

研究生导师简介

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系部：机械设计制造及其自动化系	
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<p>个人简介：男，山东济宁人，工学博士，副教授，硕士生导师。现任教于山东科技大学机电学院机制系。主持并参与国家自然科学基金、山东省自然科学基金、青岛市博士后研究人员应用研究项目及企业委托横向科研项目 20 余项，获中国煤炭工业协会科技奖二等奖 1 项，发表学术论文 30 余篇，其中 SCI 论文 23 篇，授权国家发明专利 1 项，技术成果转化 1 项，转化可提成经费 30 万。此外，以首位指导教师身份，指导学生获山东省研究生优秀成果奖 1 项，在山东省高校第五届机器人大赛中荣获“优秀指导教师”称号，被评为“山东科技大学学生科技创新优秀指导教师”、“山东科技大学优秀共产党员”等荣誉称号。</p>	
<p>学术兼职：轻合金材料专家委员会会员；中国机械工程协会会员；青岛市高新技术企业评审专家；担任 Materials & Design 和 Materials Science & Engineering A 等国际顶级学术期刊的审稿人。</p>	
<p>研究领域：机器学习与增材制造，绿色制造与再制造，高端装备关键材料</p>	
<p>教学科研情况（项目）：</p> <ol style="list-style-type: none"> 1、2022.01-2023.12，国家重点实验室开放课题，超细钒颗粒增强纳米晶镁基复合材料的制备与组织热稳定性研究，3 万，1/6； 2、2022.01-2022.12，军工横向项目，**构件研制，1100 万，核心成员； 3、2021.08-2022.11，国防基础科研，*****轻量化结构制造技术，180 万，子课题负责人； 4、2021.12-2022.12，企业横向项目，玻纤带增强复合管煤矿中输送应用技术可行性分析，44 万，3/6； 5、2021.12-2022.12，企业技术服务，级索煤矿玻纤带增强复合管道设计与技术服务，16 万，2/6； 6、2020.01-2022.12，国家自然科学基金青年基金，超细钒颗粒与晶粒双峰分布协同强韧化镁基复合材料的可控制备及其力学行为研究，27 万元，独立主持； 7、2019.09-2022.09，山东省高等学校青年创新团队人才引育计划，深地采煤装备性能强化团队，200 万，核心成员； 8、2017.08-2019.12，山东省自然科学基金博士基金，脉冲电流加热条件下冷变形镍基高温合金的晶界特征分布优化，10 万元，1/7； 9、2018.12.-2021.06，青岛市博士后应用资助项目，感应加热辅助镍基高温合金表层晶界，5 万元，独立主持； 	

- 10、2021.02-2023.02, 企业横向项目, 3D 打印航天发动机高温合金类零件控形控性技术研究, 10 万, 1/6;
- 11、2020.11-2023.11, 企业横向项目, 家电彩钢板表面有机涂覆层材料成形性能的研究, 80 万, 2/6;
- 12、2020.05-2023.05, 企业横向项目, 不锈钢紧固件塑性成形计算机模拟及模具设计优化, 20 万, 3/6;
- 13、2020.03-2021.03, 企业横向项目, 3D 打印拉丝自动化生产线设计, 7 万, 3/5;
- 14、2016.06-2018.05, 山东科技大学人才引进科研启动基金, GH99 合金高温变形过程中的组织演化机理与控制, 5 万, 独立主持;
- 15、2019.01-2021.12, 国家自然科学基金青年基金, 搅拌摩擦加工镍铝青铜合金耐腐蚀疲劳组织优化及机理研究, 23 万元, 2/7;
- 16、2019.01-2021.12, 国家自然科学基金青年基金, TiB₂ 颗粒增强超细晶镁基复合材料的组织调控与强韧化机理研究, 22 万元, 3/7;
- 17、2018.03-2020.12, 山东省自然科学基金面上项目, 镁合金板材超声振动单点渐进成形塑性变形行为及流变驱动微观机理研究, 13 万元, 3/10;
- 18、2018.03-2020.12, 山东省自然科学基金博士基金, TiB₂ 颗粒增强超细晶 AZ31 镁基复合材料制备及微观组织演化机理研究, 8 万元, 4/7;
- 19、2018.03-2020.12, 山东省自然科学基金博士基金, 海洋环境下镍铝青铜合金抗腐蚀疲劳裂纹扩展组织优化及机理研究, 8 万元, 5/7;
- 20、**技术成果转化: RTP 复合管缠绕设计技术, 转让可提成经费 30 万。**

学术成果 (论文、专利、获奖等):

论文:

1. Zhen Lu, Chengcai Zhang, Nana Deng, Haiping Zhou, Ruirui Fang, Kuidong Gao, Yukuo Su, **Hongbin Zhang***. Influence of selective laser melting process parameters on microstructure and properties of a typical Ni-based superalloy. *Acta Metallurgica Sinica (English letter)*, 2022. (SCI 二区)
2. **Hongbin Zhang**, et al. Microstructure and mechanical properties of novel Si-added CrFeNi medium-entropy alloy prepared via vacuum arc-melting. *Journal of Alloys and Compounds*, 2022. (SCI 二区顶刊)
3. Ruirui Fang, Nana Deng, **Hongbin Zhang***, et al. Effect of selective laser melting process parameters on the microstructure and properties of a precipitation hardening stainless steel. *Materials & Design*, 2021. (SCI 一区顶刊)
4. Shuai Sun, Nana Deng, **Hongbin Zhang***, et al. Microstructure and mechanical properties of AZ31 magnesium alloy reinforced with novel sub-micron vanadium particles by powder metallurgy. *Journal of Materials Research and Technology*, 2021. (SCI 二区)
5. Liqing Sun, Shuai Sun, Haiping Zhou, **Hongbin Zhang***, et al. Effect of Vanadium Reinforcement on the Microstructure and Mechanical Properties of Magnesium Matrix Composites. *Crystals*, 2021. (SCI 四区)
6. Haiping Zhou, Nana Deng, **Hongbin Zhang**, et al. Thermal Stability of Nanocrystalline AZ31/TiB₂ Magnesium Matrix Composites Prepared via Mechanical Milling. *Arabian Journal for Science and Engineering*, 2021. (SCI 三区)
7. Zhen Lu, Chengcai Zhang, Nana Deng, Haiping Zhou, Gang Wang, Yukuo Su, Ruirui Fang, **Hongbin Zhang***. Evolution of grain boundary character distribution in

- near-surface regions of a cold-rolled nickel-based superalloy during induction heating process. *Journal of Materials Research and Technology*, 2021. (SCI 二区)
8. **Hongbin Zhang**, et al. Evolution of grain boundary character distributions in a cold-deformed Nickel-based superalloy during electropulsing treatment. *Journal of Materials Research and Technology*, 2020. (SCI 二区)
 9. Haiping Zhou, **Hongbin Zhang***, et al. Microstructures and Mechanical Properties of Nanocrystalline AZ31 Magnesium Alloy Powders with Submicron TiB₂ Additions Prepared by Mechanical Milling. *Crystals*, 2020. (SCI 四区)
 10. **Hongbin Zhang**, et al. Influence of Thermo-mechanical Processing Parameters on Grain Boundary Character Distribution Evolution of Cold-Rolled Ni-Based Superalloy. *Rare Metal Materials and Engineering*, 2020. (SCI 四区)
 11. **Hongbin Zhang**, et al. Static Recrystallization Microstructure Evolution in a Cold-Deformed Ni-Based Superalloy during Electropulsing Treatment. *Crystals*, 2020. (SCI 四区)
 12. Ke Han, **Hongbin Zhang***, et al. EBSD study of the effect of electropulsing treatment on the microstructure evolution in a typical cold-deformed Ni-based superalloy. *Materials Characterization*, 2019. (SCI 二区 顶刊)
 13. **Hongbin Zhang**, et al. EBSD study of strain dependent microstructure evolution during hot deformation of a typical nickel-based superalloy. *Journal of Materials Research*, 2019. (SCI 三区)
 14. Haiping Zhou, **Hongbin Zhang***, et al. Prediction of flow stresses for a typical Nickel-Based superalloy during hot deformation based on dynamic recrystallization kinetic equation. *Rare Metal Materials and Engineering*, 2018. (SCI 四区)
 15. **Hongbin Zhang**, Haiping Zhou, Shengxue Qin, Jie Liu, Xingming Xu. Effect of deformation parameters on twinning evolution during hot deformation in a typical nickel-based superalloy. *Materials Science & Engineering A*, 2017. (SCI 二区 顶刊)
 16. Shengxue Qin, **Hongbin Zhang***, Jie Liu, Wei Zheng. Electron backscattered diffraction analysis of the effect of deformation temperature on the microstructure evolution in a typical nickel-based superalloy during hot deformation. *Journal of Materials Research*, 2016. (SCI 三区)
 17. Shengxue Qin, Jie Liu, **Hongbin Zhang***, Kaifeng Zhang. The microstructure evolution and processing map of Ni-18.3Cr-6.4Co-5.9W-4Mo superalloy during hot deformation. *Journal of Materials Engineering and Performance*, 2016. (SCI 四区)
 18. **Hongbin Zhang**, Kaifeng Zhang, Zhen Lu, Changhong Zhao, Xiaoli Yang. Hot deformation behavior and processing map of a γ' -hardened nickel-based superalloy. *Materials Science & Engineering A*, 2014. (SCI 二区 顶刊)
 19. **Hongbin Zhang**, Kaifeng Zhang, Shaosong Jiang, Haiping Zhou, Changhong Zhao, Xiaoli Yang. Dynamic recrystallization behavior of a γ' -hardened nickel-based superalloy during hot deformation. *Journal of Alloys and Compounds*, 2015. (SCI 二区 顶刊)
 20. **Hongbin Zhang**, Kaifeng Zhang, Shaosong Jiang, Zhen Lu. The dynamic recrystallization evolution and kinetics of Ni-18.3Cr-6.4Co-5.9W-4Mo-2.19Al-1.16Ti superalloy during hot deformation. *Journal of Materials Research*, 2015. (SCI 三区)
 21. **Hongbin Zhang**, Kaifeng Zhang, Haiping Zhou, Zhen Lu, Changhong Zhao,

Xiaoli Yang. Effect of strain rate on microstructure evolution of a nickel-based superalloy during hot deformation. *Materials & Design*, 2015. (SCI 二区顶刊)

22. Shaosong Jiang, Yong Jia, **Hongbin Zhang**, Zhihao Du, Zhen Lu, Kaifeng Zhang, Yushi He, Ruizhuo Wang. Plastic Deformation Behavior of Ti Foil Under Ultrasonic Vibration in Tension. *Journal of Materials Engineering and Performance*, 2017. (SCI 四区)

23. Haiping Zhou, Lianxi Hu, Yu Sun, **Hongbin Zhang**, Congwen Duan, Huan Yu. Synthesis of nanocrystalline AZ31 magnesium alloy with titanium addition by mechanical milling. *Materials Characterization*, 2016. (SCI 二区顶刊)

发明专利：利用脉冲电流处理技术优化 GH3030 合金晶界特征分布的工艺，ZL 201910503631.8，1/5

获奖情况：深部高应力软岩巷道底鼓控制关键技术及装备研发与应用，中国煤炭工业协会科技奖二等奖，2021

荣誉称号：山东科技大学优秀共产党员、山东省高校第五届机器人大赛优秀指导教师、山东科技大学学生科技创新优秀指导教师。