

### III. Key Research Projects and Grants (2024-2025)

Funding from the National Natural Science Foundation of China (NSFC) and other national-level programs.

Project Title	Category	Principal Investigator	Budget (10k CNY)	Year
Theories and Technologies for Control of PFAAs Formation and Removal Based on Pre-PFAAs Transformation Mechanisms in Drinking Water	NSFC - General Program	Yang Hongwei	50.0	2025
Joule Heating-assisted Construction of Bifunctional Adsorption-	NSFC - Young Scientists Fund	Yu Fengbo	30.0	2025

Catalytic Fe@C Catalysts and Mechanism of PDS Activation for Aromatic VOCs Degradation				
Multi-source Apportionme nt, Health Risk Assessment, and Hierarchical Control of Atmospheric Lead Pollution in the Poyang Lake Plain: A Coupled Source- Exposure- Risk Study	NSFC - Young Scientists Fund	Huang Shan	30.0	2025
Regulation of	NSFC - Fund	Huang Guoji	32.0	2025

Uniform Channels and Functionalized Covalent Organic Framework (COF) Separation Membranes and Gas Transport Mechanisms	for Less Developed Regions			
Data-driven Analysis and Optimization of Carbon Emission Complexity in Clean Energy Supply Chains	NSFC - Fund for Less Developed Regions	Li Yang	30.0	2025
Impacts and Mechanisms of Rare Earth Metal Co-pollution	NSFC - Fund for Less Developed Regions	Ding Huijun	31.0	2025

and Chlorine Disinfection on Bacterial Resistance in Drinking Water in Gannan Rare Earth Mining Areas				
Construction and Reaction Mechanism of High-efficiency Bifunctional Double-shell Zeolite Core-shell Catalysts for Integrated Passive NO <sub>x</sub> Adsorption and Catalytic Reduction	NSFC - General Program	Peng Honggen	50.0	2024
Mechanism of Heavy Rainfall-	NSFC - Young Scientists	Chang Zhilu	30.0	2024

induced Landslides in Heterogeneou s Accumulatio n Layers and Regional Hazard Assessment	Fund			
Performance and Mechanism of Transition Metal- Fluorine Dual-site Synergistic Enhanced Fenton-like Reaction for Removal of Emerging Contaminant s from Water	NSFC - Young Scientists Fund	Zhang Hongxiang	30.0	2024
Construction and Adsorption	NSFC - Fund for Less Developed	Zhao Rui	32.0	2024

Mechanism of Ce-based Bimetallic Oxide/Porous Carbon Based on Advanced Fluorine Removal	Regions			
Construction of High-efficiency Manganese Dioxide Catalysts with Dual Water-resistant Properties for Ozone Decomposition and Their Reaction Mechanisms	NSFC - Fund for Less Developed Regions	Ji Jian	29.0	2024
Mechanism of Microalgal Biofilm	NSFC - Fund for Less Developed	Qian Jun	32.0	2024

Formation Based on Signaling Molecule Regulation of Key Extracellular Secretions	Regions			
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