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个人简介

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个人简介：

王小锋，男，1980年出生。2011年博士毕业留校任教，2015年晋升为副教授，2017年6月获得CSC-HUJI基金资助在The Hebrew University of Jerusalem (Rank 1#, Israel) 访学研究。主要以新型电子封装金属基复合材料、高温陶瓷和生物医用材料为背景，从事3D 打印（DLP和DIW）、陶瓷胶态成型和粉末冶金等方面的研究。主持国家自然科学基金、教育部博士点基金、粉末冶金国家重点实验室开放基金和企业横向项目8项，作

为负责人或关键完成人参与国家级配套项目5项。在相关研究工作中，已在 Advanced Materials, ACS Applied Materials & Interfaces, Journal of the European Ceramic Society、Journal of the American Ceramic Society等国内外重要学术期刊发表论文40多篇，撰写专著1部，申请（授权）国家发明专利10多项。

科研方向

1) 3D 打印 (3D Printing)

1-1) 数字光处理 (DLP, Digital Light Processing)

属于3D打印的一种。基于光固化原理，将含有有机单体的墨水 (solution or suspension) 通过多次逐层固化的方式制备分辨率很高的三维结构。（参见：Michael Layani, Xiaofeng Wang and Shlomo Magdassi. Novel materials for 3D printing by photopolymerization. Advanced Materials, 2018, 1706344.）

1-2) 直写成型 (DIW, Direct Ink Writing)

属于3D打印的一种。采用计算机辅助设计并带动装载含特殊流变性能悬浮液的“打印头”进行三维立体运动，最终实现三维结构的成型。（参见：王小锋, 孙月花, 彭超群, 王日初, 张斗, 马超. 直写成型用悬浮液的设计. 无机材料学报, 2015, 30(11): 1139-1147.）

2) 凝胶注模成型技术(Gelcasting)

将有机聚合物引入陶瓷悬浮液中，实现陶瓷粉体原位固化的一种新型陶瓷胶态成型技术。（参见：王小锋, 王日初, 彭超群, 李婷婷, 罗玉林, 王超, 刘兵. 凝胶注模成型技术的研究与进展[J].中国有色金属学报, 2010, 20(3): 496-509.）

3) 电子封装用金属基复合材料材料 (Metal matrix composite materials for electronic packaging)

采用粉末冶金和真空压力浸渗等技术设计并制备多种新型的电子封装用金属基复合材料，如Diamond/Cu，Diamond/Al, GC/Al, SI/Al 和SiC/Al等。（参见：曾婧, 彭超群, 王日初, 王小锋.电子封装用金属基复合材料的研究进展. 中国有色金属学报, 2015, 25(12): 3255-3270.）

4) 生物医用材料 (Biomaterials)

侧重于陶瓷（如HAP）和金属基复合材料（如Mg基）等生物医用材料的研究。

学术成果

1. Selected publications (*Corresponding author)

1) Hehao Chen, Xiaofeng Wang*, Fengdan Xue, Yujuan Huang, Kechao Zhou, Dou Zhang*. 3D printing of SiC ceramic: Direct ink writing with a solution of preceramic polymers. *Journal of the European Ceramic Society*, 2018, 38: 5294-5300.

2) Michael Layani, Xiaofeng Wang, and Shlomo Magdassi*. Novel materials for 3D printing by photopolymerization. *Advanced Materials*, 2018, 1706344.

3) Jing Zeng, Chaoqun Peng, Xiaofeng Wang*, Richu Wang, Ning Zhang, Shaofeng Xiong. One-pot self-assembled TiO₂/graphene/poly (acrylamide) superporous hybrid for photocatalytic degradation of organic pollutants. *Journal of Applied Polymer Science*, 2018, 47033.

4) Jingjing Liao, Hehao Chen, Hang Luo, Xiaofeng Wang, Kechao Zhou and Dou Zhang*. Direct ink writing of zirconia three-dimensional structures. *Journal of Materials Chemistry C*, 2017, 5: 5867-5871.

5) Kunjie Zhu, Xiaofeng Wang*, Jun Liu*, Site Li, Hao Wang, Linyu Yang, Sailin Liu, and Tian Xie. Novel Amorphous MoS₂/MoO₃/Nitrogen-Doped Carbon Composite with Excellent Electrochemical Performance for Lithium Ion Batteries and Sodium Ion Batteries. *ACS Sustainable Chemistry and Engineering*, 2017, 5(9): 8025-8034.

6) Chujun Zhang, Qun Luo, Han Wu, Hengyue Li, Junqi Lai, Guoqi Ji, Linpeng Yan, Xiaofeng Wang, Dou Zhang, Jian Lin, Liwei Chen, Junliang Yang*, Changqi Ma*. Roll-to-roll micro-gravure printed large-area zinc oxide thin film as the electron transport layer for

solution-processed polymer solar cells. *Organic Electronics*, 2017, 45:190-197.

7) Yuehua Sun, Chaoqun Peng, Xiaofeng Wang*, Richu Wang, Junliang Yang, Dou Zhang*. Rheological behavior of Al₂O₃ suspensions containing polyelectrolyte complexes for direct ink writing. *Powder Technology*, 2017, 320: 223-229.

8) 谢雨洲, 彭超群, 王小锋*, 王日初, 罗 丰. HEMA-TBA凝胶体系制备多孔氧化铝陶瓷. *无机材料学报*, 2017, 32 (7): 731-738.

9) Yuehua Sun, Chaoqun Peng, Xiaofeng Wang*, Richu Wang, Yan Feng, Naiguang Wang. Rheological behavior of ZnO suspension with thermosensitive poly(N -isopropylacrylamide) for colloidal processing of ceramics. *Transactions of Nonferrous Metals Society of China*, 2016, 26(11):2930-2938.

10) Xiaofeng Wang, Chaoqun Peng, Richu Wang, Jing Zeng, and Yan Feng*. Polymerization and Rheological Behavior of the Thermoresponsive Gelcasting System Based on N-isopropylacrylamide. *International Journal of the Applied Ceramic Technology*, 2016, 13(5): 966-972.

11) Yuehua Sun, Chaoqun Peng, Xiaofeng Wang*, Richu Wang, Yixin Chen, Dou Zhang. Phase Behavior of Polyelectrolyte Complexes and Rheological Behavior of Alumina suspensions for Direct Ink Writing. *Journal of the American Ceramic Society*, 2016, 99(6): 1902-1910.

12) Zhi Huang, Qi Zhou, Xiaofeng Wang*, Zhengchun Liu. A biomimetic synthesis process for Sr²⁺, HPO₄²⁻ and CO₃²⁻ substituted nano-hydroxyapatite. *Materials and Manufacturing Processes*, 2016, 31(2): 217-222.

13) 陈以心, 王日初, 王小锋*, 彭超群, 彭 健, 孙月花. Mg对真空压力浸渗 SiCp/Al 复合材料组织和性能的影响. *中国有色金属学报*, 2016, 26(6):1228-1234.

14) Xiaofeng Wang, Yuehua Sun, Chaoqun Peng, Hang Luo, Richu Wang*, and Dou Zhang*. Transitional suspensions containing

thermosensitive dispersant for three-dimensional printing. ACS Applied Materials & Interfaces, 2015, 7(47): 26131–26136.

15) Xiaofeng Wang, Richu Wang, Yan Feng, Dou Zhang, Chaoqun Peng*. Postcasting Contraction: Improving the Density of Gelcast Nanoparticle Green Bodies With Heated Liquid Desiccants. Journal of the American Ceramic Society, 2015, 98(6): 1706-1710

16) Xiaofeng Wang, Yuehua Sun, Chaoqun Peng, Dou Zhang, Yixin Chen, and Richu Wang*. Colloidal processing of ZnO using thermosensitive poly(N-isopropylacrylamide) as a coagulating agent. Ceramics International, 2015, 41(7): 9163-9167

17) Xiaofeng Wang, Richu Wang, Chaoqun Peng*, Wenyan Sun, Yue-hua Sun. Rheological property and drying mechanism of thermoresponsive gelcasting of ZnO. Transactions of Nonferrous Metals Society of China, 2015, 25(8): 2789-2796.

18) Xiaofeng Wang, Chaoqun Peng, Richu Wang*, Yuehua Sun, Yixin Chen. Liquid drying of BeO gelcast green bodies using ethanol as liquid desiccant. Transactions of Nonferrous Metals Society of China, 2015, 25(7): 2466-2472.

19) 王小锋, 孙月花, 彭超群, 王日初*, 张斗, 马超. 直写成型用悬浮液的设计. 无机材料学报, 2015, 30(11): 1139-1147.

20) 孙月花, 彭超群, 王小锋*, 王日初, 陈以心. 直写成型技术: 一种新型微纳尺度三维结构的制备方法. 中国有色金属学报, 2015, 25(6): 1525-1637.

21) 陈以心, 王日初, 王小锋*, 彭超群, 孙月花. 多孔碳化硅陶瓷的研究进展. 中国有色金属学报, 2015, 25(8): 2146-2156.

22) 谢雨洲, 彭超群, 王小锋*, 王日初, 刘家杰, 徐健. 流延成型技术的研究进展. 中国有色金属学报, 2015, 25(7): 1846-1857.

23) 孙文燕, 王日初, 王小锋*. 常压烧结法制备高致密度ZnO陶瓷. 中国有色金属学报, 2015, 25(6): 1625-1633.

24) 朱学卫, 王日初, 王小锋*, 彭健. 高硅铝合金的摩擦磨损性能. 功能材料, 2015, 46(8): 8063-8071.

25) 王小锋, 孙月花, 彭超群*, 王日初, 张斗. 直接凝固注模成型的研究进展. 中国有色金属学报, 2015, 25(2): 267-279.