

Scott J. Satinover

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Education:

University of Colorado at Boulder, Boulder, CO

Bachelor of Science in Mechanical Engineering, Minor in Applied Mathematics, December 2012
Master of Science in Mechanical Engineering, December 2012

Publications:

Borole, A., Satinover, S., & Tsouris, C. (2018, March). Use of microbial electrolysis cells for produced water treatment. In *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY* (Vol. 255). 1155 16TH ST, NW, WASHINGTON, DC 20036 USA: AMER CHEMICAL SOC.

Park, L. K.-E., Satinover, S. J., Yiacomini, S., Mayes, R. T., Borole, A. P., & Tsouris, C. (2018). Electrosorption of organic acids from aqueous bio-oil and conversion into hydrogen via microbial electrolysis cells. *Renewable Energy*, 125, 21–31. <https://doi.org/10.1016/j.renene.2018.02.076>

Satinover, S. J., Dove, J. D., & Borden, M. A. (2014). Single-Particle Optical Sizing of Microbubbles. *Ultrasound in Medicine & Biology*, 40(1), 138–147. <https://doi.org/10.1016/j.ultrasmedbio.2013.08.018>

Work Experience:

University of Tennessee at Knoxville Knoxville, TN

Bredesen Center Fellow – PhD Student (August 2016 – present)

- Investigating bioelectrochemical reactors and its applications on complex aqueous wastes with Dr. Abhijeet Borole. Products from reactors include electricity and hydrogen.
- Construct and manage bioelectrochemical cells. Troubleshoot any irregularities in performance by monitoring current production, voltage, and cathode gas production when applicable.
- Utilize high performance liquid chromatography (HPLC), gas chromatography (GC), electrochemical impedance spectroscopy (EIS), cyclic voltammetry (CV), and chronoamperometry (CA) via potentiostat, and concepts of anaerobic digestion to investigate and operate reactors.

Oak Ridge National Lab Oak Ridge, TN

Summer Internship (June 2016 – August 2016)

- Worked with the Global Security Directorate under Dr. John O’Neil to determine how to meet the needs of the Department of Defense 2016 Operational Energy Strategy as applied to the Navy.
- Investigated current and potential use of renewable energy sources, focusing on nuclear power applications in ships and pyrolysis bio-oil fuel substitutions, and their shortcomings.
- Submitted a report on proposed strategy and provided a presentation as deliverables.

Halliburton Energy Services Hobbs, NM

Technical Professional – Production Enhancement (June 2014 – June 2016)

- Perform routine QA and prejob set up before hydraulic fracturing treatment begins.
- Interface with customers and technical advisors in order to assure job specifications are met and to make any treatment changes in real time.
- Monitor conditions of fracturing job using IFS software and troubleshoot any causes for error or substandard performance.
- Document treatments and performance highlights using Microsoft Office and IFS software.
- Helped lead an inexperienced crew from 2014-2015. With this crew, secured work with new clients after becoming the most efficient crew in the district for the month of April 2015.

Associate Technical Professional – Production Enhancement (June 2013 – June 2014)

University of Colorado at Boulder Boulder, CO

Research Assistant (January 2012 – March 2013)

- Modeled light scattering effects on lipid coated microbubbles with to Dr. Mark Borden using Matlab and Mathematica.
- Used phospholipid and synthetic surfactants to create colloidal systems for measurement and analysis.
- Measured microbubbles via Coulter Counter, AccuSizer, and flow cytometry.

Teaching Assistant (January 2011 – December 2012)

- Aided students through CU's Manufacturing, Mechanics, and Matlab studies course with grading/office hours. Led several lectures and lab sessions.

Mentoring Through Critical Transition Points Researcher (January 2010 – January 2011)

- Research concept involved modeling and analyzing partial differential equations relating to observed water waves. Involved extensive use of Mathematica and Matlab software. Provided biannual technical reports and presentations to faculty on research progress.

Nestle Dreyer's Ice Cream Laurel, MD

Project Engineering Management Intern (June 2011 – August 2011)

- Oversaw two plant projects totaling in \$200k worth in capital expenditure.
- Researched ingredient material properties, OSHA regulations, and plant piping and instrumentation diagrams to organize plans for an access platform and new variegate pump installation.
- Negotiated options and prices with contractors.
- Participated in engineering team discussions to develop project proposals and options.

Awards:

Halliburton Energy Services Hobbs, NM

Applause Award (November 2013)

University of Colorado at Boulder Boulder, CO

Active Learning Award (December 2012)

- Awarded to individuals that perform research, volunteer service, and gain industry experience while a student at the University of Colorado

Cum Laude (December 2012)

Mechanical Engineering Senior Design Course & Expo – 3rd place award (May 2011)

Integrated Teaching and Learning Laboratory (ITLL) Expo – Viewers Choice award (May 2011)

Activities:

Pi Kappa Phi Member (April 2018 – present)

Ask a Scientist, Daily Beacon Column Founder and Columnist (March 2017 – present)

- Write and edit weekly columns for the university's student newspaper: The Daily Beacon
- Participate in science outreach demonstrations in downtown Knoxville.

FIRST Lego League Volunteer (December 2016 – present)

- Volunteer head project judge for Knoxville qualifiers

Habitat for Humanity Volunteer (September 2016 – present)

- Construct affordable housing with oversight from supervisors.
- Experience working with cabinets, baseboards, vinyl siding, interior walls, exterior walls, and painting