2024「中技社科技獎學金」
2024 CTCI Foundation Science and Technology Scholarship
境外生研究獎學金
Research Scholarship for International Graduate Students

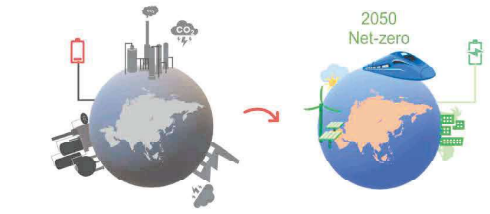
Developing Multi-Metal Oxide, Sulfide, and Selenide Electrocatalyst Systems for Efficient Electrolytic Green Hydrogen and Ammonia Production: A Step Towards a Green Fuel Gases Economy

TAIWAN TECH
NATIONAL TAIWAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

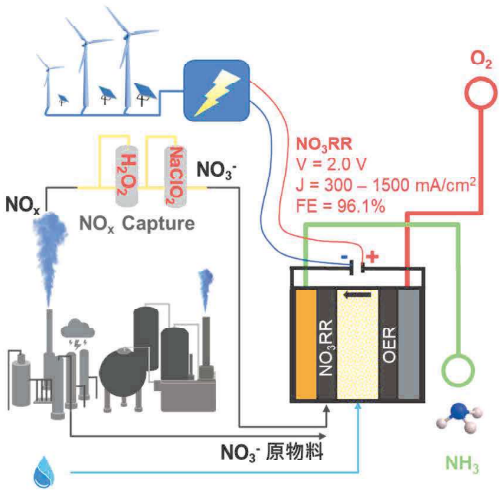
Quoc-Nam Ha, Prof. Dong-Hau Kuo (Advisor)

Department of Materials Science and Engineering, National Taiwan University of Science and Technology

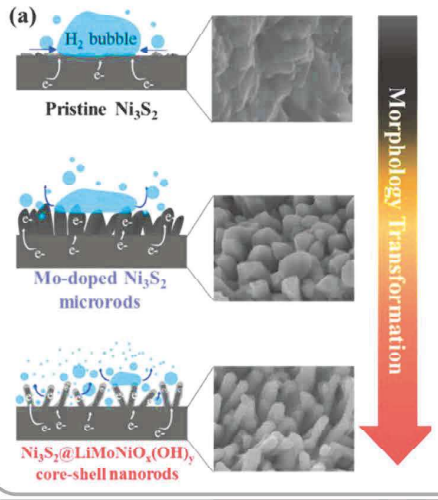
NET-ZEO TARGET BY 2050

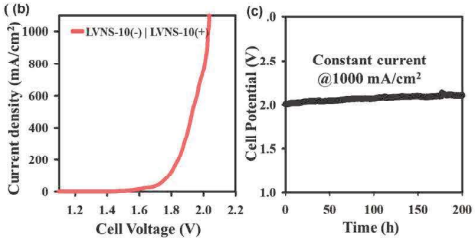


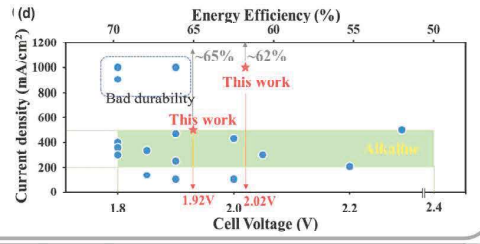
Water-Splitting for Green H_2 Production and Nitrate-to-NH_3: Toward Net-Zero and Greener Future



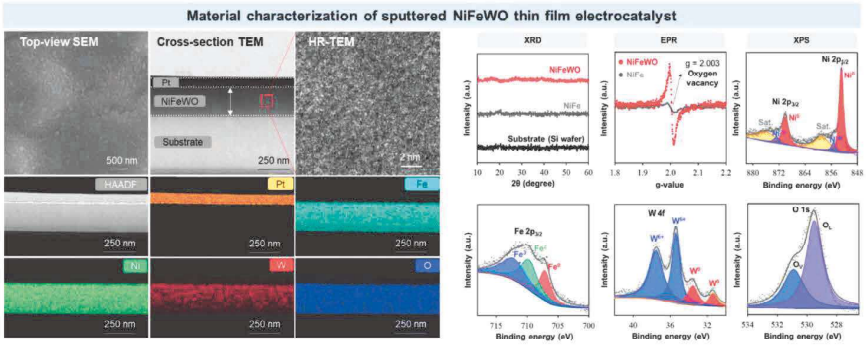
WATER-SPLITTING FOR GREEN HYDROGEN PRDUCTION



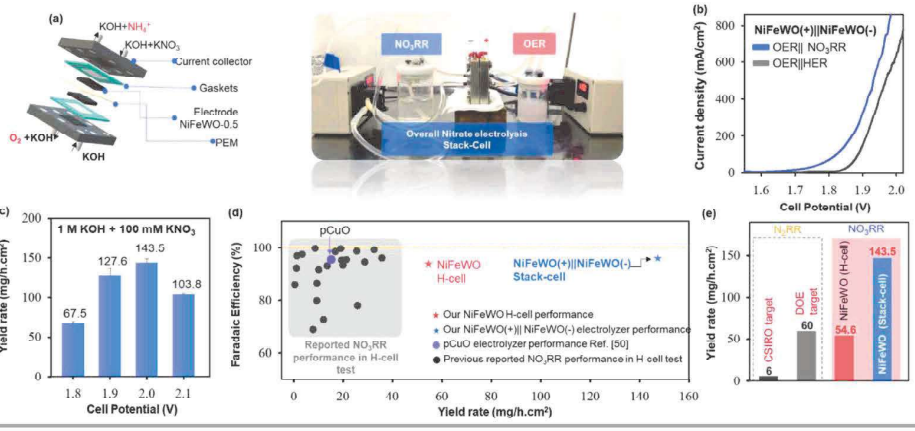




ELECTROLYTIC NITRATE-TO-AMMONIA



Overall electrolytic nitrate reduction to ammonia in a single NFWO(+)||NFWO(−) stack cell (2 x 2 cm²)



SELECTED PUBLICATION

- Ha, Q. N., Kuo, D. H.*, Developing energy-efficient nitrate-to-ammonia flow cells with bifunctional NiFeW-oxide thin-film electrodes made by magnetron sputtering technique. ***Applied Catalysis B: Environment and Energy***, 354, 124137. (2024). (SCIE, Q1, IF 20.1)
- Ha, Q. N., Kuo, D. H*. Industrial-scale efficient alkaline water electrolysis achieved with sputtered NiFeV-oxide thin film electrodes for green hydrogen production, ***Journal of Materials Chemistry A***, 12 (1), 460-474. (2024). (SCIE, Q1, IF 11.9)
- Ha, Q. N., Kuo, D. H*. Novel core-shell structure of Ni_3S_2@ $LiMoNiO_x(OH)_y$ nanorod arrays toward efficient high-current–density hydrogen evolution reaction. ***Chemical Engineering Journal***, 467, 143253. (2023) (SCIE, Q1, IF 13.3)
- Ha, Q. N., Kuo, D. H*. One-pot synthesized Li, V co-doped Ni_3S_2 nanorod arrays as a bifunctional electrocatalyst for industrialization-facile hydrogen production via alkaline exchange membrane water electrolysis. ***Chemical Engineering Journal***, 472, 144931. (2023). (SCIE, Q1, IF 13.3)

GOOGLESCHOLAR
Ha Quoc-Nam
NTUST-Taiwan Tech

GOOGLESCHOLAR
Prof. Kuo Dong-Hau
NTUST-Taiwan Tech