



**Showcasing research from Professor Hanfeng Liang's laboratory, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen, China.**

Weakened d-p orbital hybridization in *in situ* reconstructed Ru/ $\beta$ -Co(OH) $_2$  heterointerfaces for accelerated ammonia electrosynthesis from nitrates

A Ru/ $\beta$ -Co(OH) $_2$  heterostructure electrocatalyst efficiently converts nitrate effluents into value-added ammonia at low energy consumption, thanks to the synergy between Ru and Co. The nitrate reduction reaction driven by Ru/ $\beta$ -Co(OH) $_2$  is further coupled with Zn anode to assemble a nitrate-Zn flow battery, which can deliver electricity along with ammonia production. The generated ammonia can be readily converted into struvite powder, a common slow-release fertilizer.

**As featured in:**



See Hanfeng Liang *et al.*,  
*Energy Environ. Sci.*, 2023, **16**, 2483.