SHENGYUE SHAN

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SUMMARY

Versatile PhD candidate in applied science with extensive knowledge of complex technical topics and excellent interpersonal skills. 5+ years of hands-on experience in proteins, rheology and numerical analysis, driven by the goal of optimizing processing parameters and product quality. Effective communicator of science capable of conveying complex scientific concepts to audience with various backgrounds. Critical thinker adept at identifying creative solutions with limited resources.

EDUCATION

The Ohio State University Columbus, OH

Ph.D Food Science and Technology, GPA: 3.90 December 2022

- Dissertation Project: The Application of Numerical Methods and Rheology in Enhancing the Physical Properties of Frozen Bread Dough and Gluten-Free Dough (tentative working title)

MS Food Science and Technology, GPA: 3.96 August 2019

- Thesis Project: The Optimization of the Tempering Process for a Pork Belly Product on the Basis of Physical Property Simulation

Sichuan University Chengdu, Sichuan, China

BE Food Science and Engineering, GPA: 3.52 July 2017

- Graduation project: The Design of a Food Processing Plant
- Three-time recipient of the Sichuan University Comprehensive First-Class Scholarship

RESEARCH & PROJECT MANAGEMENT

Department of Food Science and Technology Columbus, OH

PhD candidate, Graduate Research Associate August 2019 – Present

- Lead and assist multiple research projects which have yielded high-quality scientific publications
- Probe the effects of yeast-inclusion and freeze-thaw cycles on the mechanical properties of frozen bread dough via thorough rheological characterization, including shear and extension studies
- Investigate the feasibility of applying fibrillar whey proteins as a gluten replacer in gluten-free bread dough development through fundamental rheological studies and microstructural characterization
- Develop the method of physical property characterization for the plant-based whole muscle meat analogue and performed the measurements
- Advance a mathematical simulation model of the ice recrystallization behavior in frozen food
- Communicate with interdisciplinary team on weekly basis to discuss project progress

MS student, Graduate Research Associate August 2017 – August 2019

- Assessed needs and established project goals, activities, timeframe, and potential evaluation
- Measured the physical properties of pork muscle and adipose tissues under non-destructive and destructive conditions
- Simulated the temperature profile during the phase-change-involved heat transfer process through numerical analysis
- Coupled the experimental data and mathematical model to predict the physical property distribution within the muscle-adipose pork product
- Illustrated the influence of the external and internal factors on the tempering efficiency of the product through a series of *in silico* experiments
- Wrote report communicating and disseminating results about project

TECHNICAL SKILLS

Laboratory
- Oscillatory shear rheology
- Dynamic Mechanical Analysis (DMA)
- Differential Scanning Calorimetry (DSC)
- Confocal Laser Scanning Microscopy (CLSM)
- Extensional rheology
- Texture analysis
- Ultraviolet (UV) spectroscopy
- Optical microscopy

Programming languages
- MATLAB
- Python
- R

Information technology skills
- Scientific computation
- Data analysis
- Microsoft Office (Word, Excel, PowerPoint, Outlook)
- Adobe (Acrobat, Illustrator, Stock)
- Data collection and information management
- Data visualization and graphics

Oral and written communication
- 3 peer-reviewed research papers published in scientific journals
- 2nd place in Institute of Food Technologists (IFT) Student Research Oral Competition – Product Development Division (2022)
- Golden Ticket in IFT Student Research Poster Competition – Food Engineering Division (2019)
- Organization of and regular presentation in weekly lab meetings

Foreign Language
- Native Mandarin Chinese

LEADERSHIP & CAMPUS ACTIVITIES

Buckeye Chapter of Phi Tau Sigma: The Food Science and Technology Honor Society Columbus, OH
President July 2021 – August 2022
- Planned and organized the annual 5K Fun Run, which broadly attracted participation of students, staff, and faculty from the Food Science Department at OSU
- Reformed chapter leader board defining leadership roles and improving leadership experience
- Increased the number of new inductees by 30% and doubled member retention by improving the member recruitment experience and adding value to the membership
- Integrated the involvement of faculty members to further raise the chapter stature

Treasurer May 2019 – July 2021
- Acquired funding from the university Student Organization and purchased rewards for members
- Organized workshops to help peer students improve career development skills
- Strengthened communication between Buckeye Chapter and the Food Science Department at OSU
- Established and maintained the organization website, designed posters and promoted events
- Maintained the connection with Phi Tau Sigma National by submitting newsletter articles and joining the monthly discussion of Chapter Affairs Committee

College of Light Industry, Textile and Food Engineering Student Union Chengdu, Sichuan, China
Public Relations Chair June 2014 – June 2016
- Supervised 4 functional communication teams with 30+ members
- Edited and approved the newsletter articles, posters, college magazines, and digital marketing
- Initiated a series of workshops to improve student workers' professional skills, including photography, Adobe Photoshop among other Adobe products
- Maintained an email-based request form system to accommodate the need of marketing and promotion from the other 13 departments in the Student Union on a weekly basis
- Planned and led the advertising campaigns on college special events (e.g. College Fashion Show, New Student Welcome Reception, Graduation Banquet) with 500+ audience and the interviews of excellent students and alumni
- Debriefed in front of the college administrative personnel each semester