J. L. Kokini**. 2017. The SAOS, MAOS and LAOS behavior of a concentrated suspension of tomato paste and its prediction using the Bird-Carreau (SAOS) and Giesekus models (MAOS-LAOS). Journal of Food Engineering 208:77-88.
15. **El Hindawy, M. M.**, C. Y. Kim, and **B. Hamaker**. 2017. Dietary starch digestion products as activators for gut hormones controlling appetitive response. The FASEB Journal 31(1 Supplement):311.314-311.314.
16. **Etter, A. J.**, **S. R. Hammons**, S. Roof, C. Simmons, **T. Wu**, P. W. Cook, A. Katubig, M. J. Stasiewicz, E. Wright, and S. Warchocki, J. Hollingworth, H. S. Thesmar, S. A. Ibrahim, M. Wiedmann, and **H. F. Oliver**. 2017. Enhanced sanitation standard operating procedures have limited impact on *Listeria monocytogenes* prevalence in retail delis. Journal of Food Protection 80(11):1903-1912.
17. **Fu, Y.**, **A. J. Deering**, **A. K. Bhunia**, and **Y. Yao**. 2017. Biofilm of *Escherichia coli* O157: H7 on cantaloupe surface is resistant to lauroyl arginate ethyl and sodium hypochlorite. International Journal of Food Microbiology 260:11-16.
18. **Fu, Y.**, **A. J. Deering**, **A. K. Bhunia**, and **Y. Yao**. 2017. Pathogen biofilm formation on cantaloupe surface and its impact on the antibacterial effect of lauroyl arginate ethyl. Food Microbiology 64:139-144.
19. **Gilbert, J.**, N. P. Reynolds, S. M. Russell, D. Haylock, S. McArthur, M. Charnley, and **O. G. Jones**. 2017. Chitosan-coated amyloid fibrils increase adipogenesis of mesenchymal stem cells. Materials Science and Engineering: C 79:363-371.
20. Greiby, I., **D. K. Mishra**, K. D. Dolan, and M. Siddiq. 2017. Inverse method to estimate anthocyanin degradation kinetic parameters in cherry pomace during non-isothermal heating. Journal of Food Engineering 198:54-62.
21. Ha, P. T., **S. R. Lindemann**, L. Shi, A. C. Dohnalkova, J. K. Fredrickson, M. T. Madigan, and H. Beyenal. 2017. Syntrophic anaerobic photosynthesis via direct interspecies electron transfer. Nature Communications 8:13924.
22. **Hall, F. G.**, **O. G. Jones**, M. E. O'Haire, and **A. M. Liceaga**. 2017. Functional properties of tropical banded cricket (*Gryllodes sigillatus*) protein hydrolysates. Food Chemistry 224:414-422.
23. **Hammons, S. R.**, **A. J. Etter**, J. Wang, **T. Wu**, T. Ford, M. T. Howard, and **H. F. Oliver**. 2017. Evaluation of third-party deep cleaning as a *Listeria monocytogenes* control strategy in retail delis. Journal of Food Protection 80(11):1913-1923.
24. **Ho, K. K.**, K. Schroën, **M. F. San Martín-González**, and C. C. Berton-Carabin. 2017. Physicochemical stability of lycopene-loaded emulsions stabilized by plant or dairy proteins. Food Structure 12:34-42.
25. Hong, Y., P. J. Teska, and **H. F. Oliver**. 2017. Effects of contact time and concentration on bactericidal efficacy of 3 disinfectants on hard nonporous surfaces. American Journal of Infection Control. 45:1284-1285.
26. **Huang, J.-Y**., J. Limqueco, Y. Y. Chieng, X. Li, and W. Zhou. 2017. Performance evaluation of a novel food packaging material based on clay/polyvinyl alcohol nanocomposite. Innovative Food Science & Emerging Technologies 43:216-222.
27. Jang, H. L., **A. M. Liceaga**, and K. Y. Yoon. 2017. Isolation and characteristics of anti-inflammatory peptides from enzymatic hydrolysates of sandfish (*Arctoscopus japonicus*) protein. Journal of Aquatic Food Product Technology 26(2):234-244.
28. **Jones, O. G.** and **J. Gilbert**. 2017. Bimodal force spectroscopy as a technique to determine the Young's Moduli of protein fibrils and nanoparticles. Microscopy and Microanalysis 23(S1):1130-1131.

29. **Karimi, M.**, **R. Sadeghi**, and **J. Kokini**. 2017. Pomegranate as a promising opportunity in medicine and nanotechnology. Trends in Food Science & Technology 69:59-73.
30. **Kershaw, J.** and **K.-H. Kim**. 2017. Piceatannol may slow cancer cachexia-induced weight-loss in vivo. The FASEB Journal 31(1 Supplement):790.724-790.724.
31. **Kershaw, J.** and **K.-H. Kim**. 2017. The therapeutic potential of Piceatannol, a natural stilbene, in metabolic diseases: A Review. Journal of Medicinal Food 20(5):427-438.
32. **Ketnawa, S.** and **A. M. Liceaga**. 2017. Effect of microwave treatments on antioxidant activity and antigenicity of fish frame protein hydrolysates. Food and Bioprocess Technology 10(3):582-591.
33. Kim, H., Y. Jung, I.-J. Doh, R. A. Lozano-Mahecha, **B. Applegate**, and E. Bae. 2017. Smartphone-based low light detection for bioluminescence application. Scientific Reports 7.
34. Kim, K.-P., A. K. Singh, **X. Bai**, L. Leprun, and **A. K. Bhunia**. 2017. Erratum: Kim, K.-P.; Singh, AK; **Bai, X**.; Leprun, L.; **Bhunia, AK** Novel PCR assays complement laser biosensor-based method and facilitate *Listeria* species detection from food. Sensors 2015, 15, 22672–22691. Sensors 17(5):945.
35. Kim, Y. H. B., B. Meyers, H.-W. Kim, **A. M. Liceaga**, and R. P. Lemenager. 2017. Effects of stepwise dry/wet-aging and freezing on meat quality of beef loins. Meat Science 123:57-63.
36. **Komanetsky, S. M**., V. Hedrick, T. J. P. Sobreira, and **K. H. Kim**. 2017. Proteomic analysis of 3T3-L1 adipocytes treated with methylglyoxal: The potential impact of dietary sugar on adipocyte metabolism. The FASEB Journal 31(1 Supplement):797.792-797.792.
37. **Lee, B.-H.,** and **B. R. Hamaker**. 2017. Number of branch points in α-limit dextrins impact glucose generation rates by mammalian mucosal α-glucosidases. Carbohydrate Polymers 157:207-213.
38. Li, J., J. W. Chang, M. Saenger, and **A. Deering**. 2017. Thymol nanoemulsions formed via spontaneous emulsification: Physical and antimicrobial properties. Food Chemistry 232:191-197.
39. **Lim, J**., **M. G. Ferruzzi**, and **B. R. Hamaker**. 2017. Different phenolic compounds selectively slow down the hydrolysis rates of sucrose and isomaltose by mammalian mucosal α-glucosidases. The FASEB Journal 31(1 Supplement):918.914-918.914.
40. **Lindemann, S. R**., J. M. Mobberley, J. K. Cole, L. Markillie, R. C. Taylor, E. Huang, W. B. Chrisler, H. S. Wiley, M. S. Lipton, and W. C. Nelson. 2017. Predicting species-resolved macronutrient acquisition during succession in a model phototrophic biofilm using an integrated 'omics approach. Frontiers in Microbiology 8:1020.
41. Lu, F., Y.-Y. C. Mosley, **R. J. R. Rosales**, B. E. Carmichael, S. Elesela, **Y. Yao**, and H. HogenEsch. 2017. Alpha-D-glucan nanoparticulate adjuvant induces a transient inflammatory response at the injection site and targets antigen to migratory dendritic cells. npj Vaccines 2(1):4.
42. Maicaurkaew, S., S. Jogloy, **B. R. Hamaker**, and S. Ningsanond. 2017. Fructan: fructan 1-fructosyltransferase and inulin hydrolase activities relating to inulin and soluble sugars in Jerusalem artichoke (Helianthus tuberosus Linn.) tubers during storage. Journal of Food Science and Technology 54(3):698-706.
43. **Maldonado, L.**, R. Sadeghi, and **J. Kokini**. 2017. Nanoparticulation of bovine serum albumin and poly-d-lysine through complex coacervation and encapsulation of curcumin. Colloids and Surfaces B: Biointerfaces 159:759-769.
44. Mobberley, J. M., **S. R. Lindemann**, H. C. Bernstein, J. J. Moran, R. S. Renslow, J. Babauta, D. Hu, H. Beyenal, and W. C. Nelson. 2017. Organismal and spatial partitioning of energy and macronutrient transformations within a hypersaline mat. FEMS Microbiology Ecology 93(4).
45. Mohamed, A., T. Ewing, **S. R. Lindemann**, J. K. Fredrickson, and H. Beyenal. 2017. Autonomous device for evaluating the field performance of microbial fuel cells in remote areas. Journal of The Electrochemical Society 164(3):H3030-H3036.
46. Muramatsu, Y., I. Greiby, **D. K. Mishra**, and K. D. Dolan. 2017. Rapid inverse method to measure thermal diffusivity of low-moisture foods. Journal of Food Science 82(2):420-428.
47. **Murphy, R. W.**, **B. E. Farkas**, and **O. G. Jones**. 2017. Effect of crosslinking on the physical and chemical properties of β-lactoglobulin (Blg) microgels. Journal of Colloid and Interface Science 505:736-744.
48. **Nguyen, E.**, **O. Jones**, Y. H. B. Kim, **F. San Martin-Gonzalez**, and **A. M. Liceaga**. 2017. Impact of microwave-assisted enzymatic hydrolysis on functional and antioxidant properties of rainbow trout Oncorhynchus mykiss by-products. Fisheries Science 83(2):317-331.
49. Nichols, B. L., S. E. Avery, R. Quezada-Calvillo, S. B. Kilani, A. H.-M. Lin, D. G. Burrin, B. E. Hodges, S. K. Chacko, A. R. Opekun, and **M. El Hindawy**, **B.R. Hamaker**, and S.I. Oda. 2017. Improved starch digestion of sucrase-deficient shrews treated with oral glucoamylase enzyme supplements. Journal of Pediatric Gastroenterology and Nutrition 65(2):e35-e42.
50. **Oshiro, J. M.**, P. Shen, O. Wang, Y. Park, and **K.-H. Kim**. 2017. Impact of piceatannol and resveratrol on the proteomic profile of Caenorhabditis elegans. The FASEB Journal 31(1 Supplement):793.793-793.793.
51. Rasmussen, H. E., **B. Hamaker**, K. B. Rajan, E. Mutlu, S. J. Green, M. Brown, A. Kaur, and A. Keshavarzian. 2017. Starch-entrapped microsphere fibers improve bowel habit but do not exhibit prebiotic capacity in those with unsatisfactory bowel habits: a Phase I, randomized, double-blind, controlled human trial. Nutrition Research. 44:27-37.
52. Rasmussen, H. E. and **B. R. Hamaker**. 2017. Prebiotics and inflammatory bowel disease. Gastroenterology Clinics of North America. 46(4): 783-795.
53. Roman, L., M. Gomez, C. Li, **B. R. Hamaker**, and M. M. Martinez. 2017. Biophysical features of cereal endosperm that decrease starch digestibility. Carbohydrate Polymers 165:180-188.
54. **Running, C. A.** and J. E. Hayes. 2017. Sip and spit or sip and swallow: Choice of method differentially alters taste intensity estimates across stimuli. Physiology & Behavior 181:95-99.
55. **Sadeghi, R., Z. Daniella**, S. Uzun, and **J. Kokini**. 2017. Effects of starch composition and type of non-solvent on the formation of starch nanoparticles and improvement of curcumin stability in aqueous media. Journal of Cereal Science. 76:122-130

56. **Sadeghi, R**., **R. J. Rodriguez**, **Y. Yao**, and **J. L. Kokini**. 2017. Advances in nanotechnology as they pertain to food and agriculture: benefits and risks. Annual Review of Food Science and Technology 8:467-492.
57. **Sarkar, P.**, **A. K. Bhunia**, and **Y. Yao.** 2017. Impact of starch-based emulsions on the antibacterial efficacies of nisin and thymol in cantaloupe juice. Food chemistry 217:155-162.
58. Sena, A., K. L. Ebi, C. Freitas, **C. Corvalan**, and C. Barcellos. 2017. Indicators to measure risk of disaster associated with drought: Implications for the health sector. PLoS One 12(7):e0181394.
59. Shen, P., Y. Yue, **K.-H. Kim**, and Y. Park. 2017. Piceatannol reduces fat accumulation in *Caenorhabditis elegans*. Journal of Medicinal Food. 20(9): 887-894.
60. **Shenoy, A. G.**, **H. F. Oliver**, and **A. J. Deering**. 2017. *Listeria monocytogenes* internalizes in Romaine lettuce grown in greenhouse conditions. Journal of Food Protection 80(4):573-581.
61. Simsek, M., R. Quezada-Calvillo, B. L. Nichols, and **B. R. Hamaker**. 2017. Phenolic compounds increase the transcription of mouse intestinal maltase-glucoamylase and sucrase-isomaltase. Food & Function 8(5):1915-1924.
62. Spotti, M. J., Ö. Tarhan, S. Schaffter, **C. Corvalan**, and **O. H. Campanella**. 2017. Whey protein gelation induced by enzymatic hydrolysis and heat treatment: Comparison of creep and recovery behavior. Food Hydrocolloids 63:696-704.
63. Suwal, S., **S. Ketnawa**, **J.-Y. Huang**, and **A. M. Liceaga**. 2017. Electro-membrane fractionation of antioxidant peptides from protein hydrolysates of rainbow trout (Oncorhynchus mykiss) byproducts. Innovative Food Science & Emerging Technologies. 45:122-131.
64. Tang, W., M. Shen, J. Xie, D. Liu, M. Du, L. Lin, H. Gao, **B. R. Hamaker**, and M. Xie. 2017. Physicochemical characterization, antioxidant activity of polysaccharides from Mesona chinensis Benth and their protective effect on injured NCTC-1469 cells induced by $H_2O_2$. Carbohydrate Polymers 175:538-546.
65. Thiel, V., D. I. Drautz-Moses, R. W. Purbojati, S. C. Schuster, **S. Lindemann**, and D. A. Bryant. 2017. Genome sequence of *Prosthecochloris* sp. strain HL-130-GSB from the phylum Chlorobi. Genome Announcements 5(24):e00538-00517.
66. Thorat, A., **K. N. Marrs**, M. K. Ghorab, V. Meunier, L. Forny, L. S. Taylor, and **L. J. Mauer**. 2017. Moisture-mediated interactions between amorphous maltodextrins and crystalline fructose. Journal of Food Science 82(5):1142-1156.
67. Tong, Z., M. Bischoff, L. Nies, **B. Applegate**, and R. F. Turco. 2007. Impact of fullerene (C60) on a soil microbial community. Environmental Science & Technology 41(8):2985-2991.
68. **Tuncil, Y. E.**, C. H. Nakatsu, **A. E. Kazem**, **S. Arioglu-Tuncil**, **B. Reuhs**, E. C. Martens, and **B. R. Hamaker**. 2017. Delayed utilization of some fast-fermenting soluble dietary fibers by human gut microbiota when presented in a mixture. Journal of Functional Foods 32:347-357.
69. **Tuncil, Y. E.**, Y. Xiao, N. T. Porter, **B. L. Reuhs**, E. C. Martens, and **B. R. Hamaker**. 2017. Reciprocal prioritization to dietary glycans by gut bacteria in a competitive environment promotes stable coexistence. mBio 8(5):e01068-01017.
70. **Turasan, H.** and **J. L. Kokini**. 2017. Advances in understanding the molecular structures and functionalities of biodegradable zein-based materials using spectroscopic techniques: A review. Biomacromolecules 18(2):331-354.
71. **Weaver, C. M.** and **B. R. Hamaker**. 2017. Avanelle Kirksey, PhD (1926–2016). The Journal of Nutrition 147(5):717-719.
72. **Wu, X.**, P.-H. Wei, X. Zhu, M. J. Wirth, **A. K. Bhunia**, and **G. Narsimhan**. 2017. Effect of immobilization on the antimicrobial activity of a cysteine-terminated antimicrobial Peptide Cecropin P1 tethered to silica nanoparticle against *E. coli* O157: H7 EDL933. Colloids and Surfaces B: Biointerfaces 156:305-312.
73. **Xiang, N**., **Y. Lyu**, X. Zhu, **A. K. Bhunia**, and **G. Narsimhan**. 2017. Effect of physicochemical properties of peptides from soy protein on their antimicrobial activity. Peptides. 94:10-18.
74. **Xie, Y**. and **Y. Yao**. 2017. Octenylsuccinate hydroxypropyl phytoglycogen, a dendrimer-like biopolymer, solubilizes poorly water-soluble active pharmaceutical ingredients. Carbohydrate Polymers. 180:29-37.
75. **Xu, L.**, A. L. Garner, **B. Tao**, and **K. M. Keener**. 2017. Microbial inactivation and quality changes in orange juice treated by high voltage atmospheric cold plasma. Food and Bioprocess Technology 10(10):1778-1791.
76. Xu, T., **V. Rodriguez-Martinez, S. N. Sahasrabudhe, B. E. Farkas**, and S. R. Dungan. 2017. Effects of temperature, time and composition on food oil surface tension. Food Biophysics 12(1):88-96.
77. Yang, H., S. G. Seo, S. H. Shin, S. Min, M. J. Kang, R. Yoo, J. Y. Kwon, S. Yue, **K. H. Kim**, and J. X. Cheng. 2017. 3, 3'-Diindolylmethane suppresses high-fat diet-induced obesity through inhibiting adipogenesis of pre-adipocytes by targeting USP2 activity. Molecular Nutrition & Food Research. 61:10.
78. **Yazar, G.**, O. Duvarci, S. Tavman, and **J. L. Kokini**. 2017. Non-linear rheological behavior of gluten-free flour doughs and correlations of LAOS parameters with gluten-free bread properties. Journal of Cereal Science 74:28-36.
79. **Yazar, G.**, O. C. Duvarci, S. Tavman, and **J. L. Kokini**. 2017. LAOS behavior of the two main gluten fractions: Gliadin and glutenin. Journal of Cereal Science 77:201-210.
80. Ye, F., M. Miao, B. Jiang, **B. R. Hamaker**, Z. Jin, and T. Zhang. 2017. Characterizations of oil-in-water emulsion stabilized by different hydrophobic maize starches. Carbohydrate Polymers 166:195-201.

## Book Chapters

1. **El Hindawy, M.**, C. Y. Kim, and **B. R. Hamaker**. 2017. Maltooligosaccharide Chemosensation by Intestinal Enteroendocrine L-Cells Regulate the Endogenous Release of Gut Hormones and Glucose Homeostasis. Pages 664-665 in Proc. In Vitro Cellular & Developmental Biology-Animal. Springer 233 Spring St., New York, NY 10013 USA.
2. **Mauer, L. J.** and R. L. Bradley Jr. 2017. Moisture and Total Solids Analysis. Pages 257-286 in Food Analysis. Springer.
3. **Ryan, V.** and **A. K. Bhunia**. 2017. Mitigation of Foodborne Illnesses by Probiotics. Pages 603-634 in Foodborne Pathogens. Springer.
4. **Sadeghi, R.**, L. Mehryar, M. Karimi, and **J. Kokini**. 2017. Nanocapsule formation by individual biopolymer nanoparticles. Nanoencapsulation Technologies for the Food and Nutraceutical Industries:404.

## Presentations

1. **Barber, E., Kokini, J. L.** (2017). Effect of oleic acid plasticizer and glutaraldehyde crosslinker on zein protein gel formation. Proceeding of the Society of Rheology 88th Annual Meeting. Tampa, Florida (Oral presentation).
2. **Bhunia, A.K.** 2017. Rapid detection of *Enterobacteriaceae* as indicator for pathogen testing using a light scattering sensor" Knowledge Foundation, Alexandria, VA, June 26-27, 2017.
3. **Bhunia, A.K.** 2017. Novel Biosensor Technologies for detection and high throughput screening of pathogens and toxins" and "Probiotic vaccine: Bioengineered probiotics for targeted prevention of infectious diseases" at Shanghai Jiao Tong University, Shanghai, China, July 1-4, 2017.
4. **Bhunia, A.K.** 2017. *Listeria monocytogenes* pathogenesis and a novel probiotic vaccine for prevention". Jiangnan University, Wuxi, China, July 5th, 2017.
5. **Bhunia, A.K.**, **Drolia, R.**, Amalaradjou, M., **Ryan, V.**, Tenguria, S., **Koo, O.K.**, **Burkholder, K.** 2017. "*Listeria monocytogenes* pathogenesis in the gut and a novel probiotic vaccine" 2017 International Conference on Building Human and Animal Health Capacities, Jordon University Science and Technology, Irbid, Jordon.
6. **Bonilla, J., Ryan, V., Bhunia, A.**, and **Kokini, J. L**. (2017). Development of specific antibodies against high and low molecular weight glutenins as research tools by comparative proteomics. Proceeding of the American Association of Cereal Chemists International Annual Meeting. San Diego, CA (Oral presentation).
7. **Bonilla, J.**, and **Kokini, J.** (2017). Studying the molecular distribution of protein, fat and starch in semolina, hard and soft wheat flour during different stages of the mixing process. Proceeding of Institute of Food Technologists, 2017. Las Vegas, Nevada (Poster Presentation).
8. **Gao, M.**, Duvarci, O., and **Kokini, J.L**. (2017). The effect of polysaccharide gum on large amplitude oscillatory shear (LAOS) behavior of corn starch suspensions. Proceeding of the Society of Rheology 88th Annual Meeting, Tampa, Florida. (Oral presentation).
9. **Gao, M.**, Sadeghi, R., Duvarci, O., and **Kokini, J.L**. (2017). The effect of carboxymethyl cellulose (CMC) on Large Amplitude Oscillatory Shear (LAOS) behavior of corn starch suspensions. Proceeding of the Society of Rheology 89th Annual Meeting. Denver, Colorado (Oral presentation).
10. **Gao, M.**, Duvarci, O. and **Kokini, J. L**. (2017). The effect of polysaccharide gum on large amplitude oscillatory shear (LAOS) behavior of cornstarch suspensions. Proceeding of Institute of Food Technologists, 2017. Las Vegas, Nevada (Poster Presentation).
11. **Hall, F.** and **Liceaga, A.** (2017). Entomophagy as potential source for functional and bioactive peptides. 10th Conference of the International Society for Nutraceuticals and Functional Foods. Gusan, South Korea.
12. **Hayes, AMR,** Martinez MM and **Hamaker BR**. Investigating the slow digesting property of pearl millet couscous. Cereals17, AACCI Annual Meeting, San Diego, CA, USA. October 8, 2017. (Oral presentation)
13. **Hayes, AMR** and **Mattes RD**. The effect of snacking on lipid metabolic biomarkers: a review. The Pace of Life and Feeding: Health Implications. Ingestive Behavior Research Center (IBRC) International Conference, West Lafayette, IN, USA. October 2-4, 2017. (poster presentation)
14. **Ketnawa, S.**, Suwal, S., **Huang J.** and **Liceaga, A.M.** (2017). Selective fractionation and concentration of multi-bioactive properties peptides from fish frame protein hydrolysates by electrodialysis with ultrafiltration membrane. 10th Conference of the International Society for Nutraceuticals and Functional Foods. Gusan, South Korea.
15. **Ketnawa, S.**, Suwal, S., **Huang J.** and **Liceaga, A.M.** (2017). Selective fractionation and concentration of antioxidant and antihypertensive peptides from fish frame protein hydrolysates by electro-membrane fractionation. 47th Conference of the West European Fish Technologists' Association. Dublin, Ireland.
16. Kirkham, A.C. O'Haire, M.E., **Liceaga, A.M.** and Johnson, B. (2017). Perceptions of edible insects as a protein source: a pilot study. Society for Applied Anthropology. Santa Fe, NM.
17. **Maldonado, L.** and **Kokini, J.** (2017). Effect of Manufacturing Conditions on the Fabrication of Protein/Polysaccharide Biocompatible Nanotubes (BNTs). Proceeding of American Institute of Chemical Engineers 2017. Minneapolis, Minnesota. (Oral Presentation)
18. Martinez MM, Bertoft E, **Hayes AMR, Hamaker BR.** "Zipper model" explains intermolecular re-associations of starch molecules. Cereals17, AACCI Annual Meeting, San Diego, CA, USA. October 8, 2017. (Oral presentation by Martinez MM)
19. Martinez MM, Bertoft E, **Hayes AMR, Hamaker BR**. "Zipper model" explains intermolecular re-associations of starch molecules. Starch Roundtable, San Diego, CA, USA. October 7, 2017. (oral presentation by Martinez MM)
20. Thorat, A.A., L. Forny, V. Meunier, **L.J. Mauer** and L.S. Taylor. 2017. Sucrose-salt interactions and impact on stability of amorphous sucrose. Preclinical Form and Formulation for Drug Discovery Gordon Research Conference Frontiers of Materials Science in Early Drug Development. Stowe, VT
21. **Mauer, L.J.**, L.S. Taylor, **S. Arioglu Tuncil**, V. Bhardwaj, C. Felten, and **A. Voelker**. 2017. Improving thiamine (vitamin B1) delivery in foods by understanding its physical and chemical stability in natural form and enriched products. IFT Annual Meeting and food Expo. Las Vegas, NV.
22. **Mauer, L.J.** Exploring water-solid interactions and phase boundaries using moisture sorption and water activity instruments. Webinar. Meter Foods, Pullman, WA. January, 2017.
23. **Mauer, L.J.** CFSE approaches for developing novel pathogen detection technologies. ARS-FSIS National Meeting. Sheperdstown, WV, February 22, 2017.

24. **Mauer, L.J.** Food materials science: Challenges of studying water-solid interactions. Washington State University Seminar Series, Pullman, WA. May 22, 2017.
25. **Mauer, L.J.** Water activity measurements using the Tunable Diode Laser: answering previously unanswerable questions. Meter Foods, Pullman, WA. May 24, 2017.
26. **Mauer, L.J.** Improving thiamine delivery in foods. USDA AFRI Project Directors Meeting. Las Vegas, NV. June 24, 2017
27. **Rouf T.B.**, **Kokini J.L.** (2017) Biodegradable Zein-Laponite nanocomposites have improved mechanical, water vapor permeability and surface properties. Proceeding of Institute of Food Technologists, 2017. Las Vegas, Nevada (Poster Presentation)
28. **Rouf T.B.**, **Kokini J.L.** (2017) A Facile approach for fabrication and characterization of eco-friendly Zein-Laponite nanocomposites with Improved Mechanical, Thermal, Barrier and Surface Property. Proceeding of American Institute of Chemical Engineers 2017. Minneapolis, Minnesota. (Oral Presentation)
29. Sadeghi, R., and **Kokini, J.L.** (2017). Microrheology as a powerful tool to monitor particulation of bovine serum albumin. Proceeding of the Society of Rheology 88th Annual Meeting. Tampa, Florida (Oral presentation)
30. Sadeghi, R. and **Kokini, J. L.** (2017). Fabrication and Characterization of Nanoparticles from Corn Starch with Different Amylose/Amylopectin Contents and improvement of curcumin stability in aqueous media. Proceeding of Institute of Food Technologists, 2017. Las Vegas, Nevada (Poster Presentation).
31. Sutanto, F., **Meiser (Malm) M.** and **Kokini, J.L.** (2017). Glutaraldehyde Crosslinked Zein Solutions Make Better Biodegradable Films. The Summer Undergraduate Research Fellowship (SURF) Symposium. (Poster Presentation).
32. Suwal, S., Engelberth, A.S., **Huang, J.-Y.*** 2017. Recovery of acetic acid - the most abundant fermentation inhibitor from corn stover hydrolysate using electrodialysis with biopolar membrane. Symposium on Biotechnology for Fuels and Chemicals. San Francisco, CA.
33. Thorat, A.A., L. Forny, V. Meunier, **L.J. Mauer** and L.S. Taylor. 2017. Sucrose-salt interactions and impact on stability of amorphous sucrose. Preclinical Form and Formulation for Drug Discovery Gordon Research Conference Frontiers of Materials Science in Early Drug Development. Stowe, VT.
34. **Turasan, H.**, **Barber, E.A.**, & **Kokini, J.L.** (2017). Characterization of Physical and Chemical Properties of Crosslinked Zein Films for Biodegradable Platform Formation. Proceeding of Institute of Food Technologists, 2017. Las Vegas, Nevada (Poster Presentation).
35. **Turasan, H.** and **Kokini, J.** (2017). Analyzing the Effects of Time and Crosslinker Ratio on the Mechanical Properties of Biodegradable Zein Super Gels. Proceeding of American Institute of Chemical Engineers 2017. Minneapolis, Minnesota. (Oral Presentation)
36. **Yepez, X.** 2017 AOCS Annual meeting and industry showcases. April 30 - May4, 2017. Orlando, Florida.
37. **Yepez, X.** *17th AOCS Latin American Congress and Exhibition on Fats, Oils, and Lipids*. September 11-14, 2017. Cancun-Mexico. 'Soybean oil partial hydrogenation using HVACP treatment without trans fatty acids'

## Graduated Students with Thesis/Dissertation Titles

### Spring 2017

1. **Tawfiq Alsulami**-MS (**Bhunia**): Rapid detection and differentiation of *Staphylococcus* spp. in food samples using optical scattering technology
2. **Matthew Bailey**-PhD (**Singh**): Prevalence and antimicrobial resistance of *Salmonella* and *Campylobacter* in a poultry facility that processes antibiotic-free broilers using organic and conventional methods
3. **Felicia Hall**-MS (**Liceaga**): Functional properties enzymatically hydrolyzed whole crickets (*Gryllodes sigillatus*)
4. **Jonathan Kershaw**-PhD (**Kim**): Piceatannol involvement in mechanisms of cancer cachexia, obesity, and other metabolic disorders
5. **Ryan Murphy**-PhD (**Jones**): Production, interfacial behavior, modification and functionality of whey protein microgels
6. **Estefania Novoa Rama**-MS (**Singh**): Influence of commercial laying hen housing systems on the prevalence and antimicrobial resistance of *Campylobacter* from laying hens and eggs
7. **Tianming Yao**-MS (**Janaswamy**): Iota-carrageenan and starch matrices as the suitable delivery systems of curcumin and resveratrol

### Summer 2017

8. **Jay Gilbert**-PhD (**Jones**): Protein Fibrils: Improved stability, nanomechanical analysis, and biomedical applications
9. **Kacie Ho**-PhD (**San Martin**): Microwave-assisted extraction of tomato peels and physicochemical stability, in vitro bioaccessibility, and cellular uptake of lycopene-loaded emulsions
10. **Marcela Martinez**-MS (**Bhunia**): Light-scattering sensor for detection and identification of indicator bacteria *Enterobacteriaceae* family for process verification and hygiene monitoring
11. **Jordan Oshiro**-MS (**Kim**): Non thesis MS
12. **Ajita Sundarram**-MS (**Oliver**): Efficacy of commercial phage based treatment as a control strategy against *Listeria* spp. *in vivo* and effect of host characteristics on its lytic capacity *in vitro*
13. **Ying Xie**-PhD (**Yao**): Octenylsuccinate hydroxypropyl phytoglycogen, a potent and non-specific solubilizer for poorly water-soluble active pharmaceutical ingredients
14. **Dandan Zhang**-PhD (**Applegate**): Construction and application of the recombinant bacteriophage PhiV10 nanoluc.

**Fall 2017**

15. **Ingrid Aragon Gallegos**-PhD (**San Martin**): Impact of processing of biofortified cassava and peach palm fruits on provitamin A carotenoid recovery and bioaccessibility
16. **Aminata Diatta**-MS (**Hamaker**): Using corn zein to improve the quality of gluten-free bread
17. **Fang Fang**-PhD (**Campanella**): Shear-induced ordering of amylopectin dispersion affected by hydrocolloids
18. **Yahya Ismail**-MS (**Mauer**): Investigating the degradation of amorphous vitamin C in polymeric model systems
19. **Kathryn Johnson**-MS (**Mauer**): Investigating the effect of controlled relative humidity storage on amylopectin retrogradation in amorphous starch, starch:gluten, and wheat flour models

## Graduate Student/Post Doctorate Achievements/Awards

1. **Xingjian Bai (Bhunia):** PRF Award
2. **Jose Bonilla Oliva (Kokini):**
    (i) Krannert Applied Management Principles Program
    (ii) 3rd place, Best Student Research Paper Competition
3. **Gabriela Calzada (Liceaga):** Knox Fellowship
4. **James Chapa (Mishra):** Doctoral Fellowship
5. **Fang Fang (Campanella/Hamaker):** 1st place/Megazyme Award, Carbohydrate Division Poster Competition, AACCI Annual Meeting
6. **Kelly Higgins (Mattes):** College of Agriculture Spotlight
7. **Andrew "Drew" Hirsch (Jones):** Finalist, AACC International Student Association Product Development Competition
8. **Kacie Ho (San Martin):** Teaching Academy Graduate Teaching Award
9. **Rachel Jackson (Hamaker):** Ross Fellowship
10. **Simran Kaur (San Martin):** Bilsland Fellowship
11. **Halak Mehta (Mishra):** Lynn Fellowship
12. **Elizabeth Pletsch (Hamaker):** Finalist, Nutrition Division poster competition.
13. **Leigh R. Schmidt (Hamaker):** 1st place, Protein Division poster competition
14. **Shyam Suwal (Huang):** Postdoc Travel Grant Award Spring 2017
15. **Hazal Turasan (Kokini)** College of Agriculture Pathmaker Award
16. **Adrienne Voelker (Mauer):** Food Science Teaching Award
17. **Lei "Shelly" Xu (Tao):**
    (i) Chinese American Food Society Outstanding Student Award
    (ii) Chinese American Food Society Student Committee Chair, Oct. 2017-present
    (iii) Student Representative of United States, IFT Non-thermal Processing Division, 2017-present
18. **Yizhe Zhang (Huang):** Ross Fellowship