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许苗军, 博士, 教授, 博士生导师。2011年6月毕业于吉林大学获理学博士学位。2017-2018, 意大利都灵理工大学访问学者。

主要研究方向

环境友好无卤阻燃剂的合成, 无卤阻燃高分子材料及生物质材料的研究。发表SCI论文50余篇, 主编教材1部, 获省自然科学奖一等奖1项, 省科技进步二等奖1项。主持国家自然科学基金、黑龙江省科技攻关重大项目、国家博士后特别资助等项目10余项, 任黑龙江省塑料工程学会常务理事。

研究工作简历 (近5年):

1. 耐水三嗪氮-磷单分子型膨胀阻燃剂的合成及其在聚烯烃中的作用机理研究, 国家自然科学基金 (51673035), 2017/01-2020/12, 62万元, 主持;
2. 高效无卤阻燃木塑复合材料产业化关键技术研究 (GA15A101), 黑龙江省科技攻关重大项目, 2015/07-2018/07, 200万, 主持;
3. 含磷阻燃扩链剂的合成及阻燃聚酰胺6的性能及机理研究 (2572016DB02), 中央高校基本科研业务费, 2016/01-2019/02, 38万, 主持;
4. 耐水三嗪膨胀阻燃剂的制备及阻燃聚烯烃电缆料的应用基础研究 (LBH-Q16002), 黑龙江省博士后科研启动金, 2017/01-2019/01, 10万, 主持;
5. 本质高效阻燃聚氨酯保温材料的制备及阻燃机理研究 (2572019CG07), 中央高校基本科研业务费, 2019/05-2022/04, 40万, 主持;
6. 一体化滑雪板关键工艺技术的研究 (GA19C010), 黑龙江省应用技术与开发计划子课题, 2019/01-2021/01, 30万, 主持;
7. 木材纤维素的选择性氧化及自阻燃纤维素的应用基础研究 (2013T60339), 第六批国家博士后特别资助, 2013/05-2015/05, 15万元, 主持。

近五年主要学术论文:

- 1、Miaojun Xu, Wei Zhao, Bin Li*. Synthesis of a novel curing agent containing organophosphorus and its application in flame retarded epoxy resins. Journal of Applied Polymer Science, **2014**, 131 (23): 12406~12417.
- 2、Miaojun Xu, Wei Zhao, Bin Li*, Kun Yang and Li Lin. Synthesis of a phosphorus and sulfur-containing aromatic diamine curing agent and its application in flame retarded epoxy resins. Fire and Materials, **2015**, 39(5):518~532.
- 3、Miaojun Xu, Jing Wang, Yuehang Ding, Bin Li*. Synergistic effects of aluminum hypophosphite on intumescent flame retardant polypropylene system. Chinese Journal of Polymer Science. **2015**, 33 (2): 318~328.
- 4、Miaojun Xu, Yue Ma, Minjie Hou, Bin Li*. Synthesis of a cross-linked triazine phosphine polymer and its effect on fire retardancy, thermal degradation and moisture resistance of epoxy resins. Polymer Degradation and Stability. **2015**, 119: 14-22.
- 5、Miaojun Xu, Guangrui Xu, Yang Len, Bin Li*. Synthesis of a novel flame retardant based on cyclotriphosphazene and DOPO groups and its application in epoxy resins. Polymer Degradation and Stability, **2016**, 123:105-114
- 6、Miaojun Xu, Xu Li, Bin Li*. Synthesis of a novel cross-linked organophosphorus-nitrogen containing polymer and its application in flame retardant epoxy resins. Fire and Materials, **2016**, 40: 848-860.
- 7、Miaojun Xu, Chuan Liu, Kun Ma, Yang Leng, Bin Li*. Effect of surface chemical modification for aluminum hypophosphite with hexa-(4-aldehyde-phenoxy)-cyclotriphosphazene on the fire retardancy, water resistance, and thermal properties for polyamide 6. Polymers for Advanced Technologies, **2017**, 28:1382-1395.
- 8、Kun Ma, Bin Li, Miaojun Xu*. Simultaneously improving the flame retardancy and mechanical properties for polyamide 6/aluminum diethylphosphinate composites by incorporating of 1,3,5-triglycidyl isocyanurate. Polymers for Advanced Technologies, **2018**, 29:1068-1077.
- 9、Miaojun Xu, Siyu Xia, Chuan Liu, Bin Li*. Preparation of polyphosphoric acid piperazine and its application as an effective flame retardant for epoxy resin. Chinese Journal of Polymer Science. **2018**, 36(5):655-664.

- 10、 **Miaojun Xu**, Kun Ma, Chuan Liu, Bin Li*. Synthesis of the poly(phosphoric-boric acid) piperazine and its application as an effective flame retardant for epoxy resins. *Polymer Engineering & Science*. **2018**, **58(10)**: 1858-1867.
- 11、 **Miaojun Xu**, Kun Ma, Dawei Jiang, Jiaoxia Zhang, Min Zhao, Xingkui Guo, Evan Wujick, Bin Li,* and Zhanhu Guo*. Hexa-[4-(glycidylcarbonyl)phenoxy]cyclotriposphazene Chain Extender for Preparing High-performance Flame Retardant Polyamide 6 Composites. *Polymer*, **2018**, 146: 63-72.
- 12、 Siyu Xia, Zhiyong Zhang, Yang Leng, Bin Li, **Miaojun Xu***. Synthesis of a novel mono-component intumescent flame retardant and its high efficiency for flame retardant polyethylene, *Journal of Analytical and Applied Pyrolysis*, **2018**, 134:632-640.
- 13、 **Miaojun Xu**, Hai-Chao Liu, Kun Ma, Bin Li, Zhi-Yong Zhang* New strategy towards flame retardancy through design, synthesis, characterisation and fire performance of a chain extender in polyamide 6 composites, *Polymer Engineering & Science*. **2019**, 59: 206-215.
- 14、 Jingshang Zhou, **Miaojun Xu***, Xiaohan Zhang, Yang Leng, Yintong He, Bin Li*. Preparation of highly efficient flame retardant unsaturated polyester resin by exerting the fire resistant effect in gaseous and condensed phase simultaneously. **2019**, *Polymers for Advanced Technologies*, 30(7): 1684-1695.
- 15、 Minjie Hou, **Miaojun Xu***, Yumeng Hu, Bin Li*. Nanocellulose incorporated graphene/polypyrrole film with a sandwich-like architecture for preparing flexible supercapacitor electrodes. *Electrochimica Acta*, **2019**, 313:245-254.
- 16、 Lubin Liu, Yue Xu, **Miaojun Xu***, Zhiqi Li, Yumeng Hu, Bin Li*. Economical and facile synthesis of a highly efficient flame retardant for simultaneous improvement of fire retardancy, smoke suppression and moisture resistance of epoxy resins. *Composites Part B*, **2019**, 167:422-433.
- 17、 Lubin Liu, Yue Xu, Yintong He, **Miaojun Xu***, Zhixiang Shi, Haocheng Hu, Zhichao Yang, Bin Li*. An effective mono-component intumescent flame retardant for the enhancement of water resistance and fire safety of thermoplastic polyurethane composites. *Polymer Degradation and Stability*, **2019**, 167:146-156.
- 18、 Lubin Liu, Yue Xu, **Miaojun Xu***, Yintong He, Zhixiang Shi, Bin Li*. A novel strategy for simultaneously improving the fire safety, water resistance and compatibility of thermoplastic polyurethane composites through the construction of biomimetic hydrophobic structure of intumescent flame retardant synergistic system. *Composites Part B*, **2019**, 176: 107218.

获奖成果（近五年）

1. 聚合物无卤阻燃与表界面协效基础研究，黑龙江省自然科学一等奖，2014年，排名第二。

发明专利：（近五年）

1. 许苗军，夏思禹，李斌。三源一体膨胀型阻燃剂及其合成方法和应用，ZL 201710865709.1.
2. 李斌，徐广锐，许苗军。含磷腈/DOPO双基结构含磷阻燃剂、其制备方法及其为原料的阻燃环氧树脂，ZL 201410604285.X.

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