华南理工大学化学与化工学院老师简介

<table>
<tr><td>姓名</td><td>侯婷婷</td><td>性别</td><td>女</td><td>出生年月</td><td>1989.12</td><td>籍贯</td><td>河南</td><td rowspan="3">  </td></tr>
<tr><td>职称</td><td>副教授</td><td>民族</td><td>汉</td><td>最高学位</td><td>博士</td><td>党派</td><td>中共党员</td></tr>
<tr><td>招生专业</td><td colspan="3">应用化学、物理化学</td><td>研究方向</td><td colspan="3">光催化小分子（N_2, CO_2, CH_4 等）和生物质转化</td></tr>
<tr><td>主要学习工作经历</td><td colspan="8">2009.9-2013.7 郑州大学化学基地班本科毕业 获学士学位
2013.9-2018.10 中国科学院大学大连化学物理研究所硕博连读 获博士学位
2018.10-2020.11 中南大学材料科学与工程学院 博士后
2020.12-至今 华南理工大学化学与化工学院 预聘助理教授</td></tr>
<tr><td>科学研究情况简介</td><td colspan="8">主要研究方向：
高效金属氧化物基和等离激元共振基光催化剂的可控合成；光催化小分子（N_2, CO_2, CH_4）和生物质转化；采用理论计算和同步辐射原位技术从原子分子层面深入揭示光催化反应机制。
发表论文和专利：
1. 发表论文：
1). Tingting Hou, Qiquan Luo, Qi Li, Hualu Zu, Peixin Cui, Siwei Chen, Yue Lin, Jiajia Chen, Xusheng Zheng, Wenkun Zhu, Shuquan Liang, Jinlong Yang, and Liangbing Wang. Modulating Oxygen Coverage on the Surface of $Ti_3C_2T_x$ MXenes to Boost Catalytic Activity for HCOOH Dehydrogenation. Nat. Commun., 2020, 11 (1), 4251. (JCR: Q1, IF: 12.121)
2). Tingting Hou, Yu Xiao, Peixin Cui, Xiaoping Tan, Xusheng Zheng, Ying Zou, Changxi Liu, Shuquan Liang, and Liangbing Wang. Operando Oxygen Vacancies Induced by Grain Boundaries for Enhanced Activity and Stability toward Nitrogen Photofixation. Adv. Energy Mater., 2019, 1902319. (JCR: Q1, IF: 25.245)
3). Tingting Hou, Lanlan Chen, Yue Xin, Wenkun Zhu, Chongyang Zhang, Wenhua Zhang, Shuquan Liang, Liangbing Wang. Porous CuFe for Plasmon Assisted N_2 Photofixation. ACS energy Lett., 2020, 5, 2444−2451. (JCR: Q1, IF: 19.003)
4). Tingting Hou, Hailong Peng, Yue Xin, Sanmei Wang, Wenkun Zhu, Lanlan Chen, Yuan Yao, Wenhua Zhang, Shuquan Liang, and Liangbing Wang. Fe Single-Atom Catalyst for Visible-Light Driven Photofixation of Nitrogen Sensitized by Triphenylphosphine and Sodium Iodide. ACS Catal., 2020, 10, 5502–5510. (JCR: Q1, IF: 12.35)
5). Tingting Hou, Qi Li, Yida Zhang, Wenkun Zhu, Kaifu Yu, Sanmei Wang, Quan Xu, Shuquan Liang, Liangbing Wang. Nearinfrared Light-driven Photofixation of Nitrogen over $Ti_3C_2T_x/TiO_2$ Hybrid Structures with Superior Activity and Stability Appl. Catal. B, 2020, 273, 119072. (JCR: Q1, IF: 16.683)
6). Tingting Hou, Ruihan Guo, Lanlan Chen, Yangcenzi Xie, Jiasheng Guo, Wenhua Zhang,Xusheng Zheng, Wenkun Zhu, Xiaoping Tan, Liangbing Wang. Atomic-level insights in tuning defective structures for nitrogen photofixation over amorphous SmOCl nanosheets. Nano Energy, 2019, 65, 104003. (JCR: Q1, IF:</td></tr>
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	16.602) 7). **Tingting Hou**, Nengchao Luo, Yitao Cui, Lei Li, Katherine E MacArthur, Marc Heggen, Ruotian Chen, Fengtao Fan, Wenming Tian, Shengye Jin, Feng Wang. Selective Reduction of CO_2 to CO under Visible Light by Controlling Coordination Structures of CeO_x-S/$ZnIn_2S_4$ Hybrid Catalysts. *Appl. Catal. B*, **2019**, 245, 262–270. (JCR: Q1, IF: 16.683) 8). **Tingting Hou**, Nengchao Luo, Hongji Li, Marc Heggen, Jianmin Lu, Yehong Wang, Feng Wang. Yin and Yang Dual Characters of CuO_x Clusters for C–C Bond Oxidation Driven by Visible Light. *ACS Catal.*, **2017**, 7(6), 3850–3859. (JCR: Q1, IF: 12.35) 9). **Tingting Hou**, Yehong Wang, Jian Zhang, Mingrun Li, Jianmin Lu, Marc Heggen, Carsten Sievers, Feng Wang. Peculiar hydrogenation reactivity of Ni-Ni $^{\delta+}$ clusters stabilized by ceria in reducing nitrobenzene to azoxybenzene. *J. Catal.* **2017**, (353), 107-115. (JCR: Q1, IF: 7.888) 10). **Tingting Hou**, Chaofeng Zhang, Yehong Wang, Zhenting Liu, Zhixin. Zhang, Feng Wang. Metal-free protocol for the synthesis of N -arylpyrrolidines catalyzed by hydrogen iodine. *Catal. Commun.*, **2017**, 94(5), 56-59. (JCR: Q2, IF: 3.674) 11). Yida Zhang, **Tingting Hou** (co-first author), Quan Xu, Qingyu Wang, Yu Bai, Shaokang Yang, Dewei Rao, Lihui Wu, Haibin Pan, Jiafu Chen, Gongming Wang, Junfa Zhu, Tao Yao, Xusheng Zheng. Dual-Metal Sites boosting Polarization of Nitrogen Molecules for Efficient Nitrogen Photofixation. *Adv. Sc*i. **2021**, Accepted. (JCR: Q1, IF: 15.84) 12). Nengchao Luo, **Tingting Hou**, Shiyang Liu, Bin Zeng, Jianmin Lu, Jian Zhang, Hongji Li, Feng Wang. Photocatalytic coproduction of deoxybenzoin and H2 through tandem redox reactions. *ACS Catal.*, **2020**, 10(1), 762-769. (JCR: Q1, IF: 12.35) 13). Nengchao Luo, Tiziano Montini, Jian Zhang, Paolo Fornasiero, Emiliano Fonda, **Tingting Hou**, Wei Nie, Jianmin Lu, Junxue Liu, Marc Heggen, Long Lin, Changtong Ma, Min Wang, Fengtao Fan, Shengye Jin and Feng Wang. Visible-Light-Driven Coproducing Hydrogen and Diesel Precursors. *Nat. Energy*, **2019**, 4, 575-584. (JCR: Q1, IF: 46.495) 14). Nengchao Luo, Min Wang, Hongji Li, Jian Zhang, **Tingting Hou**, Haijun Chen, Xiaochen Zhang, Jianmin Lu, Feng Wang. VisibleLight-Driven Self-Hydrogen Transfer Hydrogenolysis of Lignin Models and Extracts into Phenolic Products. *ACS Catal.*, **2017**, (7), 4571-4580. (JCR: Q1, IF: 12.35) 15). Yehong Wang, Jian Zhang, Zhixin Zhang, **Tingting Hou**, Chaofeng Zhang, Jinghua An, Feng Wang. The in situ transformation of co-product formaldehyde in the reversible hydrolysis of 1,3-dixoane to get 1,3-propanediol efficiently. *Green Chem.*, **2018**, doi: 10.1039/C7GC03692B. (JCR: Q1, IF: 9.48) 16). Lirong Wang, **Tingting Hou**, Yue Xin, Wenkun Zhu, Shuyi Yu, Zicheng Xie,

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<tr><td></td><td colspan="4">Shuquan Liang, and Liangbing Wang, Large-Scale Synthesis of Porous Bi_2O3 with Oxygen Vacancies for Efficient Photodegradation of Methylene Blue. *Chinese J. Chem. Phys.* **2020**, DOI: 10.1063/1674-0068/cjcp2001009.
17. Zicheng Xie, Jie Zhang, Yu Xiao, Yangcenzi Xie, Wenkun Zhu, Shuyi Yu, **Tingting Hou**, Shuquan Liang, Liangbing Wang. Regulation of Active Oxygen Species by Grain Boundaries to Optimize Reaction Paths toward Aerobic Oxidations. *Energy & Environmental Materials*, **2020**, DOI: 10.1002/eem2.12123.
2. 发明专利
1). 王梁炳，郭瑞涵， **侯婷婷**，一种氯氧化钐纳米片及其制备方法和应用，2019. 7. 30，中国， 201910692659.0
2). 王峰， **侯婷婷**，张超锋，一种亚胺的合成方法， 2015.10.22，中国，ZL201510685329.0
3). 王峰， **侯婷婷**，王业红，一种光催化氧化裂解β-羟基化合物 C-C 键制备醛类化合物的方法， 2016.11.14，中
国， ZL201610998396.2
4). 王峰， **侯婷婷**，王业红，一种光催化氧化乙二醇制备甲醛的方法，2016.11.14，中国， 201610998419.X
5). 王峰， **侯婷婷**，罗能超，一种光催化烃类氧化的方法， 2017.06.21，中国， 201710474117.7.
6). 王峰， **侯婷婷**，罗能超，张健，一种光催化 CO_2 还原的方法，2018.07.23，中国， 201810811631.X
7). 王峰，罗能超， **侯婷婷**，王敏，一种光催化一步法制备联苄类化合物的方法， 2017. 12. 11, 中国， 201711306019.</td></tr>
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