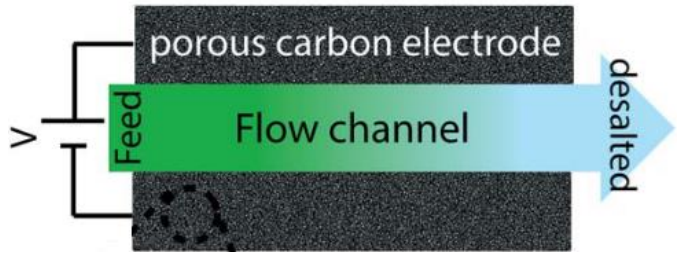
TECHNION
Israel Institute of Technology

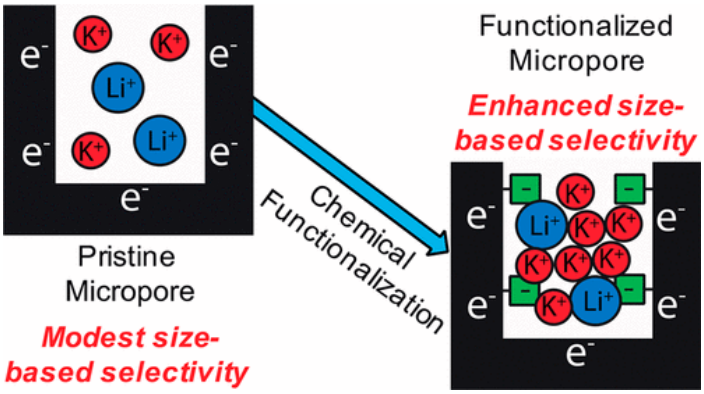
**Laboratory for Energy & Environmental Innovations**

*Faculty of Mechanical Engineering,*
*Technion – Israel Institute of Technology*

# M.Sc. Position in Cutting-Edge Water Desalination Research

The laboratory of Assitant Professor Matthew Suss is searching for a highly motivated M.Sc. student to conduct innovative research in ***capacitive deionization (CDI) for water desalination applications.*** The research focuses on ***ion-ion selectivity***, the preferential removal of particular ionic species relative to others present in solution (for example, $K^+$ to $Li^+$ as shown in the figure). Understanding the various mechanisms of ion-ion selectivity will be highly useful ***for treating complex wastewater and agricultural water systems*** in order to remove undesirable ions (like excess sodium and heavy metals) while retaining desirable minerals (such as magnesium and calcium).




Interested candidates should contact Eric Guyes at eguyes@campus.technion.ac.il. Students from the Grand Technion Energy Program (GTEP) and Russell Berrie Nanotechnology Institute (RBNI) are eligible.

## Research Description

- Investigating surface functionalization methods for carbon-based electrodes
- Conducting CDI experiments to characterize the effectiveness of electrode treatments
- Colloborating with a senior PhD student to analyze electrode treatment effectiveness and performance
- Publishing findings in well-respected scientific journals

## MINIMUM REQUIREMENTS

1. B.Sc. in engineering (mechanical, chemical, and environmental preferred) or science (chemistry preferred)
2. Ability to excel in a fast-paced team environment

SCAN ME!