



Der Vorsitzende des Promotionsausschusses

E I N L A D U N G

Hiermit lade ich ein zum öffentlichen Promotionskolloquium von

Frau M.Sc. Panyu Ren

Energie-Materialien
(Prof. Dr. Volker Presser)

am

Montag, 26. Mai 2025, 16:00 Uhr s.t.

per Videokonferenz: Link für MS Teams: <https://msteams.link/422L>

Raum für die Prüfung: INM, Gebäude D2.5, Leibniz-Saal, 5. Etage

Thema der Dissertation:

Electrochemical Water Desalination for Ion Separation toward Ion-Selectivity and Sustainable Materials

Electrochemical water treatment technologies based on capacitive deionization (CDI) offer promising solutions for global water scarcity and pollution. This study mainly investigates static CDI electrodes and flowable electrodes. Based on electrode properties such as particle size, pore structure, components, and viscosity (especially for flowable electrodes), the mechanisms of electrochemical ion separation during charge transfer and ion electrosorption processes were revealed. Additionally, redox flow batteries are explored for lithium recovery from seawater and contaminant removal from wastewater. Furthermore, this work also considers the feasibility of repurposing electrodes for sustainable end-of-life management.

Saarbrücken, 12. Mai 2025

Prof. Dr. Uli Kazmaier