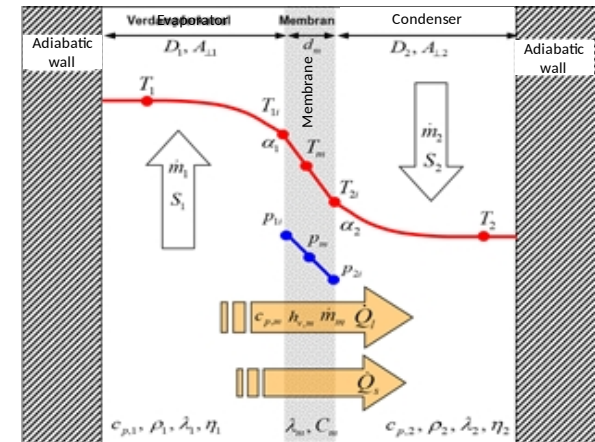
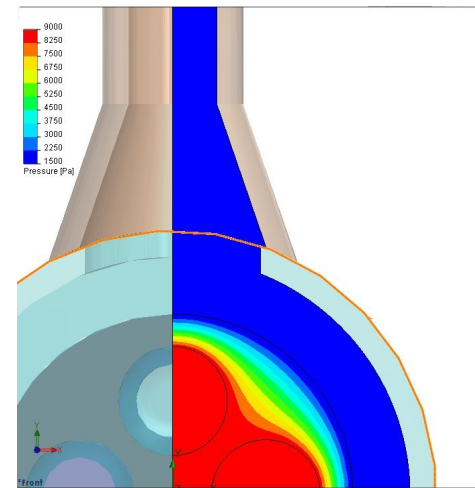
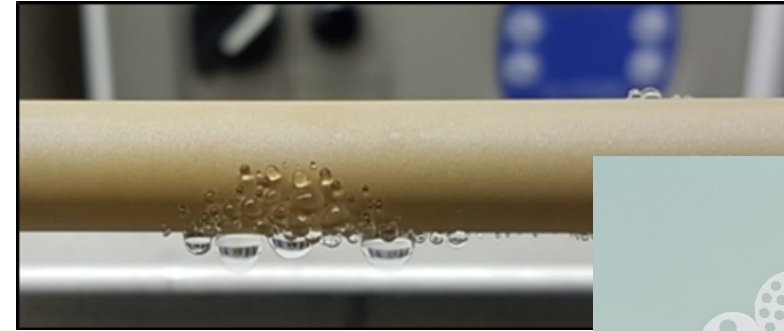


# Using Solar Energy to Clean Water



Client: U.S. Department of Energy

- \$1.1M Project Funded by the DOE Concentrated Solar Program
- Project performers
  - UConn (Lead)
  - Fraunhofer Institute for Ceramic Technologies and Systems (IKTS)
  - Fraunhofer Institute for Solar Energy Systems (ISE)

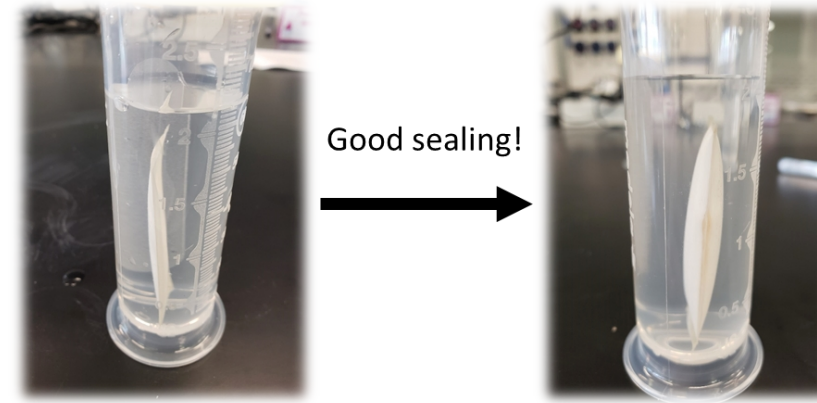
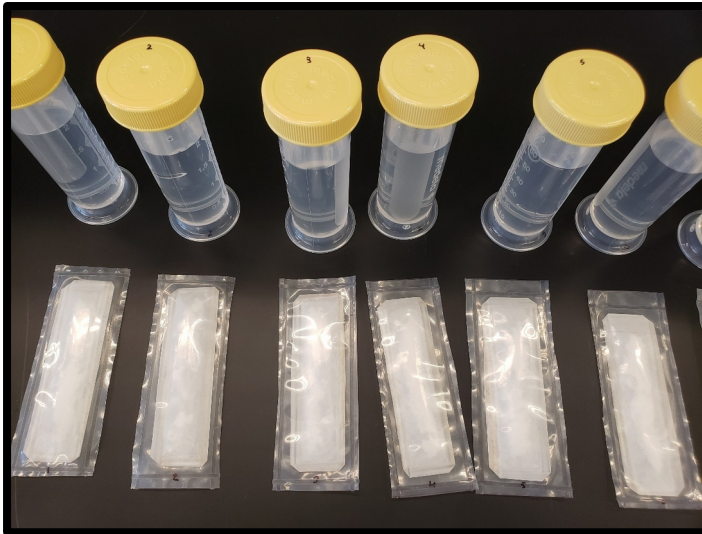


# Using Membranes to Help Premature Babies



Client: Mother's Milk is Best, Inc.  
Location: Boston, MA

We are developing new membrane devices that will gently dewater human breastmilk so that it can be ingested by premature babies.

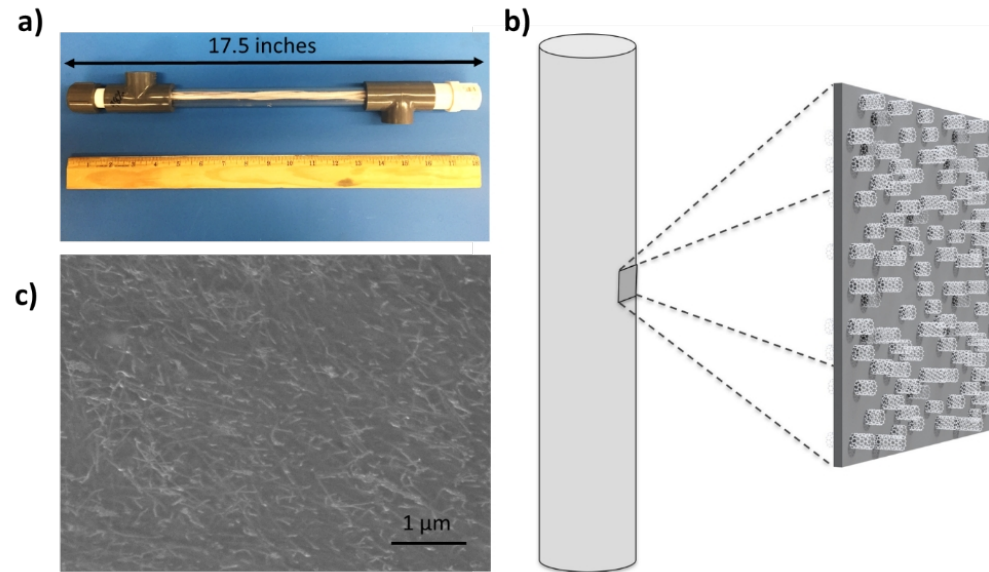


# Capturing Carbon Dioxide to Make Fuel



Client: U.S. Department of Energy

- \$876k Project on ethanol purification
- Collaboration with two startup companies (Mattershift, Prometheus)
- Recently demonstrated extracting 80% ethanol mixtures from 10% solutions

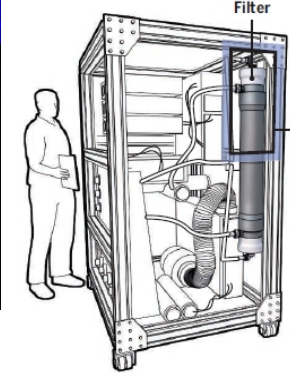


SCIENCE ADVANCES | RESEARCH ARTICLE

MATERIALS SCIENCE

Large-scale polymeric carbon nanotube membranes with sub-1.27-nm pores

Robert L. McGinnis,<sup>1</sup> Kevin Reimund,<sup>1,2</sup> Jian Ren,<sup>2</sup> Lingling Xia,<sup>2</sup> Maqsd R. Chowdhury,<sup>2</sup> Xuanhao Sun,<sup>2</sup> Maritza Abril,<sup>2</sup> Joshua D. Moon,<sup>3</sup> Melanie M. Merrick,<sup>3</sup> Jaesung Park,<sup>3</sup> Kevin A. Stevens,<sup>3</sup> Jeffrey R. McCutcheon,<sup>2</sup> Benny D. Freeman<sup>3\*</sup>



## QUEST FOR FIRE

Rob McGinnis aims to use renewable energy to turn carbon dioxide and water into gasoline

By Robert F. Service, in San Francisco, California; Photography by LiPo Ching