

LEIYAN WU



Professor

Doctor of Food Science

Doctoral/master's supervisor

Faculties & Departments:

School of Food Science and Engineering



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ABOUT ME

Research interests:

- Processing and application development of cereal and oil products;
- Interaction of food components;
- Macromolecular interface properties, and application in bakery products and beverages.

The main teaching courses of postgraduate and undergraduate students, "Cereal & Oil Food Processing", "Food Physical properties", "Food factory design and environmental protection", "Food Sensory Assessment" and "Beverage Technology"

EDUCATIONAL BACKGROUND

- ◆ 1994.09-1998.07 Graduated from Food Science Department of Zhengzhou

- Institute of Light Industry, Bachelor of Food Science & Engineering;
- ◆ 2003.09-2006.06 Graduated from School of Food and Biology, South China University of Technology, Master of Food Science;
 - ◆ 2006.09-2010.06 Graduated from the School of Light Industry and Food Science, South China University of Technology, Doctor of Food Science;

WORK & RESRARCH EXPERIENCE:

- ◆ 1998.07 - Present, faculty members of College of Food Science and Engineering, Jiangxi Agricultural University.
- ◆ 2015.12 - 2017.08, Visiting scholar at the Department of Agriculture and Agri-Food, Guelph, Canada
- ◆ 2012.12 - 2013.02, Research of baked goods in Hong Kong Jiamei Catering Co., LTD.
- ◆ 2009.10 – 2010.04, R&D Director in Delong Company, Hong Kong.

AWARDS/DISTINCTION

- **Visiting scholar** of the Ministry of Agriculture and Agri-Food Canada;
- **The fourth batch** of "Hundred People Plan" personnel of Fujian Province;
- **The overseas students funded** by the National Research and Development Commission and the Provincial Distant Voyage Project,
- **Chief expert of Camellia Mushroom** Science and Technology Academy, Ganxian County, Jiangxi, China Agricultural Science and Technology Association;
- **Director** of Science and Innovation Center of Jiangxi Riyuan Food Group Co., LTD., **Vice President** of Science and Technology of Jiangxi Dayuda Food Co.,

LTD.,

- **Review expert** of National Natural Science Foundation, talent project review expert of Ministry of Agriculture and Rural Affairs, "Food Hydrocolloids" and "Food Bioscience".
- **Presided over 15 projects**, including the National Natural Science Foundation, project of the Ministry of Agriculture, provincial natural science fund;
- **Won the second prize** of the Municipal Science and Technology Award
- **Published more than 70 papers** including SCI and EI.

RESRARCH PROGRAMS

1. The relationship between protein interface properties, interface phenomena and egg emulsification and foaming by chaotic fractal method (32060583), National Natural Science Foundation of China, 350,000, 2021-01 to 2024-12.
2. A comparative study of membrane formation mechanism and phosphorylation modification of ovotransferrin by micromembrane and macrocoating of interfacial molecules (31660481), National Natural Science Foundation of China, 390,000, 2017-01 to 2020-12.
3. Relationship between interfacial molecular interaction and interfacial properties and interfacial stability of protein solution and model establishment (31260367), National Natural Science Foundation of China, 490,000, 2013-01 to 2016-12.
4. Study on the influence of interfacial molecular level emulsification technology on the water state, rheology and final product quality in dough, Fuzhou City, 1 million, 2022-09 to 2023-12.
5. Study on the structure, interface properties and stability of egg transferrin (Project No. : 20114BAB204026), Natural Science Foundation of China Province, 2012.01-2015.12.
6. LED treatment of active substances in green plants-interface properties and nutritional properties of zein (project No. 9028205654), provincial hundred people sailing project, Jiangxi Provincial Association for Science and Technology, Jiangxi Provincial Organization Department, 2015-09-16.
7. Immobilized isomerase continuous transformation technology to produce high fructose corn syrup with broken rice pilot test (2012GB2C500237) Agricultural transformation project, Ministry of Agriculture, 2012.04-2014.04.
8. The application of temperature adjustable maltose fermentation device in the production line with an annual output of 3,000 tons of high malt syrup (20161BBI90021), Key scientific and technological Achievements Transfer and transformation Plan Project of Jiangxi Province, Provincial Science and Technology Department, 2015.09-2017.08.
9. Research and development of soft waxy food fillings and preparation process with high aging resistance and baking resistance (202/JXAUHX020), Enterprise horizontal project,

2019.05-Present.

PUBLICATIONS (LAST THREE YEARS)

1. Xiaowei Zhang, Wenyan Liu, Qixin Zhang, Jin Tu, Leiyan Wu*, The impact of structural properties on the absorption of hen egg-white ovotransferrin with or without Fe³⁺ at the air/oil-water interface, *Journal of Food Engineering*, 2025(386), 112287. (IF6.23)
2. Jinzhen Li, Shuo Wang, Hua Wang, Wenhong Cao, Haisheng Lin, Xiaoming Qin, Zhongqin Chen, Jialong Gao, Leiyan Wu*, Huina Zheng,* Effect of ultrasonic power on the stability of low-molecular-weight oyster peptides functional-nutrition W1/O/W2 double emulsion, *Ultrasonics Sonochemistry*, 2022(92), 1062-1072. (IF=9.336)
3. Guiyan Li, Xiang Zuo, Xinlin Luo, Zhongqin Chen, Wenhong Cao, Haisheng Lin, Xiaoming Qin, Leiyan Wu*, Huina Zheng*, Functional, physicochemical, and structural properties of the hydrolysates derived from the abalone (*Haliotis discus subsp hannai* Ino) foot muscle proteins, *Food Chemistry:X*, 19(2023), 100841. (IF=6.443)
4. Jinfeng Zhou, Xiaowei Zhang, Wenyan Liu, Qixin Zhang, Yueqi Wu, Leiyan Wu,* Widely targeted metabolomics analysis of the main bioactive compounds of Ganpu tea processing through different drying methods, *LWT -Food Science and Technology*, 189(2023), 115501. (IF=6.056)
5. Jinfeng Zhou, Xiaowei Zhang, Wenyan Liu, Qixin Zhang, Leiyan Wu*, Effect of different drying methods on color difference, microorganisms and volatile metabolites profiles of Ganpu Tea, *Food Bioscience*, 10(2023), 103314. (IF=4.240)
6. Jinfeng Zhou and Leiyan Wu*, Modified highland barley regulates lipid metabolism and liver injury in high fat and cholesterol diet ICR mice, *Foods*, 2022,11, 4067-4090. (IF=5.2)
7. Lai Chanjuan, Hu Linfang, Tu Jin, Li Mingliang, Cui Qibin, Wu Leiyan*, Effects of different alcohol and ultrasonic treatments on thermal and structural properties of zein-starch sodium octenyl succinate composite nanoparticles, *The Journal of Food Science*, 2021, 3574-3588.
8. Wen Yang,, Jinzhen Li, Dingding Ren, Wenhong Cao, Haisheng Lin, Xiaoming Qin, LeiyanWu*, Huina Zheng*, Construction of a water-in-oil-in-water (W/O/W) double emulsion system based on oyster peptides and characterisation of freeze-dried products, *International Journal of Food Science & Technology*, 2021, 56 (2): 6635-6648
9. Lifang Hu; Leiyan Wu*; Chanjuan Lai; Mingliang Li; Wuying Yang, Influence of pH and concentration on the zeta potential, hydrophobicity of OVT and the relationship between its structure and interfacial behaviors, *Journal of Dispersion Science and Technology*, 2021, 36: 1-11.855.
10. Mingyuan Cao, Juwu Hu, Zhen Gu, Wei Xiong, Lei Wu, Jianguo Xu, Leiyan Wu*, Purification of four caffeoylquinic acid derivatives from the flowers of *Gynura Procumbens* by HSCCC, *Journal of Chromatographic Science*,2021, DOI: 10.1093/chromsci/bmab036.