

# Ian Avery Bick

---

## Education:

Current: Stanford University  
M.S. Environmental Engineering & Science  
**GPA: 3.73/4.00**

Past: University at Buffalo, SUNY  
B.S. Environmental Engineering 2014  
**GPA: 3.56/4.00**

## Contact:

Cell Phone: (518) 605-9810  
Email: ianbick@stanford.edu

**GRE:** August 2013  
Verbal Reasoning: 163, 93<sup>rd</sup> Percentile  
Quantitative Reasoning: 162, 81<sup>st</sup> Percentile

## Research

**Stanford University Bio-X Center – Lab of Dr. Alfred Spormann,**  
**Research Associate**

Stanford, CA

May 2016 – Current

- Investigating the impacts of electron donor and electron acceptor starvation on *dehalococcoides*, a unique slow-growing bacteria which dechlorinates common toxic halocarbons: TCE, DCA, and vinyl chloride.
- Utilizing flow cytometry, gas chromatography, and live/dead DNA staining techniques to determine impacts to community and initial halocarbon degradation rate after induced starvation in *dehalococcoides*.
- Analyzing possible electron donor pathways and community interaction in order to improve resuscitation of this bacteria for field remediation purposes and elimination of chlorinated solvents at superfund sites.

**University at Buffalo Biological Sciences – Lab of Dr. Mary Bisson**  
**Independent Researcher**

Buffalo, NY

September 2012 – June 2014

- Won University funding for an independent experiment analyzing feasibility of the macroalgae *Chara australis* for bioremediation of lake sediments contaminated with heavy metals such as lead and cadmium.
- Collected contaminated sediment for use as growth medium from a former Buffalo River Superfund site with aid of local Department of Environmental Conservation official.
- Maintained experimental *Chara* growth tanks and measured growth rates and Cd uptake efficiency, adsorbed cadmium in the shoots was found utilizing the Chemistry Department's ICP mass spectrometer.

**Virginia Tech Biological Systems Engineering – Lab of Dr. Cully Hession**  
**StREAM REU Research Fellow**

Blacksburg, VA

June 2013 – August 2013

- Applied knowledge of biological processes and fluid mechanics to design and construct a lab-scale denitrifying bioreactor (DNBR) system, testing potential application for the local Stroubles Creek.
- Examined the effects of multiple carbon substrates on the nutrient removal rates of DNBR systems.
- Sampled and analyzed water from 20 local streams and springs for total nitrogen, phosphorus, and carbon to estimate the influent loads that a field DNBR system would incur.

## Engineering and Sustainability

**Stanford University Sustainable Urban Systems Initiative**  
**Research Associate**

Stanford, CA

April 2017 - Current

- Serving as a teaching assistant for a sustainable design studio course during the 2017-2018 school year, instructing students on technical aspects of ArcMap and Python and using these tools to process large datasets to facilitate student group work towards final presentations for the Resilient By Design challenge.
- Drafted research paper with professor from IIT Bombay on using open-source geographic information system (GIS) data to measure urbanization effects on flood risk and environmental services.
- Developed a relative flood risk model for Distrito Tec in Monterrey, Mexico and presented results to development officials in Monterrey along with other SUS student researchers.

## **CH2M Hill**

**Water Treatment Engineer**

Manhattan, NY

June 2014 – August 2015

- Engineered conceptual chemical and pumping facilities for wastewater treatment plant upgrade scenarios in New York City, focusing on nitrogen removal for protection of local water bodies.
- Performed field sampling and lab analysis of wastewater at several treatment plants across New York City. Summarized collected data in spreadsheets for transmittal to the project manager.
- Examined engineering and construction drawings to develop cost estimates for potential plant upgrades, as well as exhaustive upgrade equipment lists.

**Covanta Babylon Waste-to-Energy Facility**  
**New York State Department of Environmental Conservation Intern**

West Babylon, NY  
May 2012 – August 2012

- Developed feasibility and cost-benefit analyses for sustainability initiatives, including use of soybean biofuel in front-end loaders, anti-idling engine retrofits, motion controls for lighting, and skylight installation.
- Assisted in pollution oversight through New York's Title V Air Permits by organizing emissions spreadsheets and identifying periods of non-compliance and their cause.
- Presented findings at the DEC headquarters in Albany, NY to professional engineers and state officials.

**University at Buffalo Office of Sustainability**  
**Lead Sustainability Intern**

Buffalo, NY  
January 2012 – May 2012

- Analyzed University's energy-usage and waste-generation portfolios to extract statistics related to the AASHE Stars ([stars.aashe.org](http://stars.aashe.org)) sustainability analysis of the university, which is now a benchmark for the University's Climate Neutrality Plan.
- Organized and attended meetings with high-level University officials to collect data concerning the campus' sustainability in various aspects, including operations, administration, education and research.
- Served as a liaison between student groups collecting data and the university faculty overseeing the project, ensuring that concerns were addressed from both groups.

**Memberships and Honors**

---

• **Scholarships Awarded By:**

- American Council of Engineering Companies
- Soil and Water Conservation Society
- American Water Works Association
- SEFCU Community Scholar Program
- SUNY Buffalo – Office of Provost
- SUNY Buffalo – Study Abroad Office
- SUNY Buffalo – Engineering Department

• **Other Awards and Memberships:**

- Undergraduate Magna Cum Laude Academic Honors
- National Science Foundation Virginia Tech Stream Research Fellowship
- SUNY Buffalo Undergraduate Independent Research Grant
- NY Soil and Water Conservation Society Member

**Service, Leadership, and Extracurricular**

---

**Advisory Panel on Investment Responsibility & Licensing**, Stanford University November 2017 – Current

- Interviewed by Board of Trustees secretary and selected for the panel to represent student viewpoints.
- Tasked with re-evaluating the University's divestment procedures to ensure more timely processing of divestment requests and reporting to the Board of Trustees with recommendations.
- Meeting with student divestment groups concerning fossil fuels, private prisons, and Palestine to take note of their experiences with previous requests, and how they think the process could be improved upon.

**Engineering Academic Assistant**, University at Buffalo

January 2013 – May 2013

- Chosen to live in dorms with engineering freshman to provide tutoring services, office hours and academic advice through one-on-one meetings as well as educational programming.
- Teamed with other residential staff to provide a productive and safe environment for first-year students.
- Interviewed and evaluated prospective candidates for multiple residential life positions.

**Louisiana Wetlands Alternative Winter Break**, Chauvin, LA

January 2012

- Performed a wetland restoration project involving wave mitigation from ships on coastal and brackish plant life through use of recycled Christmas trees.
- Learned firsthand from environmental scientists and LA residents about wetland destruction, invasive species, and the need for large-scale engineering projects to protect this endangered area.

**Engineering Student Assistant**, University at Buffalo

August 2011 – May 2013

- Selected to serve as a paid assistant for two freshman engineering classes. Graded quizzes, aided in lectures, and answered student questions in person and through email.
- Guided 3 lab groups, assisting with conceptual and design projects relating to comparing alternative energy sources through life-cycle analysis.

**Skills and Interests**

---

- Proficient in Python, ArcGIS, Microsoft Office Suite, Adobe Creative Suite, Logic, and Ableton Suite
- Practiced electric bassist, sound technician, music producer, and performing musician