吴奔腾 研究员 博导

1994 年/中共党员
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中国科学院广州能源研究所

研究兴趣

可腐有机固废资源化利用，退役新能源核心器件高效解离，热解产物高值化利用，技术经济性分析

工作教育经历

中科院广州能源研究所-研究员 2023.02—至今
城乡矿山集成技术研究室 广州
MaREI 国家能源气候海洋实验室-博士后研究员 2022.04—2023.02
团队负责人：Jerry D. Murphy 院士 爱尔兰科克
爱尔兰科克大学（工学博士） 2019.05—2022.05
环境工程（全额奖学金） 科克
导师：Jerry D. Murphy 院士和林日琛教授 爱尔兰
合肥工业大学（工程硕士） 2015.09—2018.07
建筑与土木工程-市政方向 合肥
导师：王伟教授
合肥工业大学（工学学士） 2011.09—2015.07
给水排水工程 合肥

项目经历

- **中科院稳定支持青年团队项目** 2023.07—2028.07
- **中科院引才计划青年项目** 2023.02—2026.02
- **Integrated "Zero Waste" Biorefinery utilizing all fractions of Willow feedstock for the production of high to medium based Bio-Chemicals/Materials, Renewable Energy in the form of Bio Methane production and Natural Fertilizers (核心成员；欧盟 Interreg North-West Europe 项目；€3,780,800)** 2022.04—2023.02
  项目描述：以柳树生物质为原料的综合生物炼制“零排放”系统—生产生物化学品、生物甲烷和天然有机肥料。
  项目职责：作为生物能源项目博士后成员，建立以柳树为原料的生物经济系统并研究相应的厌氧发酵、沼气提纯、生物炼制技术以及分析技术经济性。
- **Production of advanced gaseous biomethane transport fuel in an integrated circular bioenergy system（核心成员；爱尔兰环境保护署项目；€341,100）** 2019.05—2022.05
  项目描述：针对欧盟对先进生物能源的要求，提出并验证一个综合循环生物能源系统。
  项目职责：作为博士项目负责人，建立厌氧发酵中微生物电子转移模型、研究沼气提纯和生物炼制技术

以及分析技术经济性。

科研成果

发明专利

- 一种难降解有机废水的处理方法（CN201610025067.X；已授权；学生第 1 发明人）

论文发表（目前共发表 18 篇论文，其中 6 篇 SCI 一作，1 篇导师一作）

1. **Benteng Wu**, Richen Lin*, Xue Ning, Xihui Kang, Chen Deng, Alan DW Dobson, Jerry D Murphy. An assessment of how the properties of pyrochar and process thermodynamics impact pyrochar mediated microbial chain elongation in steering the production of medium-chain fatty acids towards n-caproate. ***Bioresource Technology***, 2022 (SCI 一区 top 10%；影响因子 11.4)
2. **Benteng Wu**, Richen Lin*, Xihui Kang, Chen Deng, Alan DW Dobson, Jerry D Murphy. Improved robustness of ex-situ biological methanation for electro-fuel production through the addition of graphene. ***Renewable and Sustainable Energy Reviews***, 2021 (SCI 一区 top 5%；影响因子 15.9).
3. **Benteng Wu**, Richen Lin*, Richard O'Shea, Chen Deng, Karthik Rajendran, Jerry D Murphy. Production of advanced fuels through integration of biological, thermo-chemical and power to gas technologies in a circular cascading bio-based system. ***Renewable and Sustainable Energy Reviews***, 2021 (SCI 一区 top 5%；影响因子 15.9).
4. **Benteng Wu**, Richen Lin*, Xihui Kang, Chen Deng, Ao Xia, Alan DW Dobson, Jerry D Murphy. Graphene addition to digestion of thin stillage can alleviate acidic shock and improve biomethane production. ***ACS Sustainable Chemistry & Engineering***, 2020 (SCI 一区 top 10%；影响因子 8.4).
5. **Benteng Wu**, Jing Wang, Zhenhu Hu, Shoujun Yuan, Wei Wang*. Anaerobic biotransformation and potential impact of quinoline in an anaerobic methanogenic reactor treating synthetic coal gasification wastewater and response of microbial community, ***Journal of Hazardous Materials***, 2020 (SCI 一区 top 5%；影响因子 13.6).
6. **Benteng Wu**, Chunhua He, Shoujun Yuan, Zhenhu Hu, Wei Wang*. Hydrogen enrichment as a bioaugmentation tool to alleviate ammonia inhibition on anaerobic digestion of phenol-containing wastewater, ***Bioresource technology***, 2019 (SCI 一区 top 10%；影响因子 11.4).
7. Wei Wang*, **Benteng Wu**, Shanglei Pan, Kai Yang, Zhenhu Hu, Shoujun Yuan. Performance robustness of the UASB reactors treating saline phenolic wastewater and analysis of microbial community structure, ***Journal of Hazardous Materials***, 2017 (SCI 一区 top 5%；影响因子 13.6).

合作论文（共 11 篇；仅列 3 篇）

8. Chen Deng, Richen Lin, Xihui Kang, **Benteng Wu**, Xue Ning, David Wall, Jerry D Murphy. Co-production of hydrochar, levulinic acid and value-added chemicals by microwave-assisted hydrothermal carbonization of seaweed, ***Chemical Engineering Journal***, 2022.
9. Richen Lin, Richard O'Shea, Chen Deng, **Benteng Wu**, Jerry D Murphy. A perspective on the efficacy of green gas production via integration of technologies in novel cascading circular bio-systems, ***Renewable and Sustainable Energy Reviews***, 2021.

10. Chen Deng, Richen Lin, Xihui Kang, **Benteng Wu**, Richard O'Shea, Jerry D Murphy. Improving gaseous biofuel yield from seaweed through a cascading circular bioenergy system integrating anaerobic digestion and pyrolysis, ***Renewable and Sustainable Energy Reviews***, 2021.

会议汇报

1. **Poster Presentation:** Pyrochar mediated microbial chain elongation steers the production of medium-chain fatty acids towards n-caproate. **MaREI annual symposium** (爱尔兰国家能源气候海洋实验室年会), Galway, Ireland, 2022.
2. **Oral Presentation:** A perspective on advanced fuels production by integrating biological, thermo-chemical and power to gas technologies in a circular cascading bio-based system. **31st Irish Environmental Researchers Colloquium (Environ 2021)**, Cork, Ireland, 2021.
3. **Oral Presentation:** Production of advanced fuels through integration of biological, thermo-chemical and power to gas technologies in a circular cascading bio-based system. **MaREI annual symposium** (爱尔兰国家能源气候海洋实验室年会), Cork, Ireland, 2021.
4. **Poster Presentation:** Quinoline degradation in the methanogenic consortia and its potential impact on the performance of UASB reactor treating coal gasification wastewater. **15th IWA World Conference on Anaerobic Digestion**, Beijing, China, 2017.

教学经历

- 爱尔兰科克大学工程系本科生实验课程讲解 2021.02—2021.04
- 爱尔兰科克大学化学系研究生实验课程讲解 2020.10—2021.05

获奖情况

- 国家优秀自费留学生奖 (爱尔兰 A 类排名第一), 2022
- 爱尔兰国家能源气候海洋实验室"Research Excellence", 2022