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个人简介

2007 年 6 月毕业于华东理工大学，获工学博士学位，同年留校任教；2010 年 9 月晋升副教授；2016 年 2 月至 2017 年 2 月赴美国威斯康辛大学访问交流。《中国塑料》期刊青年编委、国家自然科学基金、河北省自然科学基金通讯评审专家、校优秀研究生指导教师。主持科技部 863 课题、国家自然科学基金青年和面上项目等二十余项纵向课题。获省部级技术发明奖 1 项、科技进步奖 2 项，省部级教育教学成果奖 1 项。发表研究论文 50 余篇，获得授权专利 4 项，参编教材 2 部。

研究方向

- 1、基于添加剂和聚合物拓扑结构设计的降解材料性能调控。
- 2、计算模拟辅助降解材料的降解与稳定过程研究。
- 3、计算模拟辅助高性能聚烯烃用成核体系的优化设计研究及工业应用。
- 4、基于碳转化的非均相催化剂的设计。

研究成果及主要发表文章

代表性论文：

- （一）PLA、PGA 等降解材料的性能调控
- 1) Chenyang Li, Xin Meng*, Weiguang Gong, Shiyuan Chen, Zhong Xin**. Kinetic, products distribution, and mechanism analysis for the pyrolysis of polyglycolic acid toward carbon cycle. Fuel. 2023, 333(2): 126567.
 - 2) Zhongyang Yao, Weiguang Gong, Chenyang Li, Zhaopeng Deng, Yi Jin, Xin Meng*. Sustained antioxidant properties of epigallocatechin gallate loaded halloysite for PLA as potentially durable materials. Journal of Applied Polymer Science. 2023, 140(5): e53411.
 - 3) Chenyang Li, Weiguang Gong, Zhaopeng Deng, Zhongyang Yao, Xin Meng *, Zhong Xin**. Full biodegradable long-chain branched polylactic acid with high crystallization performance and heat resistance. Industrial and Engineering Chemistry Research.2022,61(30):10945-10954.
 - 4) Xiaolong Wang, Weiguang Gong *, Xin Meng, Chenyang Li, Jin Gao. Preparation of a biobased core-shell flame retardant and its application in polylactic acid. Journal of Applied Polymer Science.2022, 139: (31) e52720.
 - 5) Chenyang Li, Weiguang Gong, Qiming Cao, Zhongyang Yao, Xin Meng *, Zhong Xin**. Enhancement of cardanol-loaded halloysite for the thermo-oxidative stability and crystallization property of polylactic acid. Applied Clay Science. 2022, 216: 106357.
 - 6) Chenyang Li, Qiang Liu, Weiguang Gong, Zhou Zhou, Zhongyang Yao, Xin Meng*. Study on the atomic scale of thermal and thermo-oxidative degradation of polylactic acid via reactive molecular dynamics simulation. Thermochimica Acta. 2022, 709: 179144.
 - 7) Zhongyang Yao, Qiming Cao, Chenyang Li, Weiguang Gong,Xin Meng*. Improvement of β -cyclodextrin/cardanol inclusion complex for the thermal-oxidative stability and environmental-response antioxidation releasing property of polylactic acid. Polymers for Advanced Technologies.2022,33:492-504.
 - 8) Weiguang Gong, Min Fan, Ji Luo, Juan Liang, Xin Meng*. Effect of nickel phytate on flame retardancy of intumescent flame retardant polylactic acid. Polymers for Advanced Technologies.2021,32:1548-1559.
 - 9) Qiming Cao, Xin Meng*, Shuhang Tan, Zhong Xin, Lih-Sheng Turng, Jie Li, Zhongyang Yao, Zihang Zhai, Runzi Duan. Electrospun bead-in-string fibrous membrane prepared from polysilsesquioxane-immobilising poly(lactic acid) with low filtration resistance for air filtration. Journal of Polymer Research. 2020, (27):5.
 - 10) Ji Luo, Xin Meng*, Weiguang Gong, Zewen Jiang, Zhong Xin. Improving the stability and ductility of polylactic acid via phosphite functional Polysilsesquioxane. RSC Advances. 2019, 9: 25151-25157.
 - 12) Xin Meng, Guotao Shi, Chushi Wu,Wei jie Chen, Zhong Xin, Yaoqi Shi, Yansheng. Chain extension and oxidation stabilization of triphenyl phosphite (TPP) in PLA. Polymer Degradation and Stability.2016,124 (2) : 112-118.
 - 13) Xin Meng, Guotao Shi, Wei jie Chen, Chushi Wu, Zhong Xin, Ting Han, Yaoqi Shi. Structure effect of phosphite on the chain extension in PLA. Polymer Degradation and Stability.2015,120 (10) : 283-289.
 - 14) Ting Han, Zhong Xin, Yaoqi Shi, Shicheng Zhao, Xin Meng, Hui Xu. Control of thermal degradation of poly(lactic acid) using polysilsesquioxane microspheres as chain extenders. Journal of Applied Polymer Science. 2015, 132 (20) : 41977-41987.
- （二）基于 PP 性能调控的添加剂设计
- 1) Zhaopeng Deng, Xin Meng*, Zhong Xin, Chengyang Li, Zhongyang Yao. Effects of halloysite nanotubes modified by organic phosphate on the performance improvement for polypropylene. Journal of Applied Polymer Science. 2023, e53703.
 - 2) Zhaopeng Deng, Chuangchuang Tong, Zhong Xin, Xin Meng *, Min Fan, Weiguang Gong, Cheng Shu. Enhanced crystallization property and equilibrium mechanical properties of a novel self-assembly nucleating system based phosphate for polypropylene. Journal of Polymer Research. 2022, 29:297.
 - 3) Jin Gao, Xin Meng *, Zhaopeng Deng, Zhong Xin**, Chuangchuang Tong. Enhancement of “in-situ” dispersed NA11 for the mechanical and crystallization properties of polypropylene. Journal of Polymer Research. 2022, 29: 168.
 - 4) Chao Li, Chuangchuang Tong, Xin Meng*, Zhong Xin*, Yaoqi Shi. Effect of nucleating agent supported on zeolite via the impregnation on the crystallization ability of isotactic polypropylene and its mechanism. Polymers for Advanced Technologies. 2019; 30: 2674-2685.
 - 5) Xin Meng*, Chuangchuang Tong, Zhong Xin, Weiguang Gong, Yaoqi Shi, Wei jie Chen and Yan Sheng. Promotion of zeolite as dispersion support for properties improvement of α nucleating agent in polypropylene[J]. Journal of Polymer Research. 2019, 26(5):105.
 - 6) Xin Meng, Weiguang Gong, Wei jie Chen, Yaoqi Shi, Yan Sheng, Shengjie Zhu, Zhong Xin*. Isothermal and non-isothermal crystallization of isotactic polypropylene in the presence of an α nucleating agent and zeolite 13X. Thermochimica Acta.2018, 667(10):9-18.
 - 7) Xin Meng, Zewen Jiang, Zhong Xin*, Wei jie Chen, Yan Sheng, Chushi Wu. Antioxidation and mechanism of phosphites including the free phenolic hydroxyl group in polypropylene. Journal of Applied Polymer Science. 2017, 134 (15) 446961.
 - 8) Xin Meng, Zhong Xin, Xuefeng Wang. Structure effect of benzofuranone on the antioxidant activity in polypropylene. Polymer Degradation and Stability. 2010, 95 (10) : 2076-2081.
- （三）非均相催化剂的设计
- 1) Bowen Xu, Xin Meng, Zhong Xin, Daoming Jin, Rui Zhao, Wenhua Dai, Fan Xu, and Dandan Yang.Effect of Mo Addition on Performance of Ni-based Methanation Catalysts Supported by Halloysites[J]. Industrial & Engineering Chemistry Research (Accepted) .
 - 2) Rui Zhao, Xin Meng, Wenhua Dai, Daoming Jin, Bowen Xu, Fan Xu, Dandan Yang, Zhong Xin. Highly dispersed Fe/EG catalysts assisted by ammonium citrate and their application in CO₂ hydrogenation to olefins [J]. Fuel. 2023, 351: 128926.
 - 3) Wenli Gao, Qiangfeng Yin, Xin Meng, Xuelian He, Zhong Xin. Excellent behaviors of highly dispersed Ni-based catalyst in CO methanation synthesized by in-situ hydrothermal method with carbon quantum dots assisted[J]. Fuel. 2022, 310: 121813-121823.
 - 4) Daoming Jin, Xin Meng, Wenli Gao, Bowen Xu, Wenhua Dai, Rui Zhao, Fan Xu, Dandan Yang, and Zhong Xin. Effects of the template on low-silica SAPO-34 in a bifunctional catalyst for the direct conversion of syngas to light olefins. Industrial & Engineering Chemistry Research. 2023, 62(1): 211-222.
 - 5) Bowen Xu, Xin Meng, Zhong Xin, Wenli Gao, Dandan Yang, Daoming Jin, Rui Zhao, and Wenhua Dai. A novel CO methanation catalyst system based on acid-etched natural halloysites as supports. Industrial & Engineering Chemistry Research. 2022, 61(36): 13328-13340.
 - 6) Rui Zhao, Xin Meng, Qiangfeng Yin, Wenli Gao, Wenhua Dai, Daoming Jin, Bowen Xu, and Zhong Xin. Effect of precursors of Fe-based Fischer-Tropsch catalysts supported on expanded graphite for CO₂ hydrogenation[J]. ACS Sustainable Chemistry & Engineering. 2021, 9(46): 15545-15556.
 - 7) Wenli Gao, Xin Meng, Daoming Jin, Bowen Xu, Wenhua Dai, Rui Zhao, Zhong Xin. Polyol-pretreated SBA-16 supported Ni-Fe bimetallic catalyst applied in CO methanation at low temperature[J]. Molecular Catalysis. 2021, 512: 111769-111781.
- 授权发明专利：
- 1) 孟鑫，朱圣捷，罗吉，梁娟. 一种磷酸酯功能化聚硅氧烷及其在阻燃生物质聚酯材料中的应用. ZL 201911320489.X. 授权日期：2021 年 4 月 9 日.
 - 2) 孟鑫，罗吉，公维光，梁娟，王小龙. 一种阻燃改性聚乳酸材料. ZL 202010047416.4. 授权日期：2021 年 3 月 2 日.
 - 3) 辛忠，许博文，孟鑫. 一种镍基催化剂、制备方法及其应用. ZL 202110955213.X. 授权日期：2022 年 6 月 24 日.
 - 4) 孟鑫，李晨洋，公维光. 一种高结晶耐热聚乳酸材料及其制备方法. ZL 202111649992.7. 授权日期：2023 年 2 月 17 日.