

Ruoyan Liu

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Summary

Master's graduate in food science with 2+ years experiences in the field of food product development, research, production, and sensory evaluation. My passion lies in the research and development of innovative food products.

Skills

- Innovative food developer (egg-free, sugar-free, non-dairy)
 - Quality assurance
 - Sensory evaluation/Data Analysis
 - Project planning and development
 - Shelf-life analysis and risk assessment
 - Food Technology R&D Research
 - Works well under pressure
 - Critical and creative thinking
 - MS Office proficiency
 - Dedicated team player
 - Excellent interpersonal skills
 - Time flexibility
 - Trained in lab safety
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Professional Experience

Graduate Research Assistant

University of Guelph, Guelph, Ontario

05/2020-08/2022

Project - Exploring commercial utilization of yellow mustard (*sinapis alba* L.) gum: stabilization and emulsification in **vegetarian** mayonnaise and **non-dairy fat** whipping cream

- Responsible for formulating and developing new products from bench top to pilot-trials including flavor, stability, shelf-life, texture optimization, etc.
- Developed new vegetarian and non-dairy fat products, extending their shelf-life by up to 2x, enabling them to have competitive/better properties compared with commercial products
- Responsible for sourcing ingredients and inspect incoming raw ingredients.
- Produced new hydrocolloids by using freezing drier, measured chemical composition using vacuum oven, nitrogen analyzer (Dumas), furnace.
- Independently designed and upgraded product measurement methods and created SOPs.
- Experienced with high-pressure homogenizer, rheometer, mastersizer, texture analyzer, Zetasizer, and optical microscope.
- Measured ANOVA data analysis (SPSS, SAS), processed figure and image (Origin, ImageJ).

Research Assistant, Contract Part-time

University of Guelph, Guelph, Ontario

06/2021-12/2021

Market acceptability survey of nutrient-packed baking mixes from Treetly, an emerging Guelph-based business

Products: **no-sugar-added** muffin mix and sourdough bread mix.

- Collaborated with research and development team to develop no-sugar-added formulation by using a combination of sugar alcohol and no-caloric sweeteners
- Produced, packaged, and labeled products in the pilot plant.

- Interfaced with multiple teams to design and developed the product label including logo and nutrition facts tables.
- Recruited 100+ participants for sensory evaluation of the product.
- Completed sensory evaluation including sensory tests, sample preparations, statistical analysis.
- Assisted in refining market surveys.
- Analyzed data by using Excel and worked on product sales direction based on data.

Education

Master of Science, Food Science

University of Guelph

2020-2022

- Relevant courses: Food Chemistry, Plant Agriculture Statistics, Associating Processes
- Courses for teaching assistant: Intro to Food Processing, Food Product Development, Sensory Evaluation
- Award: **Food Science Student Assistance Fund**, Mar 2022
Nominated by supervisor and awarded for projects that have practical significance to the food industry.

Bachelor of Engineering, Food Science and Engineering

Ningxia University

2015-2019

Certification of Completion (visiting student), Viticulture and Enology

Missouri State University

2017-2018

Volunteering

Project Volunteer

Guelph Food Innovation Centre

2021/10-2021/11

Project - Student Experiential Hot Sauce Program

- Supported undergraduate students in an experiential learning course where 60+ students in groups of five develop a new hot sauce and bring it to market.
- Guided the research and development team to refine the flavor of the product.
- Assisted undergraduate volunteers to produce pilot-plant scale productions.

Student Volunteer

Convoy of Hope

2017-2019

An international nonprofit organization is known for its food security programs that serve people in need.

- Coordinated logistics issues and assembled and sorted supplies for public welfare activities and enhanced my sense of social responsibility and collaboration skills.