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研究领域：食品胶体化学与技术；食品结构与功能

研究方向：食品分子加工

个人简介：胡 冰，男，博士，南京农业大学食品科学技术学院教授，博士生导师。江苏省优秀青年科学基金获得者，江苏省高校“青蓝工程”优秀青年骨干教师，江苏省“双创博士”，南京农业大学“钟山学术新秀”。2006年毕业于中南林业科技大学，获得食品科学与工程学士学位；2011年获得南京农业大学食品科学博士学位；2009-2011年作为联合培养博士研究生在美国 Rutgers 新泽西州立大学留学深造。2011年12月在南京农业大学食品科学技术学院担任讲师，2013年12月晋升副教授。2017年，作为访问学者在瑞士苏黎世联邦理工学院（ETHZ）开展合作研究工作。2018年，增列为博士生导师，晋升教授。

科研项目：

主持国家自然科学基金面上项目、青年项目；江苏省自然科学基金优秀青年项目、青年项目；教育部博士点基金项目等 10 多项。



**科研成果:** 一直围绕食品组分之间的相互作用, 应用纳米技术手段, 探索食品多尺度胶体结构与功能的关系, 构建新型功能性食品与软物质。相关工作以第一作者/通讯作者在 ACS Nano (5-Year IF 15.149), Chemical Communications (5-Year IF 3.378), Chemical Engineering Journal (5-Year IF 7.61)、Food Hydrocolloids (5-Year IF 6.103)等杂志发表 SCI 论文 20 篇, 累计被引用 688 次, 单篇论文最高被引用 203 次。主持国家自然科学基金面上项目、青年项目等国家、省部级科研项目等 10 多项。获得国家授权专利 1 项, 申请国家专利 3 项。

**代表性论文 (5 年平均影响因子 IF)**

(1) Bing Hu\*, Yang Shen, Jozef Adamcik, Peter Fischer, Mirjam Schneider, Martin J. Loessner, Raffaele Mezzenga\*. Polyphenol-Binding Amyloid Fibrils Self-Assemble into Reversible Hydrogels with Antibacterial Activity. ACS Nano, 2018, 12, 3385–3396. (IF 15.149)

(2) Bing Hu\*, Yunqi Li, Quan Chen, Zhijie Zhang, Ce Shi, Wei Li. Facile Preparation of Biocompatible Polymer Microgels with Tunable Properties and Unique Functions to Solely Stabilize High Internal Phase Emulsions. Chemical Engineering Journal, 2017, 315, 500–508. (IF 7.61)

(3) Bing Hu, Yuwen Ting, Xiaoqing Yang, Wenping Tang, Xiaoxiong Zeng\*, Qingrong Huang\*. Nanochemoprevention by Encapsulation of (-)-Epigallocatechin-3-gallate with Bioactive Peptides/Chitosan Nanoparticles for Enhancement of Its Bioavailability. Chemical

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(4) Wei Li, Yingqun Nian, Yuchen Huang, Xiaoxiong Zeng, Quan Chen, Bing Hu\*, High Loading Contents, Distribution and Stability of  $\beta$ -carotene Encapsulated in High Internal Phase Emulsions. Food Hydrocolloids, 2019, 96, 300-309. (IF 6.103)

(5) Bing Hu\*, Qing Chen, Qimeng Cai, Yun Fan, Peter J. Wilde, Zhen Rong, Xiaoxiong Zeng, Gelation of Soybean Protein and Polysaccharides Delays Digestion, Food Chemistry, 2017, (221), 1598–1605. (IF 5.488)

(6) Xinyue Wang, Yingqun Nian, Zhijie Zhang, Quan Chen, Xiaoxiong Zeng, Bing Hu\*. High Internal Phase Emulsions Stabilized with Amyloid Fibrils and Their Polysaccharide Complexes for Encapsulation and Protection of  $\beta$ -Carotene. Colloids and Surfaces B: Biointerfaces. Doi: 10.1016/j.colsurfb.2019.110459. (IF 4.180)

(7) Jiuling Su, Xiaoqi Wang, Wei Li, Ligen Chen, Xiaoxiong Zeng, Qingrong Huang, Bing Hu\*. Enhancing the Viability of Lactobacillus plantarum as Probiotics through Encapsulation with High Internal Phase Emulsions Stabilized with Whey Protein Isolate Microgels. Journal of Agricultural and Food Chemistry, 2018, 66(46): 12335~12343. (IF 3.911)

(8) Bing Hu\*, Fengguang Ma, Yingkang Yang, Minhao Xie, Chen Zhang, Ye Xu, Xiaoxiong Zeng\*, Antioxidant Nanocomplexes for Delivery of Epigallocatechin-3-gallate, Journal of Agricultural and Food Chemistry, 2016, 64 (17), 3422–3429. (IF 3.911)

(9) Bing Hu\*, Liying Zhang, Rong Liang, Fengze Chen, Liping He, Bing Hu, Xiaoxiong Zeng\*, Cross-linking of Interfacial Casein Layer with Functional Ingredient Prevented pH Induced Structural Instability and Lipase Digestibility of the Fat Droplets, *Journal of Agricultural and Food Chemistry*, 2015, 63, 2033–2040. (IF 3.911)

(10) Bing Hu\*, Minhao Xie, Chen Zhang, Xiaoxiong Zeng\*, Genipin-Structured Peptide–Polysaccharide Nanoparticles with Significantly Improved Resistance to Harsh Gastrointestinal Environments and Their Potential for Oral Delivery of Polyphenols, *Journal of Agricultural and Food Chemistry*, 2014, 62(51), 12443-12452. (IF 3.911)

(11) Bing Hu, Yuwen Ting, Xiaoxiong Zeng\*, Qingrong Huang\*, Bioactive Peptides/Chitosan Nanoparticles Enhance Cellular Antioxidant Activity of (–)-Epigallocatechin-3-gallate, *Journal of Agricultural and Food Chemistry*, 2013, 61(4), 875–881. (IF 3.911)

(12) Yingkang Yang, Xiaoqi Wang, Guijie Chen, Wenhua Zhou, Xiaoxiong Zeng, Bing Hu\*, Yunqi Li\*, Qingrong Huang\*. SAXS Characterization of the Interactions among Digested Food Compounds and the Anti-Oxidant and Anti-Inflammatory Activities of the Formed Nanocomplexes. *Food & Function*, 2018, 9(6): 3408-3418. (IF 3.241)

(13) Bing Hu, Shushu Wang, Ji Li, Xiaoxiong Zeng\*, Qingrong Huang\*. Assembly of bioactive peptides and chitosan nanocomplexes. *The Journal*

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(14) Bing Hu, Yan Wang, Minhao Xie, Guanlan Hu, Fengguang Ma, Xiaoxiong Zeng\*, Polymer Nanoparticles Composed with Gallic Acid Grafted Chitosan and Bioactive Peptides Combined Antioxidant, Anticancer Activities and Improved Delivery Property for Labile Polyphenols, Journal of Functional Foods, 2015,15, 593–603. (IF 3.767)

(15) Bing Hu, Fengchao Cui, Fangping Yin, Xiaoxiong Zeng, Yi Sun\*, Yunqi Li\*, Caffeoylquinic Acids Competitively Inhibit Pancreatic Lipase through Binding to the Catalytic Triad, International Journal of Biological Macromolecules, 2015, 80, 529-535. (IF 3.929)

(16) Bing Hu\*, Xixia Liu, Chunlan Zhang, Xiaoxiong Zeng. Food Macromolecule Based Nano-delivery Systems for Enhancing the Bioavailability of Polyphenols, Journal of Food and Drug Analysis, 2017, 25, 3-15. (IF 2.508)

(17) Bing Hu, Qingrong Huang\*, Biopolymer Based Nano-delivery Systems for Enhancing Bioavailability of Nutraceuticals, Chinese Journal of Polymer Science, 2013, 31(9), 1190-1203. (IF 1.835)

(18) Bing Hu, Yuwen Ting, Xiaoxiong Zeng\*, Qingrong Huang\*. Cellular Uptake and Cytotoxicity of Chitosan-Caseinophosphopeptides Nanocomplexes Loaded with Epigallocatechin Gallate. Carbohydrate Polymers, 2012, 89: 362-370. (IF 4.568)

(19) Bing Hu, Lin Wang, Bei Zhou, Xin Zhang, Yi Sun, Hong Ye, Liyan

Zhao, Qiuhui Hu, Guoxiang Wang, Xiaoxiong Zeng\*. Efficient procedure for isolating methylated catechins from green tea and effective simultaneous analysis of ten catechins, three purine alkaloids, and gallic acid in tea by high-performance liquid chromatography with diode array detection, *Journal of Chromatography A*, 2009, 1216: 3223–3231. (IF 4.298)

(20) Bing Hu, Chenliang Pan, Yi Sun, Zhiyun Hou, Hong Ye, Bing Hu, Xiaoxiong Zeng\*. Optimization of fabrication parameters to produce chitosan–tripolyphosphate nanoparticles for delivery of tea catechins, *Journal of Agricultural and Food Chemistry*, 2008, 56: 7451-7458. (IF 3.791)

#### 申请与授权专利

一种新型壳聚糖纳米颗粒及其制备方法，授权专利号：  
ZL201010179253.1（排名第二）

一种耐胃酸的多肽-多糖纳米颗粒及其制备方法，申请号：  
201310727566.X（排名第一）

一种抗氧化的多糖-多肽纳米颗粒的制备方法，申请号：  
201510172001.9（排名第一）

#### 国际会议报告

1. Bing Hu, Xiaoxiong Zeng, Qingrong Huang, “Assembly of Nanoparticles from Bioactive Peptides and Chitosan” Presented at 2010 Materials Research Society Fall Meeting, Boston, USA, Nov. 30, 2010.

(美国材料研究学会 2010 年年会大会报告)

2. Bing Hu, Xiaoxiong Zeng, Qingrong Huang, “Encapsulation of EGCG within Novel Nanoparticles Assembled from Bioactive Peptides and Chitosan” Presented at ACS 241st National Meeting, Anaheim, California, USA, March 28, 2011. (美国化学会第 241 次年会大会报告)

3. Bing Hu, Xiaoxiong Zeng, Qingrong Huang, “Efficient Procedure for Isolating Methylated Catechins from Green Tea and Effective Simultaneous Analysis of Ten Catechins, Three Purine Alkaloids, and Gallic Acid in Tea by High-performance Liquid Chromatography with Diode Array Detection” to be presented at ACS 242st National Meeting, Denver, Colorado, USA, August 29, 2011. (美国化学会第 242 次年会大会报告)

4. Bing Hu, “Food nutraceuticals composed polymer nanoparticles with high resistance to the harsh gastrointestinal environments: Synthesis, purification, and structure characterization” to be presented at ACS 248st National Meeting, San Francisco, California, USA, August 11, 2014. (美国化学会第 248 次年会大会报告)

5. Bing Hu, Yingkang Yang, Xiaoxiong Zeng. “Peptides-polysaccharides based nano-complexes with gastric acid resistance and antioxidant properties respectively to enhance the bioavailability of tea polyphenols” being presented at The 1st Food Chemistry Conference, Amsterdam, 2016-11-1. (Food Chemistry 40 周年学术会议口头报告)