

High-performance biocatalytic membrane fabrication & their environmental application: Developing innovative nanostructured coating and functionalization technologies to fabricate nanocomposite biocatalytic membranes to solve challenging environmental problems including micro-pollutants elimination and CO₂ separation and conversion.



Membrane Science & Technology is the leading centre for membrane development in Australia and has an extensive range of resources available within the group and across UNSW.

UNESCO Centre for



UNSW Centre for Transformational Environmental Technologies

CTET houses a wide range of state-of-art facilities, enabling the development of cutting-edge technologies and commercialisation.

More information

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High-Performance Biocatalytic Membrane Fabrication & Their Environmental Application

UNESCO Centre for Membrane Science & Technology, School of Chemical Engineering, UNSW

Biocatalytic membranes fabrication



Micro-pollutants elimination

- Integration of enzymatic treatment and membrane technique;
- High capability for micro-pollutants elimination;
- High stability, reusability and low membrane fouling.



CO₂ separation and conversation

- Novel Janus-like hydrophilic and hydrophobic membrane;
- Enhanced CO₂ hydration by immobilized carbonic anhydrase;
- Cascade enzyme treatment allows production offormate.



Our experts

• Dr. Chao Ji, Manager, Operations, CTET



