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EDUCATION

Kyushu University, Fukuoka, Japan 10/2021-09/2024(present)

Doctor's Degree in Science and Engineering of Materials and Devices

Supervisor: Professor Hisahiro Einaga. Associate Professor Hajime Hojo

Yunnan University, Kunming, China 09/2018-06/2021

Master's Degree in New Energy Materials and Devices

Supervisor: Professor Yu Yang; Associate Professor Tao Sun.

Anhui Agricultural University, Hefei, China 09/2014-06/2018

Bachelor's Degree in Materials Science and Engineering

Supervisor: Professor Hui Gao.

PUBLICATIONS

- 1) **Ni, Z.**, Hojo, H. and Einaga, H*. Comparative Evaluation of Microwave Heating Performance across Structurally Diverse Tungsten Oxides. *The Journal of Physical Chemistry C. (under view)*
- 2) **Ni, Z.**, Hojo, H. and Einaga, H*. Efficient Ethanol Dehydration to Ethylene Using Microwave-Assisted Heating Based on HPW/SBA-15. *Angewandte Chemie International Edition, (to be submitted)*
- 3) **Ni, Z.**, Zhang, H., Wang, F., Qu, JZ., Sun, T*, Hu, GZ*. Theoretical exploration of HER/OER/ORR catalytic activities of multifunctional transition metal (TM_x) N₄-doped carbon catalysts by DFT study. *Journal of Materials Chemistry A. (under view)*
- 4) **Ni, Z.**, Ding, S., Zhang, H., Dai, R., Chen, A., Wang, R., Zhang, J., Zhou, Y., Yang, J., Sun, T., Hu, G. Phosphorus and Selenium Co-Doped WO₃ Nanoparticles for Interface Modification and Photovoltaic Properties Enhancement of Monolayer Planar Silicon/PEDOT: PSS Hybrid Solar Cells. *Advanced Materials Interfaces*. 2022 Jul;9(21):2200812.
- 5) **Ni, Z.**, Fang, W., Sun, T*, Wang, R., Yang, J., Zhang, J., Zhou, Y., Chen, A., Yang, Y. and Xiang, C., 2020. The Degradation Kinetics Study of Aromatic Organics with Different Functional Compounds on Anatase 001 Surface. *Nano*, 15(07), p.2050087.
- 6) Shi, G^a., Chen, YF^a., **Ni, Z.**^a., Ding, XB., Chen, W., Lyu, XY., Liu., Y., Ruan, XB., Deng, W., Liu, D., Li, YS., Bi, H., Lu, KY., Müller-Buschbaum, P., Li, T., Shen, Q*, Liu, ZK*, Ma, W*. Pre-manipulation of colloidal quantum dot coupling in conductive inks for printable electronics. *Science Advances, (co-first author) (submit)*
- 7) Chen, J., Zhao, Y., Zhao, S., Zhang, H*, Long, Y., Yang, F., Xi, M., **Ni, Z***., Zhou, Y*., Chen, A*. Heterogeneous bimetallic oxides/phosphides nanorod with upshifted d band center for efficient overall water splitting. *Chinese*

Chemical Letters, (2023): 109268 (*Corresponding author*)

- 8) Zhao, Y., Zhang, H*, Chen, J., Zhao, S., Xi, M., Yang, F., Long, Y., **Ni, Z***, Zhou, Y*, Chen, A*. Interfacial electronic engineering of heterostructured Co₂PMoNiP/NF nano-sea-urchin catalysts for efficient and stable hydrogen evolution via water/seawater splitting *Chemical Engineering Journal*, (2023): 147092. (*Corresponding author*)

EXTRACURRICULAR ACTIVITIES

Ni, Z., Fang W, Sun T, Yang Y* Investigation of n-Si/PEDOT: PSS Heterojunction Solar Cell Performance and PEDOT: PSS Modification. *China SoG Silicon and PV Power Conference, CSPV*. Shanghai. China

(Accepted)

Ni, Z., Hojo, H. and Einaga, H*. Comparative Evaluation of Microwave Heating Performance across Structurally Diverse Tungsten Oxides. *9th Asia-Pacific Congress on Catalysis, APCAT-9*. Hangzhou. China *Oral Presentation*

(Accepted)

RESEARCH EXPERIENCES

Study on the Electrocatalytic Performance of Graphene Composite Nano-carbon Black Particles and Cobalt Borate Nanosheet Three-dimensional Materials 10/2019-09/2020

Team Leader

Advisor: Professor Yu Yang; Associate Professor Tao Sun

WORK EXPERIENCES

Shiyanjia Lab (www.shiyanjia.com)

02/2023-present

Part-time Computing Engineer

Software: VASP, CP2K, GROMACS

Project Experience:

- Migration of Na Ions in Batteries
 - Oxidation of CO, CO₂ reduction and NH₃ reduction
 - Construction of Amorphous Structures
 - Construction of Heterojunction Materials
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