



田双起，男，工学博士，副教授，硕士生导师，河南省高等学校青年骨干教师，中国粮油学会理事，河南省农产品加工与贮藏工程学会理事，河南工业大学学报（自然科学版）编委，谷物食品与营养团队负责人；发表专业领域高水平论文 60 余篇，其中第一作者及通讯作者 SCI 论文 30 余篇；主持国家自然科学基金项目 1 项，参与国家十三五重点研发计划 2 项；十四五重点研发计划 1 项；授权发明专利 5 项；获得河南省科技进步一等奖 1 项，教育厅科技成果奖一等奖 1 项，中国粮油学会科学技术奖二等奖 2 项，三等奖 3 项；主要从事谷物食品与营养，粮食资源转化与利用，粮食加工副产品综合利用；功能性面制品加工理论与技术；多糖、蛋白结构解析理论与技术等方面的研究。

通讯地址：河南省郑州市高新区莲花街 100 号河南工业大学

联系电话：186-2371-9520

电子邮箱：tianshuangqi@haut.edu.cn

## 学术兼职

中国粮油学会理事，河南工业大学学报(自然科学版)编委，《Grain & Oil Science and Technology》客座编辑，Carbohydrate polymers、International Journal of Biological Macromolecules、Food Chemistry、Journal of Cereal Science、International Journal of Gastronomy and Food Science、Journal of Food Processing and Preservation、Foods、Frontiers in Nutrition 等 SCI 期刊审稿人。

## 教育与工作经历

2002-2006：郑州大学生物工程系 学士

2006-2009：郑州大学物理工程学院 硕士

2009-2012：哈尔滨工业大学食品科学与工程学院 博士

2012-2019：河南工业大学粮油食品学院粮食工程系 讲师

2019-至今：河南工业大学粮油食品学院粮食工程系 副教授

## 研究领域与方向

粮食资源转化与利用；谷物化学；功能性食品；天然产物分离提取

## 教授课程

《食品工程原理》、《粮食副产物综合利用》、《食品生物技术》；同时负责指导本科生毕业论文设计和研究生的科研、学习工作。

## 研究成果

### （一）主要的科研项目

1. 主持国家自然科学基金一项（No.31701636）；
2. 主持河南省重点研发与推广专项（科技攻关）（232102110155）；
3. 主持河南省高等学校青年骨干教师项目；
4. 主持省属高校基本科研青年支持计划（No.2016QNJH17）；
5. 主持小麦和玉米深加工国家工程研究中心开放基金课题（NL2022012）；
6. 主持河南省重大科技专项子课题 2 项；
7. 参与“十三五”国家重点研发计划项目 2 项；
8. 参与“十四五”国家重点研发计划项目 1 项。

### （二）代表著作与论文

(1) Peng Gao, Shuangqi Tian\*, Yanyan Chen, Jing Lu. Mechanical properties of corn: Correlation with endosperm hardness. *Journal of Food Process Engineering*. 2023, e14491.

(2) Shuangqi Tian\*, Fanhao Meng, Ke Du, Yanyan Chen. Biological activity evaluation and identification of different molecular weight peptides from wheat germ albumin. *LWT*, 2023, 189, 115556.

(3) Shuangqi Tian\*, Jing Lu, Yan Zhang, Zhicheng Chen\*. Effects of Layering Milling Technology on Dough Properties of Highland Barley and Bread Qualities. *Journal of Chemistry*, 2023, 5547085.

(4) Zixuan Liu, Shuangqi Tian\*, Chenglong Lv, Zhicheng Chen. Preparation and Physicochemical Properties of *Cyperus esculentus* Starch from its Tubers Using Ultrasound-assisted Alkali Method. *BioResources*, 2023, 18(1), 60-72.

(5) Shuangqi Tian\*, Fan Wang, Mengyao Luo, Feng Yan, Du Ke, Hu Chen, Sensen Gao. Effect of *Chlorella pyrenoidosa* powder on rheological properties and fermentation characteristics of dough. *Journal of Food Processing & Preservation*. 2022, e16446.

(6) Yao Zong, Shuangqi Tian\*, Yan Zhang, Zixuan Liu, Zhicheng Chen. Effects of highland barley powders with different peeling rates on the rheological properties of dough and sensory, volatile flavor evaluation of bread. *Journal of Food Processing & Preservation*. 2022, e16971.

(7) Ke Du, Shuangqi Tian\*, Hu Chen, Sensen Gao, Xianyou Dong, Feng Yan. Application of enzymes in the preparation of wheat germ polypeptides and their biological activities. *Front. Nutr.* 9:943950.

(8) Shuangqi Tian\*, Ke Du, Feng Yan, Yongheng Li. Microwave-assisted enzymatic hydrolysis of wheat germ albumin to prepare polypeptides and influence on physical and chemical properties. *Food Chemistry*, 2022, 374, 131707.

(9) Shuangqi Tian\*, Bingxiu Yu, Ke Du, Yongheng Li. Purification of wheat germ albumin hydrolysates by membrane separation and gel chromatography and evaluating their antioxidant activities, *LWT*, 161, 2022, 113365.

(10) Feng Yan, Shuangqi Tian\*, Ke Du, Xing'ao Xue, Peng Gao Zhicheng Chen\*. Preparation and nutritional properties of xylooligosaccharide from agricultural and forestry byproducts: A comprehensive review. *Front. Nutr.* 9:977548.

(11) Shuangqi Tian, Xing'ao Xue, Xinwei Wang, Zhicheng Chen\*. Preparation of starch-based functional food nano-microcapsule delivery system and its controlled release characteristics. *Front. Nutr.* 9:982370.

(12) Shuangqi Tian\*, Peng Gao, Xing'ao Xue, Yingqi Yang. Effect of malate starch on cooking, texture and digestion characteristics *in vitro* of medium glycemic noodles. *International Journal of Gastronomy and Food Science*, 29, 2022, 100558.

(13) Shuangqi Tian\*, Yichun Wei, Zhicheng Chen. Effect of mixture design approach on nutritional characteristics and sensory evaluation of steamed bread added rice flour. *Frontiers in Nutrition*, 2022, 989090.

(14) Feng Yan, Shuangqi Tian\*, Ke Du, Xinwei Wang. Effects of Steam Explosion Pretreatment on the Extraction of Xylooligosaccharide from Rice Husk. *BioResources*, 2021, 16(4), 6910-6920.

(15) Shuangqi Tian\*, Yingqi Yang. Molecular characteristics and digestion properties of corn starch esterified by L- malic acid. *Journal of Food Processing & Preservation*. 2021, 00:e15391.

(16) Shuangqi Tian\*, Yue Sun, Zhicheng Chen. Extraction of Flavonoids from Corn Silk and Biological Activities *In Vitro*. *Journal of Food Quality*, 2021, 7390425.

(17) Shuangqi Tian\*, Yue Sun. Influencing factor of resistant starch formation and application in cereal products: A review. *International Journal of Biological Macromolecules*, 2020, 149, 424-431.

(18) Yan-Ge Tian, Zheng-Nan Zhang, Shuang-Qi Tian\*. Nondestructive Testing for Wheat Quality with Sensor Technology Based on Big Data. *Journal of Analytical Methods in Chemistry*, 2020, 8851509.

(19) Shuangqi Tian\*, Yue Sun, Zhicheng Chen\*, Renyong Zhao. Bioavailability and Bioactivity of Alkylresorcinols from Different Cereal Products. *Journal of Food Quality*, 2020, ID 5781356.

(20) Shuangqi Tian, Renyong Zhao\*, Tianyuan Peng, Chenxi Liu, Yingqi Yang. Effect of Different Heat Treatment on Alkylresorcinol Contents of Wheat Bran. *BioResources*, 2020, 15(1), 1500-1509.

(21) Shuang-Qi Tian, Chen-Xi Liu, Ren-Yong Zhao\*, Zi-Liang Wang. Physicochemical Properties and Digestion Characteristics of Corn Starch Esterified by Malic Acid. *Journal of Food Science*. 2019, 84(8), 2059-2064.

(22) Shuangqi Tian\*, Yue Sun, Zhicheng Chen\*, Yingqi Yang, Yanbo Wang. Functional Properties of Polyphenols in Grains and Effects of Physicochemical Processing on Polyphenols. *Journal of Food Quality*, 2019, 2793973.

(23) Shuang-Qi Tian\*, Ren-Yong Zhao, Zhi-Cheng Chen. Review of the pretreatment and bioconversion of lignocellulosic biomass from wheat straw materials. *Renewable and Sustainable Energy Reviews*, 2018, 91, 483-489.

(24) Shuang-qi Tian\*, Zhi-cheng Chen\*\*, Yi-chun Wei. Measurement of colour-grained wheat nutrient compounds and the application of combination technology in dough. *Journal of Cereal Science*. 2018, 83, 63-67.

(25) Shuang-Qi Tian, Zhi-Cheng Chen\*, Yong-Feng Qiao. Analysis of main physicochemical parameters in purple wheat with different milling technology. *Journal of Food Processing & Preservation*, 2018, 42, (1), e13382.

(26) Shuang-Qi Tian, Ren-Yong Zhao\*, Jun-Lan Zhao. Production of Bioethanol from Sweet Potato Tubers with Different Storage Times. *BioResources*, 2018, 13(3), 4795-4806.

(27) Shuangqi Tian, Yimei Chen, Zhicheng Chen\*, Yingqi Yang, Yanbo Wang. Preparation and Characteristics of Starch Esters and Its Effects on Dough Physicochemical Properties. *Journal of Food Quality*, 2018, 1395978.

(28) Shuang-Qi Tian, Zhi-Cheng Chen\*, Yong-Feng Qiao. Analysis of main physicochemical parameters in purple wheat with different milling technology. *Journal of Food Processing & Preservation*. 2017, e13382.

(29) Shuang-Qi Tian\*, Yong-Heng Li, Zhi-Cheng Chen, Yong-Feng Qiao. Effects of Layering Milling Technology on Distribution of Green Wheat Main Physicochemical Parameters. *Journal of Food Quality*, 2017, 8097893.

(30) Shuang-qi Tian\*, Xin-Wei Wang, Ren-Yong Zhao, Sen Ma. Effect of doping pretreated corn stover conditions on yield of bioethanol in immobilized cell systems. *Renewable Energy*. 2016, 86, 858-865.

(31) Shuang-Qi Tian\*, Xin-Wei Wang, Ren-Yong Zhao, Sen Ma. Recycling Cellulase from Enzymatic Hydrolyzate of Laser-Pretreated Corn Stover by UF Membrane. *BioResources*, 2015, 10(4), 7315-7323.

(32) Shuang-Qi Tian\*, Sen Ma, Xin-Wei Wang, Zheng-Nan Zhang. Fractal kinetic analysis of the enzymatic saccharification of CO<sub>2</sub> laser pretreated corn stover [J]. *Carbohydrate polymers*. 2013, 98, 618-623.

(33) Shuang-Qi Tian, Zhen-Yu Wang\*, Zi-Luan Fan, Li-Li Zuo. Optimization of CO<sub>2</sub> laser-based pretreatment of corn stover using response surface methodology [J]. *Bioresource Technology*, 2011, 102, 10493-10497.

### (三) 授权发明专利

- (1) 制备固定化酵母的简易装置；
- (2) 一种激光处理制备变性淀粉的装置；
- (3) 一种低温碱溶液糊化甘薯粉方法；
- (4) 金刚砂瓦与板网组合脱皮套筒。

### 奖励与荣誉

- 2016 年益楷优秀教学奖三等奖；
- 2016 年河南工业大学教学大奖赛二等奖；
- 2017-2018 年度金龙鱼青年教师奖；
- 2018 年益楷奖教金教学成果奖；
- 2018 届本科毕业设计（论文）优秀指导教师；
- 2019 年益楷奖教金教学成果奖；
- 2020 年中国粮油学会科学技术奖三等奖（第一）；
- 第三届全国大学生生命科学创新创业大赛优秀成果奖指导教师二等奖（创业）（第二名）；
- 2022 年“挑战杯”河南省大学生创业计划竞赛铜奖；
- 2022 年河南省研究生创新之星导师；
- 2023 年第八届全国大学生生命科学竞赛（创新创业类）指导教师二等奖（创新组）；
- 2023 年河南省科技进步一等奖（第八名）。

### 实验室和科研团队简介

**团队概述：**本团队以粮食资源增值转化为目标，以粮食深加工技术的应用、开发为核心，以小麦和玉米深加工国家工程实验室为平台，重点开展主食品工业化生产技术、粮食原料中生物高分子的结构及功能特性、活性成分的功能及作用机理、粮食副产物增值转化关键技术等领域研究。

**团队的研究方向：**谷物食品与营养，主食品工业化技术、烘焙科学与技术、谷物科学与技术、碳水化合物化学、谷物品质分析与检测、淀粉生产技术、淀粉改性修饰技术、食用变性淀粉稳定化和功能特性、稻米深加工技术、粮食加工副产物增值转化、粮食营养与安全。