David Jassby
Assistant Professor of Chemical and Environmental Engineering
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Education

Hebrew University	Biology	B.S., 2002
UC Davis	Environmental Engineering	M.S., 2005
Duke University	Environmental Engineering	Ph.D., 2011
Duke University	Environmental Engineering	Post-doctoral, 2012

Academic Experience

2012. University of California, Riverside. Assistant Professor, Department of Chemical and Environmental Engineering, Bourns College of Engineering.

Awards

National Science Foundation CAREER Award	2016
University Honors Faculty Mentor of the Year	2015
American Chemical Society Doctoral New Investigator Award	2014
Senol Utku Award – High Distinction	2011
Jeffery B. Taub Environmental Engineering Graduate Student Award	2010
California Lake Management Society Scholarship	2004

Professional Accreditation

Professional Engineer (still need to take Seismic Principles and Surveying exams), California 2013

Publications

1. Tran, Q. K.; Schwabe, K. A.; Jassby, D., Wastewater Reuse for Agriculture: A Development of a Regional Water Reuse Decision-Support Model (RWRM) for Cost-Effective Irrigation Sources. *Environmental Science & Technology* **2016**.
2. Ronen, A.; Walker, S. L.; Jassby, D., Electroconductive and electroresponsive membranes for water treatment. *Reviews in Chemical Engineering* **2016**.
3. Lu, L.; Hou, D.; Wang, X.; Jassby, D.; Ren, Z. J., Active H2 Harvesting Prevents Methanogenesis in Microbial Electrolysis Cells. *Environmental Science & Technology Letters* **2016,** *3*, (8), 286-290.
4. Jassby, D.; Slade, A., Affordable, Flexible, and Modular: A Guide to Open-Source Membrane-Based Water Treatment Systems. *Environmental Science: Water Research & Technology* **2016**.
5. Duan, W.; Ronen, A.; Walker, S. L.; Jassby, D., Polyaniline-Coated Carbon Nanotube Ultrafiltration Membranes: Enhanced Anodic Stability for In Situ Cleaning and Electro-Oxidation Processes. *ACS Applied Materials & Interfaces* **2016**.
6. Duan, W.; Ronen, A.; de Leon, J. V.; Dudchenko, A.; Yao, S.; Corbala-Delgado, J.; Yan, A.; Matsumoto, M.; Jassby, D., Treating Anaerobic Sequencing Batch Reactor Effluent with Electrically Conducting Ultrafiltration and Nanofiltration Membranes for Fouling Control. *Journal of Membrane Science* **2016**.

7. Ronen, A.; Duan, W.; Wheeldon, I.; Walker, S.; Jassby, D., Microbial Attachment Inhibition through Low-Voltage Electrochemical Reactions on Electrically Conducting Membranes. *Environmental science & technology* **2015,** *49*, (21), 12741-12750.
8. Dudchenko, A. V.; Rolf, J.; Shi, L.; Olivas, L.; Duan, W.; Jassby, D., Coupling Underwater Superoleophobic Membranes with Magnetic Pickering Emulsions for Fouling-Free Separation of Crude Oil/Water Mixtures: An Experimental and Theoretical Study. *ACS Nano* **2015,** *9*, (10), 9930-9941.
9. Chae, S.-R.; Noeiaghaei, T.; Jang, H.-C.; Sahebi, S.; Jassby, D.; Shon, H.-K.; Park, P.-K.; Kim, J.-O.; Park, J.-S., Effects of natural organic matter on separation of the hydroxylated fullerene nanoparticles by cross-flow ultrafiltration membranes from water. *Separation and Purification Technology* **2015,** *140*, 61-68.
10. Jassby, D.; Xiao, Y.; Schuler, A., Biomass density and filament length synergistically affect activated sludge settling: Systematic quantification and modeling. *Water research* **2014,** *48*, 457-465.
11. Dudchenko, A. V.; Rolf, J.; Russell, K.; Duan, W.; Jassby, D., Organic fouling inhibition on electrically conducting carbon nanotube–polyvinyl alcohol composite ultrafiltration membranes. *Journal of Membrane Science* **2014,** *468*, 1-10.
12. Duan, W.; Dudchenko, A.; Mende, E.; Flyer, C.; Zhu, X.; Jassby, D., Electrochemical mineral scale prevention and removal on electrically conducting carbon nanotube–polyamide reverse osmosis membranes. *Environmental Science: Processes & Impacts* **2014,** *16*, (6), 1300-1308.
13. Sahoo, G.; Nover, D.; Schladow, S.; Reuter, J.; Jassby, D., Development of updated algorithms to define particle dynamics in Lake Tahoe (CA-NV) USA for total maximum daily load. *Water Resources Research* **2013,** *49*, (11), 7627-7643.
14. de Lannoy, C.-F.; Jassby, D.; Gloe, K.; Gordon, A. D.; Wiesner, M. R., Aquatic biofouling prevention by electrically charged nanocomposite polymer thin film membranes. *Environmental science & technology* **2013,** *47*, (6), 2760-2768.
15. Jassby, D.; Farner Budarz, J.; Wiesner, M., Impact of aggregate size and structure on the photocatalytic properties of TiO2 and ZnO nanoparticles. *Environmental science & technology* **2012,** *46*, (13), 6934-6941.
16. de Lannoy, C.-F.; Jassby, D.; Davis, D.; Wiesner, M., A highly electrically conductive polymer–multiwalled carbon nanotube nanocomposite membrane. *Journal of Membrane Science* **2012,** *415*, 718-724.
17. Jassby, D.; Wiesner, M., Characterization of ZnS nanoparticle aggregation using photoluminescence. *Langmuir* **2011,** *27*, (3), 902-908.
18. Jassby, D.; Chae, S.-R.; Hendren, Z.; Wiesner, M., Membrane filtration of fullerene nanoparticle suspensions: Effects of derivatization, pressure, electrolyte species and concentration. *Journal of colloid and interface science* **2010,** *346*, (2), 296-302.
19. Schuler, A. J.; Jassby, D., Distributed state simulation of endogenous processes in biological wastewater treatment. *Biotechnology and bioengineering* **2007,** *97*, (5), 1087-1097.
20. Schuler, A. J.; Jassby, D., Filament content threshold for activated sludge bulking: Artifact or reality? *Water research* **2007,** *41*, (19), 4349-4356.

Book Chapters

1. Jassby, D.; Xiao, Y.; Gondikas, A.; Wiesner, M., The Role of Advanced Technologies in Tapping Unconventional Texas Waters. In Water Policy in Texas: Responding to the Rise of Scarcity, Griffin, R. C., Ed. Rff Press: **2010**.

Funded Research Projects

1. Anaerobic sequencing batch membrane bioreactor with electrically conducting nanofiltration membranes for recalcitrant organic contaminant degradation (PI); US Air Force Center for Engineering and the Environment; 10/1/2013 – 09/31/2015 (Expired); $401,000
2. Enhanced oil recovery from oil-in-water emulsions through the coupling of magnetic amphiphilic nanoparticles with electrofiltration (PI); American Chemical Society Petroleum Research Fund – Doctoral New Investigator Award; 08/1/2014 – 08/31/2016 (Expired); $110,000
3. Coupling ferromagnetic particles and electrically conducting carbon nanotube-polymer composite ultrafiltration membranes for fouling-free oil/water separations (PI); Office of Naval Research; 08/1/2014 – 07/31/2017; $400,000
4. Fouling-resistant membranes for treating produced waters for beneficial reuse in advanced energy systems (co-PI; with RTI International); US Department of Energy; 10/1/2014 – 09/31/2016 (Expired); $80,000 for UCR
5. Enhanced oil recovery from oil-seawater mixtures through the coupling of magnetic nanoparticles and electrically conducting ultrafiltration membranes (PI; with RTI International); US Department of Interior; 11/1/2014 – 10/31/2015 (Expired); $509,000
6. Enhanced Resilience of Local Agricultural Water Supplies through the Reuse of Municipal and Agricultural Wastewater: A Dynamic Analysis of Technological and Policy Options (co-PI with Dr. Kurt Schwabe, UCR); US Department of Agriculture; 1/1/2015 – 12/31/2016; $150,000
7. A Forensic Approach Towards Biofilm Management (co-PI with Dr. Sharon Walker, UCR); National Science Foundation; 3/1/2015 – 2/28/2018; $315,000
8. Graphene Nanoparticle Electrocatalytic and Functional Membranes for Water Treatment (PI); U.S.-Israel Binational Science Foundation; 10/1/2015 – 9/31/2019; $86,000
9. Membrane Distillation for Desalination of Impaired Water using Geothermal Energy (co-PI; Subcontractor to NREL); Department of Energy; 03/1/2016 – 02/28/2018; $430,000
10. Biological-thermochemical biomass processing with membrane separation: a conversion of dairy effluents into distilled water and nutrients (co-PI with Dr. Sharon Walker, UCR); US Department of Agriculture; 1/1/2016 – 12/31/2018; $150,000
11. CAREER: Beyond Condensation Reactions and Polymer Casting: New Water Treatment Membrane Materials Through Electropolymerization (PI); National Science Foundation; 07/1/2016 – 06/31/2021; $547,000
12. Recovery of Water, Energy, and Nutrients from Food Processing Wastewater using Electrochemical Membrane Bioreactors (PI with Dr. Jason Ren (UC Boulder) and Dr. Mike Massey (CSU East Bay)); US Department of Agriculture; 1/1/2017 – 05/31/2019; $480,000

Service Activities

Outreach and Educational Activities

1. RCC military veteran mentoring and research opportunities in the Jassby lab at UC Riverside
2. UCR Undergraduate mentoring and research opportunities in the Jassby lab at UC Riverside.
3. NanoDays outreach activity at Marbles Children's Museum in Raleigh, NC.
4. Mentoring of undergraduate and high-school students through CEINT at Duke University.

Conferences and Symposium Organizor

1. ACS 87th Colloid and Surface Science Symposium, 6/13, UC Riverside
2. ACS 246th National Meeting, Division of Environmental chemistry, Session on Membranes for Water Purification, Fall 2013, Indianapolis
3. NAMS 24th Annual Meeting, Session on Electrically Enhanced Membrane Operations, Spring, 2014
4. ACS 248th National Meeting, Division of Environmental Chemistry, Session on Reactive Membranes and Surfaces in Water Treatment, Fall 2014, San Francisco
5. ACS 250th National Meeting, Division of Environmental chemistry, Session on Sensing of Environemntal Contaminants, Fall 2015, Boston
6. NAMS 26th Annual Meeting, Session on Polymeric and Organic Membranes, Spring, 2016
7. ACS 251st National Meeting, Division of Environmental Chemistry, Session on Membrane Technology for Water-Energy Sustainability, Spring 2016, San Diego

Publication Reviewer

Reviewer for *Environmental Science and Technology*, *Water Research, Jounal of Colloid and Interface Science, Water Environment Research, Journal of Membrane Science, Scientific Reports, Environmental Science and Technology Letters, ACS Nano*

Student Advising

Post-Doctoral Advisor
Li Tang
Thesis Advisor (PhD)
Alexander Dudchenko
Xiaobo Zhu
Caroline Kim
Quynh Tran
Unnati Rao