



青島農業大學

食品科学与工程学院

COLLEGE OF FOOD SCIENCE AND ENGINEERING

师资队伍

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孙庆杰

2013-12-19 00:00:00

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孙庆杰，男，1970年01月出生于山东省招远市。博士，教授，青岛农业大学食品科学与工程学院副院长。获得国务院政府特殊津贴、中央直接联系的高级专家、山东省有突出贡献中青年专家和青岛拔尖人才等荣誉称号，兼任山东省本科教育教学指导委员会食品科学与工程专业委员和中国粮油学会理事等。

教育经历

1988.09—1992.07, 青岛农业大学(原莱阳农学院)果树专业, 获农学学士学位;
1992.09—1995.07, 浙江大学(原浙江农业大学)农产品贮藏加工专业, 获农学硕士学位;
1995.09—1999.04, 江南大学(原无锡轻工大学)食品科学专业, 获工学博士学位;

工作经历

1999.07—2004.07 湖南金健米业股份有限公司, 总工程师;
2004.09—至今, 青岛农业大学食品科学与工程学院, 副院长;
2008.12—2009.05, 美国爱荷华州立大学食品营养系访问学者。

研究领域及方向

从事学科领域: 食品科学技术、食品加工技术
研究方向: 粮油精深加工、活性物质提取与功能食品开发

教授课程

本科生课程: 《淀粉工艺学》、《粮油食品工艺学》
研究生课程: 《碳水化合物》

主要科研项目

1. 国家自然科学基金面上项目“短直链淀粉自组装纳米颗粒形成机理与多酚类物质多元运载体系的构建”;
2. 国家星火计划项目“变温压差膨化技术制取裹衣花生食品”;
3. 山东省科技攻关“复合双向酶解技术制取花生抗氧化活性肽的中试研究”;
4. 山东省农业重大应用技术创新项目“基于物理改性的食品专用变性淀粉绿色生产关键技术研究及产业化示范”;
5. 青岛市科技民生计划项目“纳米级功能性膳食纤维的生物酶法制取及应用研究”。

主要科技奖励

1. “食品专用变性淀粉与专用糖浆绿色制备关键技术创新与应用”获2016年度山东省科技进步二等奖, (1/9);
2. “低POV花生制品、活性花生蛋白、花生功能成分生产关键技术创新”获2013年度山东省科技进步二等奖, (1/10);
3. “农业院校食品科学与工程类‘3M4S’应用型人才培养模式创新与实践”获2014年度山东省省级教学成果二等奖, (1/10);
4. “食用级多功能纳米复合膜关键技术研究”获2014年度山东高等学校优秀科研成果一等奖, (1/5);
5. “花生深加工关键技术创新与产业化应用”获2013年度青岛市科技进步一等奖, (1/5)。

代表论文:

近五年第一作者或通讯作者发表SCI论文65篇(2013-2017), 其中一区14篇, 二区31篇; ESI高被引论文2篇。(http://www.researchgate.net/profile/Qingjie_Sun2)

一区论文

1. Ranran Chang, Jie Yang, Shengju Ge, Mei Zhao, Caifeng Liang, Liu Xiong, Qingjie Sun. (2017). Synthesis and Self-Assembly of Octenyl Succinic Anhydride Modified Short Glucan Chains Based Amphiphilic Biopolymer: Micelles, Ultrasmall Micelles, Vesicles, and Lutein Encapsulation/Release. Food Hydrocolloids, 67, 14-26. IF=4.747.
2. Chengzhen Liu, Man Li, Jie Yang, Liu Xiong, Qingjie Sun. (2017). Fabrication and characterization of biocompatible hybrid nanoparticles from spontaneous co-assembly of casein/gliadin and proanthocyanidin. Food Hydrocolloids, 73, 74-89. IF=4.747.

3. Chengzhen Liu, Suisui Jiang, Zhongjie Han, Liu Xiong, Qingjie Sun. (2016). Invitro digestion of starch nanocrystals and starch nanoparticles: A comparative study. *Food Hydrocolloids*, 61, 344-350. IF=4.747.
 4. Suisui Jiang, Chenzhen Liu, Zhongjie Han, Liu Xiong, Qingjie Sun. (2016). Evaluation of rheological behavior of starch nanocrystals by acid hydrolysis and starch nanoparticles by self-assembly: A comparative study. *Food Hydrocolloids*, 52, 914-922. IF=4.747.
 5. Chao Qiu, Xiaojing Li, Na Ji, Yang Qin, Liu Xiong, Qingjie Sun. (2015). Rheological properties and microstructure characterization of normal and waxy corn starch dry heated with soy protein isolate. *Food Hydrocolloids*, 48, 1-7. IF=4.747.
 6. Chengzhen Liu, Suisui Jiang, Zhongjie Han, Liu Xiong, Qingjie Sun. (2016). In vitro digestion of nanoscale starch particles and evolution of thermal, morphological, and structural characteristics. *Food Hydrocolloids*, 61, 344-350. IF=4.747.
 7. Chengzhen Liu, Shengju Ge, Jie Yang, Yunyi Xu, Mei Zhao, Liu Xiong, Qingjie Sun. (2016). Adsorption mechanism of polyphenols onto starch nanoparticles and enhanced antioxidant activity under adverse conditions. *Journal of Functional Foods*, 26, 632-644. IF=3.973.
 8. Yang Qin, Chengzhen Liu, Suisui Jiang, Liu Xiong, Qingjie Sun. (2016) Characterization of starch nanoparticles prepared by nanoprecipitation: Influence of amylose content and starch type. *Industrial Crops and Products*, 87, 182-190. IF=3.449.
 9. Shaoning Cui, Shuangling Zhang, Shengju Ge, Liu Xiong, Qingjie Sun. (2016). Green preparation and characterization of size-controlled nanocrystalline cellulose via ultrasonic-assisted enzymatic hydrolysis. *Industrial Crops and Products*, 83, 346-352. IF=3.449.
 10. Xiaojing Li, Na Ji, Chao Qiu, Mingtao Xia, Liu Xiong, Qingjie Sun. (2015). The effect of peanut protein nanoparticles on characteristics of protein- and starch-based nanocomposite films: A comparative study. *Industrial Crops and Products*, 77, 565-574. IF=3.449.
 11. Chengzhen Liu, Man Li, Na Ji, Xiong Liu, Qingjie Sun. (2017). Morphology and characteristics of starch nanoparticles self-assembled via a facile ultrasonication method for peppermint oil encapsulation. *Journal of Agricultural and Food Chemistry*. IF=3.154.
 12. Xiaojing Li, Na Ji, Man Li, Shuangling Zhang, Xiong Liu, Qingjie Sun. (2017). Morphology and structural properties of novel short linear glucan/protein hybrid nanoparticles and their influence on the rheological properties of starch gel. *Journal of Agricultural and Food Chemistry*. IF=3.154.
 13. Xiaojing Li, Man Li, Jing Liu, Na Ji, Caifeng Liang, Qingjie Sun, and Liu Xiong. (2017). Preparation of Hollow Biopolymer Nanospheres Employing Starch Nanoparticle Templates for Enhancement of Phenolic Acid Antioxidant Activities. *Journal of Agricultural and Food Chemistry*, 19, 3868-3882. IF=3.154.
 14. Jie Yang, Ranran Chang, Shengju Ge, Mei Zhao, Caifeng Liang, Liu Xiong, Qingjie Sun. (2016). The inhibition effect of starch nanoparticles on tyrosinase activity and its mechanism. *Food and Function*, 7, 4804-4815. IF=2.686.
- 二区论文
15. Jie Yang, Fang Li, Man Li, Shuangling Zhang, Jing Liu, Caifeng Liang, Qingjie Sun, Liu Xiong. (2017). Fabrication and characterization of hollow starch nanoparticles by gelation process for drug delivery application. *Carbohydrate Polymers*, 173, 223-232. IF=4.811.
 16. Jie Yang, Hao Lu, Man Li, Jing Liu, Shuangling Zhang, Liu Xiong, Qingjie Sun. Development of chitosan-sodium phytate nanoparticles as a potent antibacterial agent. (2017). *Carbohydrate Polymers*, 178, 311-321. IF=4.811.
 17. Yang Qin, Shuangling Zhang, Jing Yu, Jie Yang, Liu Xiong, Qingjie Sun. (2016). Effects of chitin nano-whiskers on the antibacterial and physicochemical properties of maize starch films. *Carbohydrate Polymers*, 147, 372-378. IF=4.811.

18. Xiaojing Li, Chao Qiu, Na Ji, Cuixia Sun, Liu Xiong, Qingjie Sun. (2015). Mechanical, barrier and morphological properties of starch nanocrystals-reinforced pea starch films. *Carbohydrate Polymers*, 121, 155-162. IF=4.811.
19. Na Ji, Xiaojing Li, Chao Qiu, Guanghua Li, Qingjie Sun, Liu Xiong. (2015). Effects of heat moisture treatment on the physicochemical properties of starch nanoparticles. *Carbohydrate Polymers*, 117, 605-609. IF=4.811.
20. Qingjie Sun, Cuixia Sun, Liu Xiong. (2014). Functional and pasting properties of pea starch and peanut protein isolate blends. *Carbohydrate Polymers*, 101, 11, 34-1139. IF=4.811.
21. Qingjie Sun, Min Gong, Ying Li, Liu Xiong. (2014). Effect of Retrogradation Time on Preparation and Characterization of Proso Millet Starch Nanoparticles. *Carbohydrate Polymers*, 101, 133-138. IF=4.811.
22. Qingjie Sun, Haoran Fan, Liu Xiong. (2014). Preparation and characterization of starch nanoparticles through ultrasonic-assisted oxidation methods. *Carbohydrate Polymers*, 106, 359-364. IF=4.811.
23. Qingjie Sun, Min Gong, Ying Li, Liu Xiong. (2014). Effect of Dry Heat Treatment on the Physicochemical Properties and Structure of Proso Millet Flour and Starch. *Carbohydrate Polymers*, 110, 128-134. IF=4.811.
24. Qingjie Sun, Cuixia Sun, Liu Xiong. (2013). Mechanical, barrier and morphological properties of pea starch and peanut protein isolate blend films. *Carbohydrate Polymers*, 98, 630-637. IF=4.811.
25. Chao Qiu, Ranran Chang, Jie Yang, Shengju Ge, Liu Xiong, Mei Zhao, Man Li, Qingjie Sun. (2017). Preparation and characterization of essential oil-loaded starch nanoparticles formed by short glucan chains. *Food Chemistry*, 221, 1426-1433. IF=4.529.
26. Na Ji, Chengzhen Liu, Shuangling Zhang, Jing Yu, Liu Xiong, Qingjie Sun. (2017). Effects of chitin nano-whiskers on the gelatinization and retrogradation of maize and potato starches. *Food Chemistry*, 224, 543-549. IF=4.529.
27. Suisui Jiang, Yang Qin, Jie Yang, Man Li, Liu Xiong, Qingjie Sun. (2017). Enhanced antibacterial activity of lysozyme immobilized on chitin nanowhiskers. *Food Chemistry*, 221, 1507-1513. IF=4.529.
28. Xiaojing Li, Shengju Ge, Jie Yang, Ranran Chang, Caifeng Liang, Liu Xiong, Mei Zhao, Man Li, Qingjie Sun. (2017). Synthesis and study the properties of StNPs/gum nanoparticles for salvianolic acid B-oral delivery system. *Food Chemistry*, 229, 111-119. IF=4.529.
29. Shengju Ge, Liu Xiong, Man Li, Jing Liu, Jie Yang, Ranran Chang, Caifeng Liang, Qingjie Sun. (2017). Characterizations of Pickering emulsions stabilized by starch nanoparticles: Influence of starch variety and particle size. *Food Chemistry*, 234, 339-347. IF=4.529.
30. Haoran Fan, Na Ji, Mei Zhao, Liu Xiong, Qingjie Sun. (2016). Characterization of starch films impregnated with starch nanoparticles prepared by 2,2,6,6-tetramethylpiperidine-1-oxyl (TEMPO)-mediated oxidation. *Food Chemistry*, 192, 865-872. IF=4.529.
31. Xiaojing Li, Yang Qin, Chengzhen Liu, Suisui Jiang, Liu Xiong, Qingjie Sun. (2016). Size-controlled starch nanoparticles prepared by self-assembly with different green surfactant: The effect of electrostatic repulsion or steric hindrance. *Food Chemistry*, 199, 365-363. IF=4.529.
32. Chao Qiu, Yang Qin, Shuangling Zhang, Liu Xiong, Qingjie Sun. (2016). A comparative study of size-controlled worm-like amylopectin nanoparticles and spherical amylose nanoparticles: their characteristics and the adsorption properties of polyphenols. *Food Chemistry*, 213, 579-587. IF=4.529.
33. Lei Dai, Chao Qiu, Liu Xiong, Qingjie Sun. (2015). Characterisation of corn starch-based films reinforced with taro starch nanoparticles. *Food Chemistry*, 174, 82-88. IF=4.529.
34. Qingjie Sun, Lei Dai, Chong Nan, Liu Xiong. (2014). Effect of heat moisture treatment on physicochemical properties of wheat starch and xylitol mixture. *Food Chemistry*, 143, 54-59. IF=4.529.

35. Qingjie Sun, Zhongjie Han, Li Wang, Liu Xiong. (2014). Physicochemical differences between sorghum starch and sorghum flour modified by heat-moisture treatment. *Food Chemistry*, 145, 756-764. IF=4.529.
36. Qingjie Sun, Guanghua Li, Liu Xiong. (2014). Green preparation and characterization of waxy maize starch nanoparticles through enzymolysis and recrystallization. *Food chemistry*, 162, 223-228. IF=4.529.
37. Na Ji, Cuixia Sun, Yunxia Zhao, Liu Xiong, Qingjie Sun. (2014). Purification and identification of antioxidant peptides from peanut protein isolate hydrolysates using UHR-Q-TOF mass spectrometer. *Food chemistry*, 161, 148-154. IF=4.529.
38. Qingjie Sun, Fumei Si, Liu Xiong, Lijun Chu. (2013). Effect of dry heating with ionic gums on physicochemical properties of starch. *Food Chemistry*, 136, 1421-1425. IF=4.529.
39. Qingjie Sun, Tao Wang, Liu Xiong, Yunxia Zhao. (2013). The Effect of Heat Moisture Treatment on Physicochemical Properties of Early Indica Rice. *Food Chemistry*, 141, 853-857. IF=4.529.
40. Na Ji, Chao Qiu, Xiaojing Li, Liu Xiong, Qingjie Sun. (2015). Study on the interaction between bovine serum albumin and starch nanoparticles prepared by isoamylolysis and recrystallization. *Colloids and Surfaces B: Biointerfaces*, 128, 594-599. IF=3.887.
41. Qiu Chao, Shengju Ge, Jie Yang, Yunyi Xu, Mei Zhao, Liu Xiong, Qingjie Sun. (2017) Preparation of active polysaccharide-loaded maltodextrin nanoparticles and their stability as a function of ionic strength and pH. *LWT - Food Science and Technology*, 76, 164-171. IF=2.329.
42. Suisui Jiang, Chengzhen Liu, Xiaojin Wang, Liu Xiong, Qingjie Sun. (2016). Physicochemical properties of starch nanocomposite films enhanced by self-assembled potato starch nanoparticles. *LWT - Food Science and Technology*, 69, 251-257. IF=2.329.
43. Chao Qiu, Jie Yang, Shengju Ge, Ranran Chang, Liu Xiong, Qingjie Sun. (2016). Preparation and characterization of size-controlled starch nanoparticles based on short linear chains from debranched waxy corn starch. *LWT - Food Science and Technology*, 74, 303-310. IF=2.329.
44. Na Ji, Chengzhen Liu, Shuangling Zhang, Liu Xiong, Qingjie Sun. (2016). Elaboration and characterization of corn starch films incorporating silver nanoparticles obtained using short glucan chains. *LWT - Food Science and Technology*, 74, 311-318. IF=2.329.
45. Qingjie Sun, Chong Nan, Lei Dai, Liu Xiong. (2015). Effect of Heat-moisture Treatment with Maltitol on Physicochemical properties of wheat starch. *LWT - Food Science and Technology*, 62, 319-324. IF=2.329.

三区论文

46. Yang Qin, Ranran Chang, Shengju Ge, Liu Xiong, Qingjie Sun. (2017). Synergistic effect of glycerol and ionic strength on the rheological behavior of cellulose nanocrystals suspension system. *International Journal of Biological Macromolecules*, 102, 1073-1082. IF=3.671.
47. Chengzhen Liu, Yang Qin, Xiaojing Li, Qingjie Sun, Liu Xiong, Zhuzhu Liu. (2016). Preparation and characterization of starch nanoparticles via self-assembly at moderate temperature. *International Journal of Biological Macromolecules*, 84, 354-360. IF=3.671.
48. Haoran Fan, Na Ji, Mei Zhao, Liu Xiong, Qingjie Sun. (2015). Interaction of bovine serum albumin with starch nanoparticles prepared by TEMPO-mediated oxidation. *International Journal of Biological Macromolecules*, 333-338. IF=3.671.
49. Suisui Jiang, Lei Dai, Yang Qin, Liu Xiong, Qingjie Sun. (2016). Characterization of octenyl succinic anhydride modified taro starch nanoparticles. *Plos One*, 2, 399-406. IF=2.806.
50. Yang Qin, Chengzhen Liu, Suisui Jiang, Jinmiao Cao, Liu Xiong, Qingjie Sun. (2016). Functional Properties of Glutinous Rice Flour by Dry-Heat Treatment. *Plos One*, 8. IF=2.806.
51. Qingjie Sun, Xianghui Bu, Liu Xiong. (2015). Effect of the Amount and Particle Size of Wheat Fiber on the Phytochemical Properties and Gel Morphology of Starches. *Plos One*, e0128665. IF=2.806.

52. Qingjie Sun, Yan Xing, Chao Qiu, Liu Xiong. (2014). The Pasting and Textural Properties of Corn Starch in Glucose, Fructose and Maltose Syrup. *Plos One*, e95862. IF=2.806.
53. Qingjie Sun, Tingting Xi, Ying Li, Liu Xiong. (2014). Characterization of Corn Starch Films Reinforced with CaCO₃ Nanoparticles. *Plos One*, e106727. IF=2.806.
54. Na Ji, Yang Qin, Tingting Xi, Liu Xiong and Qingjie Sun. (2017). Effect of chitosan on the antibacterial and physical properties of corn starch nanocomposite films. *Starch/Stärke*, 69, 1-9. IF=1.837.
55. Na Ji Chao Qiu Yicai Xu Liu Xiong Qingjie Sun. (2017). Differences in rheological behavior between normal and waxy corn starches modified by dry heating with hydrocolloids. *Starch/Stärke*, 69. IF=1.837.
56. Chengzhen Liu, Suisui Jiang, Shuangling Zhang, Tingting Xi, Qingjie Sun and Liu Xiong. (2016). Characterization of edible corn starch nanocomposite films: The effect of self-assembled starch nanoparticles. *Starch/Stärke*, 68, 239-248. IF=1.837.
57. Min Gong, Xiaojing Li, Liu Xiong and Qingjie Sun. (2016). Retrogradation property of starch nanoparticles prepared by pullulanase and recrystallization. *Starch/Stärke*, 68, 230-238. IF=1.837.
58. Chao Qiu, Jinmiao Cao, Liu Xiong and Qingjie Sun. (2015). Differences in physicochemical, morphological, and structural properties between rice starch and rice flour modified by dry heat treatment. *Starch/Stärke*, 67, 756 - 764. IF=1.837.
59. Xiaojing Li Yan Xing Qingjie Sun Lijun Chu and Liu Xiong. (2015). Effect of Food Gums on Properties of Pea Starch and Vermicelli prepared from Pea Starch. *Starch/Stärke*, 66, 1-8. IF=1.837.
60. Qingjie Sun, Lei Dai, Chong Nan, Na Ji, Liu Xiong. (2014). Effects of heat moisture treatment with erythritol on the physicochemical properties of wheat starch. *Starch/Stärke*, 66, 496-501. IF=1.837.
61. Qingjie Sun, Chong Nan, Na Ji, Liu Xiong. (2014). Effect of Sugar Alcohols on Physicochemical Properties of Wheat Starch. *Starch/Stärke*, 66, 1-7. IF=1.837.
62. Na Ji Chao Qiu Yicai Xu Liu Xiong Qingjie Sun. (2017). The synergistic effect of glycerol and sodium chloride on the degree of chitin nano-whisker gels reinforcement. *Colloid and Polymer Science*, 7. IF=1.723.
63. Qingjie Sun, Yan Xing, Liu Xiong. (2014). Effect of xylitol on wheat dough properties and bread characteristics. *International Journal of Food Science and Technology*, 49, 1159-1167. IF=1.640.
64. Qingjie Sun, Xiaolei Zhu, Fumei Si, Liu Xiong. (2015). Effect of acid hydrolysis combined with heat moisture treatment on structure and physicochemical properties of corn starch. *Journal of Food Science and Technology*, 52, 375-382. IF=1.640.
65. Qingjie Sun, Lijun Chu, Liu Xiong, Fumei Si. (2015). Effects of different isolation methods on the physicochemical properties of pea starch and textural properties of vermicelli. *Journal of Food Science and Technology*, 52, 327-334. IF=1.640.

ESI高被引论文2篇

- Qingjie Sun, Zhongjie Han, Li Wang, Liu Xiong. (2014). Physicochemical differences between sorghum starch and sorghum flour modified by heat-moisture treatment. *Food Chemistry*, 145, 756-764. IF=4.529.
2. Lei Dai, Chao Qiu, Liu Xiong, Qingjie Sun. (2015). Characterisation of corn starch-based films reinforced with taro starch nanoparticles. *Food Chemistry*, 174, 82-88. IF=4.529.

出版著作

1. 英文《Starch in Food- Structure, Function and Applications》中的“Starch Nanoparticles”, Elsevier Woodhead, 2017
2. 《农产品加工工艺学》中国农业出版社, 2014
3. 《食品工艺学》中南大学出版社, 2013
4. 《食品化学》华中科技大学出版社, 2013

授权发明专利

1. 豌豆淀粉和蜡质玉米淀粉纳米晶复合膜及其制备方法, ZL201410458744. 8
2. 一种纳米花生蛋白高分子复合膜及其制备方法, ZL201410458698. 1
3. 一种玉米淀粉复合膜及其制备方法及应用, ZL201410458500. X
4. 一种以短直链淀粉为模板制备水溶性纳米银的方法, ZL201510024880. 0
5. 一种芋头淀粉纳米颗粒的制备方法、改性方法及其应用, ZL201410458072. 0
6. 一种采用湿热处理提高淀粉纳米颗粒结晶度的方法, ZL201310162306. 2
7. 一种超声辅助TEMPO制备淀粉纳米颗粒的方法, ZL201310411704. 8
8. 一种可食性多功能保鲜膜的制备, ZL201310219274. 5
9. 一种超声波结合酶同步提取糖和淀粉纳米晶的方法, ZL201210513149. 0
10. 一种天然安全淀粉纳米颗粒的生物制备方法, ZL201210513150. 3
11. 一种应用花生壳同步制备纳米纤维素晶体及糖的方法, ZL201210552239. 0
12. 一种花生壳多酚绿色环保提取方法及应用, ZL201110166508. 5
13. 一种酶解短直链淀粉中温自组装制备纳米淀粉的工艺, ZL201510164841. 0
14. 包埋共轭亚油酸的蜡质玉米淀粉的制备工艺流程, ZL201410478202. 7
15. 一种谷胱甘肽纳米缓释胶囊的制备方法, ZL201410478098. 1
16. 一种乳化剂辅助生物酶法制备粒径可控淀粉纳米颗粒的方法, ZL201510460949. 4

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