

# Polymeric and Hybrid Materials for Membranes and Functional Surfaces

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## Descriptions of Research Topics

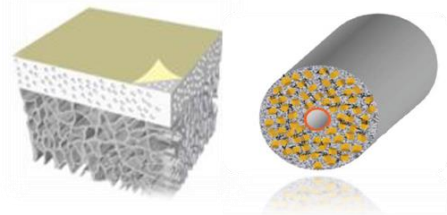
- Development of membranes for water treatment (RO/NF, FO/PRO, UF)
- Development of membranes for biochemical & energy (Pervaporation)
- Development of adsorbents for removal of toxic matters
- Design of antifouling and antimicrobial surfaces and coatings

### Applications:

- Desalination & water treatment
- Energy & biochemical production
- Removal of heavy metals & radioactive matters
- Antifouling surfaces

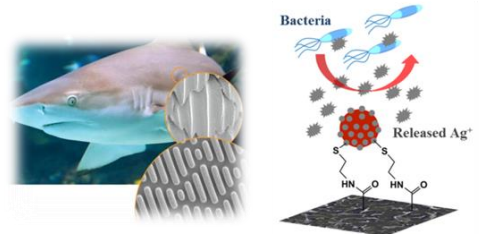
## Water & Energy

- Desalination membranes
- Pervaporation membranes
- Heavy metal adsorbents



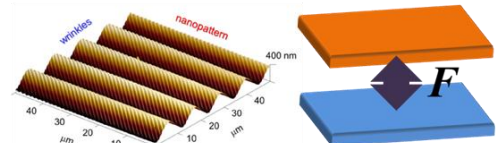
## Sustainable use

- Antifouling surfaces
- Functional coatings



## Fundamentals

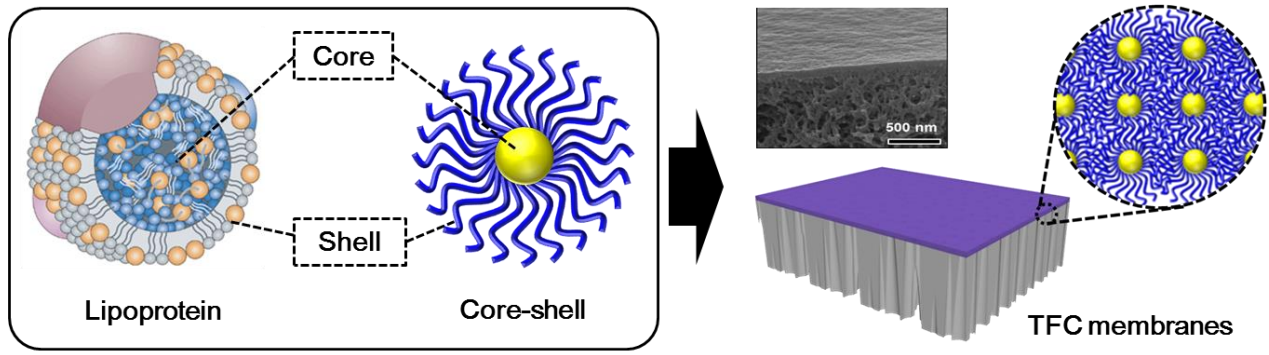
- Polymer physics
- Interfaces



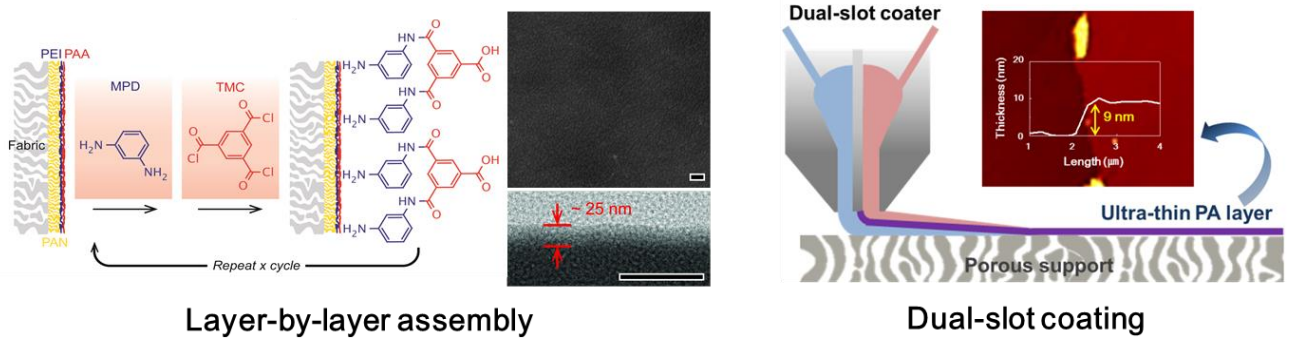
**Research Fields** 1 Material-Nano 2 Energy-Resource

**Keywords** Desalination, Water treatment, Membranes, Antifouling, Adsorbents, Biochemical, Pervaporation

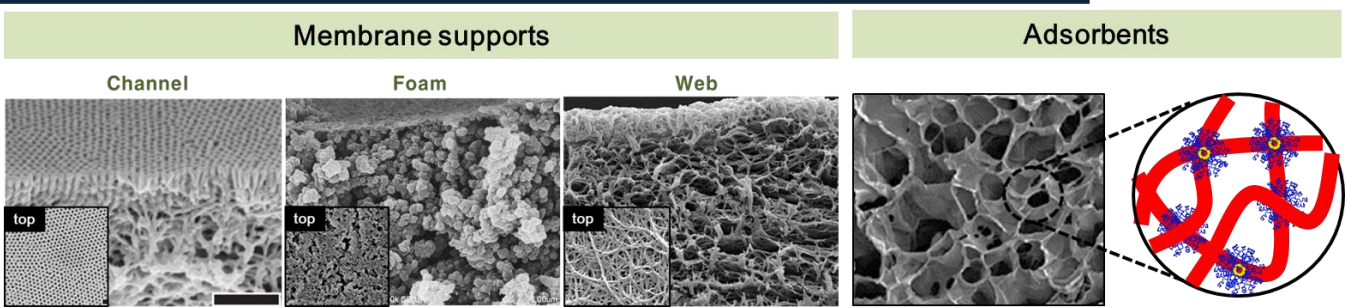
# 1. Synthesis and application of biomimetic multifunctional materials



# 2. Advanced fabrication methods for the membrane selective layer



# 3. Design of porous structures for membranes & adsorbents



# 4. Design of antifouling membranes & surfaces

