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興趣領域

課題組在生物材料與納米技術、食品安全綠色控制技術、天然提取物的功能活性等領域開展工作。課題組歡迎具有食品科學、生物材料、藥物製劑等相關背景的同學申請攻讀碩士或博士學位。

教育經歷

2008.09-2013.06	吉林大學 農業生物環境與能源工程專業	博士（碩博連讀）
2001.09-2005.07	吉林大學 食品科學與工程專業	學士

工作經歷

2024.07-至今	澳門科技大學	醫學院	副教授
2020.09-2024.06	澳門科技大學	醫學院	助理教授
2018.08-2019.08	佛羅里達大學	食品與農業科學研究所	訪問學者
2016.09-2020.08	吉林大學	南方研究院	研究生導師（兼）
2015.09-2020.08	吉林大學珠海學院	藥學與食品科學學院	副教授、教授
2013.07-2015.09	上海交通大學	化學化工學院	博士後

學術及社會兼職

國際期刊 *Scientific Reports*	編委
灣區標準評審委員會	評委
“澳門監造”標志評審委員會	評委
廣東省本科高校食品科學類專業教學指導委員會	委員
珠海市第五屆食品安全專家委員會	委員

研究項目

1. 廣東省科技廳與澳門科技發展基金聯合項目（GDST-FDCT）：基於自組裝多糖納米載體技術的皂苷類天然植物化妝品新原料開發及產業化，2024-2026，澳門幣 116.6 萬元，PI
2. 國家自然科學基金與澳門科技發展基金聯合項目（NSFC-FDCT）：給體-受體型共軛聚合物納米纖維及其多模式抗菌材料，2023-2026，澳門幣 205 萬元，PI
3. 澳門科技發展基金（FDCT）面上項目：多糖基溫濕雙響應智能控釋食品保鮮複合塗膜的開發與應用研究，2022-2025，澳門幣 166.3 萬元，PI
4. 澳門科技發展基金（FDCT）科技創新提升計劃項目：基於低濃度二氧化氯的新型氣調保鮮包裝的應用研究，2022-2023，澳門幣 31.7 萬元，PI
5. 澳門科技大學研究基金（FRG）一般項目：氣態二氧化氯控釋熏蒸對草莓采後食品安全與品質指標的控制作用研究，2021-2022，澳門幣 10 萬元，PI
6. 廣東省國際科技合作項目：二氧化氯納米緩釋抑菌材料的研發及其對熱帶水果采後保鮮機制的研究，2024-2026，人民幣 50 萬元，co-I
7. 廣東省國際科技合作項目：細胞程式性死亡傳遞下多源深度信息對菠蘿黑心病的早期診斷方法研究，2024-2026，人民幣 50 萬元，co-I
8. 珠海市產學研合作項目：納米晶在改良型抗癌藥物中的研發及運用，2022-2025，人民幣 100 萬元，co-I

近期代表論文

1. Yun Z., Dong Y., Liu Z., Yu X., Xiao Y., Fang Q., and Zhong T.* (2026). The “Bridge” between Hydrophobic Active Substances and Hydrophilic Biopolymers: The Role of Cyclodextrins in Enhancing the Properties of Food Packaging Films. *Trends in Food Science & Technology*, 105736. (Q1, IF: 15.4)
2. Wu T., Dong Y., Zhu W., Xie Z., Jiang T., Yu X., Xiao Y., Sui S., and Zhong T.* (2026). Phase change material-based antibacterial nanoparticles for short-term preservation of cooked meat during temperature abuse. *npj Science of Food*. (Q1, IF: 7.8)
3. Tao X., Wu X., Wu H., Tu L., Dong M., Xiao Y., Yu X.*, and Zhong T.* (2026). A structural roadmap to gut health: A comprehensive review of edible insect chitin–protein complexes as alternative protein-derived, structure-specific prebiotics. *International Journal of Biological Macromolecules*, 354, 151312. (Q1, IF: 8.5)
4. Wang Y., Dong Y., Wu B., Liu Y., Yun Z., Yu X., Sun Q., Xiao Y., and Zhong T.* (2025). Preparation of gelatin/sodium carboxymethyl cellulose-based probiotic controlled-release tablets via complex coacervation and the double emulsification method. *Food Hydrocolloids*. 112317. (Q1, IF: 12.4)

5. Jing H., Dong Y., Wu T., Zhu W., Li Z., Jiang T., Liu Y., Sui S., Yu X., Xiao Y., and Zhong T.* (2025). An innovative sodium carboxymethyl cellulose-based chlorine dioxide-releasing hydrogel incorporating α-cyclodextrin inclusion complexes and its potential for extending fruit shelf-life. *International Journal of Biological Macromolecules*, 149165. (Q1, IF: 8.5)
6. Zhu W., Dong Y., Wu T., Jing H., Li Z., Yu X., Xiao Y., and Zhong T.* (2025). Beta-cyclodextrin inclusion complexes of citral and linalool inhibit Escherichia coli on cooked chicken: Focus on their synergistic antibacterial effects. *Food Chemistry: X*, 103248. (Q1, IF: 8.2)
7. Liu Y., Zhang H., Zhang Z., Dong Y., Jiang T., Zhang Y., Peng Y., Yu X., Xiao Y., and Zhong T.* (2025). Food contact materials based on N-halamines or photosensitizers: An emerging strategy for developing "rechargeable" antibacterial properties. *Trends in Food Science & Technology*, 105255. (Q1, IF: 15.4)
8. Li Z., Dong Y., Wu T., Zhu W., Jing H., Jiang T., Liu Y., Yu X., Xiao Y., and Zhong T.* (2025). Pectin-coated liposomes for pectinase-triggered thymol release: A novel on-demand sterilization approach for orange preservation. *Food Hydrocolloids*, 111792. (Q1, IF: 12.4)
9. Jiang T., Dong Y., Wang L., Wu T., Yu X., Xiao Y., and Zhong T.* (2025). Genistein mitigates renal fibrosis in diabetic nephropathy by suppressing epithelial–mesenchymal transition and aberrant glycolysis through downregulating the expression of HIF-1α. *Food Bioscience*, 107172. (Q1, IF: 5.9)
10. Dong Y., Jia X., Wu T., Zhu W., Zhang Z., Jiang T., Yu X., Xiao Y., Feng C., Huang X., and Zhong T.* (2025). Bacteria-triggered on-demand thymol release for salmon preservation: A self-destructive antibacterial strategy. *Food Chemistry*, 144563. (Q1, IF: 8.5)
11. Wu B., Zhu Y., Liu Y., Wang Y., Dong Y., Chen J., and Zhong T.* (2025). Study on the structural characterization of Premna microphylla Turcz polysaccharides and their improvement effect on the properties of chitosan composite gel. *International Journal of Biological Macromolecules*, 143015. (Q1, IF: 8.5)
12. Jia X., Dong Y., Lu J., Yang Z., Xu R., Zhang X., Jiao J., Zhang Z., Lin Y., Chu F., Wang P., Zhong T.*, and Lei H. (2025). A self-assembly enzyme-like hydrogel with ROS scavenging and immunomodulatory capability for microenvironment-responsive wound healing acceleration. *International Journal of Pharmaceutics*, 125529. (Q1, IF: 5.3)
13. Zhu W., Dong Y., Wu T., Jiang T., Xiao Y., Yu X., and Zhong T.* (2025). Synergies of Plant-derived Compounds in Controlling Foodborne Microorganisms: Antimicrobial Mechanisms, Determination Methods and Combined Effects. *Food Reviews International*, 2469594. (Q1, IF: 5.3)
14. Chen L., Jing H., Dong Y., Cao Y., Wu T., Zhu W., Dai F., Chen M., Liu Y., He

N., Huang R., and Zhong T.* (2025). Sustained release of gaseous chlorine dioxide from alpha-cyclodextrin: An innovative method for strawberry preservation. *Food Chemistry*, 473, 143135. (Q1, IF: 8.5)

15. Cao Y., Dong Y., Wu T., Chen L., Zhu W., Jiang T., He N., Liu Y., Huang R., Yu X., Xiao Y., and Zhong T.* (2025). A carboxymethyl cellulose-based pH-responsive chlorine dioxide release film for strawberry preservation. *International Journal of Biological Macromolecules*, 294, 139457. (Q1, IF: 7.7)
16. Chen Z., Wang A., Qin Y., Chen X., Feng X., He G., Zhu X., Xiao Y., Yu X.*, Zhong T.*, and Zhang K. (2024). Preparation of a thermosensitive and antibacterial in situ gel using poloxamer-quaternized chitosan for sustained ocular delivery of Levofloxacin hydrochloride. *International Journal of Biological Macromolecules*, 283, 137479. (Q1, IF: 7.7)
17. Dong Y., Wu T., Jiang T., Zhu W., Chen L., Cao Y., Xiao Y., Peng Y., Wang L., Yu X., and Zhong T.* (2024). Chitosan-coated liposome with lysozyme-responsive properties for on-demand release of levofloxacin. *International Journal of Biological Macromolecules*, 269, 132271. (Q1, IF: 7.7)
18. Wu B., Zheng R., Ouyang M., Zhu Y., Lu H., Liao K., Dong Y., Su B., Huang J., Zhong T.*, Liu Z.*, and Li J. (2024). The water extract of Amydrium sinense (Engl.) H. Li ameliorates Isoproterenol-induced cardiac hypertrophy through inhibiting the NF-κB signaling pathway. *Biomedicine & Pharmacotherapy*, 172, 116241. (Q1, IF: 7.5)
19. Qiu J., Yang H., Zhang Y., Xiao Y., Wang L., Peng Y., Yu X., Huang X., and Zhong T.* (2024). Emerging trends in the application of riboflavin-mediated photodynamic inactivation for food preservation. *Trends in Food Science & Technology*, 143, 104295. (Q1, IF: 15.3)
20. Dong Y., Jiang T., Wu T., Wang W., Xie Z., Yu X., Peng Y., Wang L., Xiao Y., and Zhong T.* (2024). Enzyme-responsive controlled-release materials for food preservation and crop protection - A review. *International Journal of Biological Macromolecules*, 254, 128051. (Q1, IF: 7.7)
21. Jiang T., Dong Y., Zhu W., Wu T., Chen L., Cao Y., Yu X., Peng Y., Wang L., Xiao Y., and Zhong T.* (2024). Underlying mechanisms and molecular targets of genistein in the management of type 2 diabetes mellitus and related complications. *Critical Reviews in Food Science and Nutrition*, 64(31), 11543-11555. (Q1, IF: 10.2)
22. Liu Y., Zhu L., Yu X., Xu Y., and Zhong T.* (2023). A Combined Ultrasound–Microwave Assisted Alcoholic–Alkaline Method for Preparation of Granulated Cold-Water-Soluble Starch. *Starch-Stärke*, 75(11-12), 2200257. (Q3, IF: 2.6)
23. Wu T., Zhu W., Chen L., Jiang T., Dong Y., Wang L., Tong X., Zhou H., Yu X., Peng Y., Wang L., Xiao Y., and Zhong T.* (2023). A review of natural plant extracts in beverages: Extraction process, nutritional function, and safety

evaluation. *Food Research International*, 172, 113185. (Q1, IF: 8.1)

24. Zhang Y., Qiu J., Yang K., Lu Y., Xu Z., Yang H., Xu Y., Wang L., Lin Y., Tong X., He J., Xiao Y., Sun X., Huang R., Yu X.*, and Zhong T.* (2023). Generation, mechanisms, kinetics, and effects of gaseous chlorine dioxide in food preservation. *Comprehensive Reviews in Food Science and Food Safety*, 22(4), 3105-3129. (Q1, IF: 15.798)

25. Wang A., Feng X., He G., Xiao Y., Zhong T.*, and Yu X.* (2023). Recent advances in digital microfluidic chips for food safety analysis: Preparation, mechanism and application. *Trends in Food Science & Technology*, 134, 136-148. (Q1, IF: 16.002)

26. Peng Y., Gu T., Zhong T.*, Xiao Y., and Sun Q.* (2022). Endoplasmic reticulum stress in metabolic disorders: opposite roles of phytochemicals and food contaminants. *Current Opinion in Food Science*, 48, 100913. (Q1, IF: 9.8)

27. Lin Y., Huang R., Sun X., Yu X., Xiao Y., Wang L., Hu W., and Zhong T.* (2022). The p-Anisaldehyde/β-cyclodextrin inclusion complexes as a sustained release agent: Characterization, storage stability, antibacterial and antioxidant activity. *Food Control*, 132, 108561. (Q1, IF: 6.652)

28. Yu X., Zhong T.*, Zhang Y., Zhao X., Xiao Y.*, Wang L., Liu X., and Zhang X. (2022). Design, Preparation, and Application of Magnetic Nanoparticles for Food Safety Analysis: A Review of Recent Advances. *Journal of Agricultural and Food Chemistry*, 70(1), 46-62. (Q1, IF: 5.895)

29. Lin Y., Huang R., Sun X., Yu X., Xiao Y., Wang L., Hu W., and Zhong T.* (2021). The p-Anisaldehyde/β-cyclodextrin inclusion complexes as fumigation agent for control of postharvest decay and quality of strawberry. *Food Control*, 108346. (Q1, IF: 6.652)

30. Wang L., Jin Y., Wu L., and Zhong T.* (2021). Hybrid colloidal gels assembled from inorganic and polymeric nanoparticles as a drug-delivery platform. *Chemical Physics Letters*, 784, 139122. (Q2, IF: 3.1)

31. Zhong T., Zhang J., Sun X., Kou J., Zhang Z., Bai J., and Ritenour M.A. (2021). The Potential of Gaseous Chlorine Dioxide for the Control of Citrus Postharvest Stem-End Rot Caused by Lasiodiplodia theobromae. *Plant Disease*, 105(11), 3426-3432. (Q1, IF: 4.614)

32. Jin Y., Wang L., Liu Y., Liu X., and Zhong T.* (2021). Self-assembled drug-polymer micelles with NO precursor loaded for synergistic cancer therapy. *Journal of Polymer Research*, 28(8), 288. (Q2, IF: 3.061)