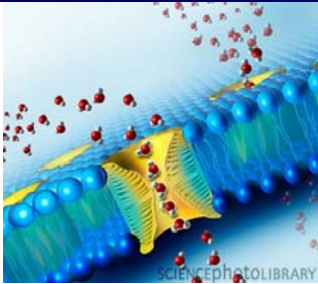


**IAF-PP PROJECT**

**SCALE-UP OF AQUAPORIN BASED BIOMIMETIC HOLLOW FIBER MEMBRANES FOR WATER REUSE AND DESALINATION**

PI: Prof. Wang Rong

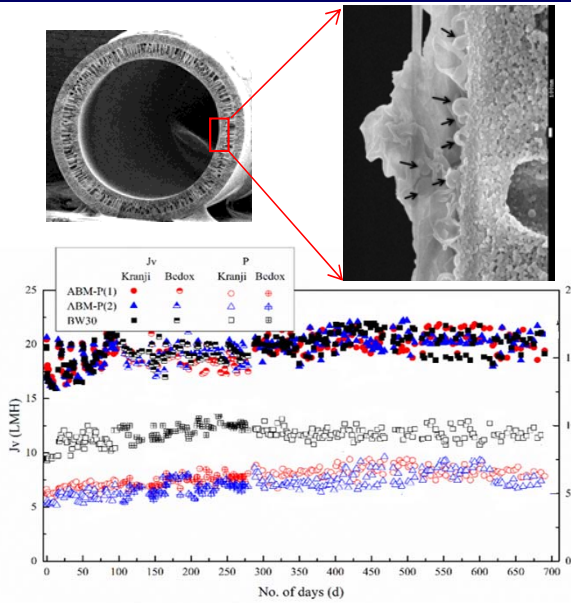
**INTRODUCTION**



Aquaporins (AQP) are natural water channel proteins, which are highly permeable to water but highly retentive to salt.

AQPs can be embedded into membranes to enhance the water permeability.

**LABORATORY STUDY**

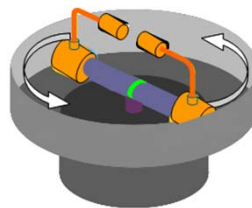


- ✓ High performance AQP embedded membranes
- ✓ Long term stability (700+ days)
- ✓ Low pressure, low energy consumption

**SCALE UP OF MEMBRANE MODULES**



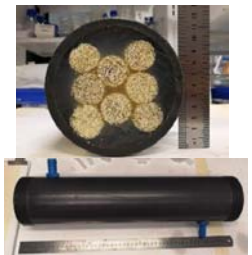
Commercial level hollow fiber spinning line



Module potting machine



2-inch module



4-inch module

**PROJECT TASKS**

- Mass production of AQPs (up to 2000 mg per month) in optimal condition
- Fabrication of 4" modules for a 5 to 10 m<sup>3</sup>/day water production in a pilot unit
- Further scaling up and testing of 8" modules in a 100 m<sup>3</sup>/day pilot unit using NEWater RO feed

**COLABORATORS of 1<sup>st</sup> PHASE**



**ACKNOWLEDGEMENTS**

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