



## 师资力量

概况

教师名录

招贤纳士

## 教授

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### 汪圣尧

发布时间: 2019-04-11 作者: 浏览次数: 13063



**汪圣尧**, 男, 中共党员, 1988年12月出生, 工学博士, 华中农业大学教授。近年来, 主要从事无机、有机半导体材料开发及其在光催化方面应用的研究工作。目前, 以第一作者或通讯作者在国际著名期刊上发表SCI论文20余篇, 其中影响因子大于10的14篇, 高被引论文2篇。主持国家自然科学基金、湖北省自然科学基金、华中农业大学自主创新基金等多项科研及人才项目。

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#### 教育工作背景

2021.01-现在教授, 华中农业大学理学院

2018.01-2020.12 副教授, 华中农业大学理学院

2017.12-2019.12 客座研究员, 日本国立材料研究所 (NIMS)

2012.09-2017.12 华中农业大学, 工学博士

2016.01-2017.11 日本国立材料研究所 (NIMS), 联合培养博士生

2008.09-2012.06 湖南农业大学, 理学学士

#### 研究领域

1. 环境与能源光催化材料设计及催化机理研究 (N<sub>2</sub>固定、CO<sub>2</sub>还原、CH<sub>4</sub>活化、NO去除)

2. 人工光合作用体系的构建及其促进碳循环、氮循环机制研究

#### 学术兼职

担任《中国化学快报》青年编委, 担任Science Advances、Energy & Environmental Science、Journal of Hazard Materials、Chemical Engineering Journal、Solar RRL、Catalysis Science & Technology等国际知名杂志审稿人。

#### 科研项目情况

1. 国家自然科学基金青年项目: 基于卤素促进钨酸铋中心的光诱导变价行为及其光催化固氮研究, 26万元, 2020.1-2022.12, 主持;

2. 湖北省自然科学基金: 钨/钨酸铋氧空位调控及其光催化固氮性能研究, 3万元, 2019.1-2020.12, 主持;

3. 中央高校基本科研业务费: 钨酸铋氧空位可控构筑及其光催化性能研究, 20万元, 2018.1-2020.12, 主持。

#### 论文发表情况

1. Shengyao Wang#, Xiao Hai#, Xing Ding#, Shangbin Jin#, Yonggang Xiang, Pei Wang, Bo Jiang, Fumihiko Ichihara, Mitsutake Oshikiri, Xianguang Meng, Yunxiang Li, Wakana Matsuda, Jun Ma, Shu Seki, Xuepeng Wang, Hao Huang, Yoshiki Wada, Hao Chen\*, Jinhua Ye\*. Intermolecular Cascaded  $\pi$ -conjugation Channels for Electron Delivery Powering CO<sub>2</sub> Photoreduction. **Nature Communications**, 2020, 11, 1149.

2. Feiyan Xu, Kai Meng, Bei Cheng, Shengyao Wang\*, Jingsan Xu\*, Jianguo Yu\*. Unique S-scheme Heterojunctions in Self-assembled TiO<sub>2</sub>/CsPbBr<sub>3</sub> Hybrids for CO<sub>2</sub> Photoreduction. **Nature Communications**, 2020, 11, 4613.

3. Yunxiang Li, Shengyao Wang\*, Xu-sheng Wang, Yu He, Qi Wang, Yingbo Li, Mengli Li, Gaoliang Yang, Jundong Yi, Huiwen Lin, Dekang Huang, Lan Li, Hao Chen, Jinhua Ye\*. Facile Top-Down Strategy for Direct Metal Atomization and Coordination Achieving a High Turnover Number in CO<sub>2</sub> Photoreduction. **Journal of the American Chemistry Society**, 2020, 142, 19259-19267.

4. Shengyao Wang#, Xiao Hai#, Xing Ding, Kun Chang, Yonggang Xiang, Xianguang Meng, Zixin Yang, Hao Chen\*, Jinhua Ye\*. Light-Switchable Oxygen Vacancies in Ultrafine Bi<sub>5</sub>O<sub>7</sub>Br Nanotubes for Boosting Solar-Driven Nitrogen Fixation in Pure Water. **Advanced Materials**, 2017, 29, 1701774.

5. Shengyao Wang, Fumihiko Ichihara, Hong Pang, Hao Chen\*, Jinhua Ye\*. Nitrogen Fixation Reaction Derived from Nanostructured Catalytic Materials. **Advanced Functional Materials**, 2018, 28, 1803309.

6. Shengyao Wang#, Xing Ding#, Xuehao Zhang, Hong Pang, Xiao Hai, Guangming Zhan, Wei Zhou, Hui Song, Lizhi Zhang, Hao Chen\*, Jinhua Ye\*. In Situ Carbon Homogeneous Doping on Ultrathin Bismuth Molybdate: A Dual-Purpose Strategy for Efficient Molecular Oxygen Activation. **Advanced Functional Materials**, 2017, 27, 1703923.

7. Hui Song, Xianguang Meng\*, Shengyao Wang\*, Wei Zhou, Shuang Song, Tetsuya Kako, Jinhua Ye\*. Selective Photo-oxidation of Methane to Methanol with Oxygen over Dual-Cocatalyst-Modified Titanium Dioxide. **ACS Catalysis**, 2020, 10, 14318. (JCR 1区, IF 12.350)

8. Yunxiang Li, Shengyao Wang\*, Pei Wang, Yu He, Xusheng Wang, Kun Chang, Huiwen Lin, Xing Ding, Hao Chen, Hongwei Zhang, Yasuo Izumi, Tetsuya Kako, Jinhua Ye\*. Targeted Removal of Interfacial Adventitious Carbon towards Directional Charge Delivery to Isolated Metal sites for Efficient Photocatalytic H<sub>2</sub> Production. **Nano Energy**, 2020, 76, 105077.

9. Bo Jiang, Zhe Wan, Yunqing Kang, Yanna Guo, Joel Henzie, Jongbeom Na, Hexing Li, Shengyao Wang\*, Yoshio Bando, Yoshio Sakka\*, Yusuke Yamauchi\*. Auto-Programmed Synthesis of Metallic Aerogels: Core-shell Cu@Fe@Ni Aerogels for Efficient Oxygen Evolution Reaction. **Nano Energy**, 2021, 77, 105644.

10. Yonggang Xiang, Wenbo Dong, Pei Wang, Shengyao Wang\*, Xing Ding, Fumihiko Ichihara, Zhuan Wang, Yoshiki Wada, Shangbin Jin, Yuxiang Weng, Hao Chen\*, Jinhua Ye\*. Constructing Electron Delocalization Channels in Covalent Organic Frameworks Powering CO<sub>2</sub> Photoreduction in Water. **Applied Catalysis B: Environmental**, 2020, 274, 119096.

