

# LAUREN GILBERT

LaurenGilbert@utexas.edu

512-913-0910

---

## Education

### PhD Chemical Engineering

University of Texas at Austin

August 2015-Present

### B.S./M.S. Chemical Engineering Summa cum Laude

University of Oklahoma, Norman, OK  
Minor in Mathematics, Minor in Chemistry  
Overall GPA 3.97, Master's GPA 3.75

May 2014/August 2015

## Research Experience

### PhD Dissertation Research

Synthesis and characterization of colloidal semiconductor nanocrystals under Dr. Delia Milliron

Fall 2015-Present

- Investigated methods to synthesize colloidal vanadium dioxide particles
- Developed understanding for manufacturing and processing with mixed nanocrystal films containing vanadia
- Gained proficiency in classical Schlenk line techniques, colloidal nanocrystal synthesis, TEM, SEM, powder XRD, Raman spectroscopy, TGA
- Gained more experience with FTIR, UV-vis-NIR
- Learned lab management skills through coordinating group purchases, installing new equipment, and teamwork with several group members

### Master's Thesis Research

Heterogeneous Catalysis DFT Modeling Researcher under Dr. Bin Wang

Fall 2014-Summer 2015

- Thesis: "DFT Study of Transition Metal Chalcogenides as Catalysts for the Hydrogen Evolution Reaction"
- Modeled catalyst surface behavior of molybdenum disulfide for hydrogen evolution reaction
- Gained proficiency using Unix systems and molecular modeling software

### Undergraduate Independent Research

Heterogeneous Catalysis Experimental Researcher under Dr. Friederike Jentoft

Fall 2012-Spring 2014

- Independently developed experimental procedures for safe, informative investigations
- Analyzed kinetic and surface chemistry data to gain insights on catalysis with mordenite and sulfated zirconia
- Gained proficiency in generating and analyzing FTIR, UV-Vis-NIR, GC-MS data
- Presented results to specialized research groups, e.g., catalysis, biofuels

## Publications

R. W. Johns, L. C. Gilbert, H. A. Bechtel, D. J. Milliron. "Metal to insulator transition intermediates in nanocrystals of VO<sub>2</sub>." (in preparation)

## Research Mentorship and Teaching Experience

### Engineering Economic Decisions

Teaching Assistant of Dr. C. T. Sciance, University of Texas at Austin

- Graded 10 homework assignments and 4 tests for 70 enrolled students
- Proctored four exams to 70 students
- Held one office hour weekly, and by appointment

### Chemical Engineering Design Laboratory, Fall 2014

Teaching Assistant of Dr. M. U. Nollert, University of Oklahoma

- Maintained equipment and provided necessary materials to one lab section containing 20 students
- Supervised and mentored 20 students in this lab section for one 5-hour lab session weekly

### Chemical Engineering Unit Operations Laboratory, Spring 2014

Teaching Assistant of Dr. M. U. Nollert, University of Oklahoma

- Maintained equipment and provided materials to one lab section containing about 20 students
- Supervised and mentored those 20 students for one 5-hour lab session weekly

## Awards and Fellowships

T.W. Whaley, Jr. Friends of Alec Endowed Fellowship

Spring 2016-Summer 2016

Gary and Teresa Binning Engineering Fellowship

Fall 2015

Outstanding Senior, School of Chemical, Biological, and Materials Engineering

Spring 2014

Outstanding Returning Dean's Leadership Mentor

Spring 2014

Outstanding Junior Researcher

Spring 2013

Program of Excellence Undergraduate Research Scholarship

Spring 2013-Fall 2013

ConocoPhillips SPIRIT Scholarship	Fall 2012-Spring 2014
Chevron Phillips Program Mentorship	Fall 2012-Spring 2013
Sooner Engineering Education Center Scholarship	Spring 2012-Fall 2012
NASA Women in Science Conference 2011 Fellowship	Fall 2011
Mildred Phillips Kerr Program of Excellence Scholarship	Fall 2011-Spring 2014
National Merit University of Oklahoma Scholarship	Fall 2010-Spring 2015
Oklahoma Regents Scholarship	Fall 2010-Spring 2014

### Internship Experience

#### Center for the Creation of Economic Wealth Projects

- **Team Leader and Design Engineer for ToeTronics** Spring 2015
  - Led interdisciplinary team of four engineers in creating a novel medical measurement device
  - Gained experience in rapid prototyping techniques including machining, experiential prototyping
  - Tested intermediate prototypes in realistic market testing scenarios
  - Created a device being used by health professionals at the OU Health Sciences Center to help treat cancer
- **Marketing Analyst and Engineer at Lawrence Livermore National Laboratory** Summer 2014
  - Conducted cold calls to gauge market problems and interest
  - Worked closely with a small, diverse team of business and engineering students
  - Gained exposure to startup environment in California's Bay Area
- **Co-Inventor and Engineer at Levaté, LLC** Spring 2014
  - Worked with diverse team of engineers from varying disciplines
  - Created a wheelchair accessory device to help improve mobility for users of wheelchairs
  - Gained experience with field marketing, cold calling, experiential prototyping, presenting to investors
- **Co-Inventor and Marketing Analyst at Siren, LLC** Fall 2013
  - Worked on diverse team of business, science, and engineering majors to build a novel software package
  - Ideated and built a software package for predicting weather impact on long distance truck routes
  - Built functional business relationships with professionals from software, trucking, meteorology industries

#### Lauderdale Environmental Engineering, Engineering Intern

Summer 2011, Summer 2012

- Streamlined company database and storage
- Designed and built sustainable outdoor features
- Conducted scientific research for specific cases
- Conducted field interviews of clients

### International Experience

#### Disruptive Technologies Ideation

Arezzo, Italy

June 21 to July 21, 2012

- Studied revolutionary and incremental innovation business models

### Computer Skills

Experienced in use of VASP, Accelrys Materials Studio, VMD, OriginLab software, WaveMetrics Igor Pro

Proficient programmer in Java, VBA, MathCAD, Polymath

Experienced with Microsoft Office suite including Excel, Word, Publisher, Powerpoint

### Clubs and Involvement

#### NASCENT Center

Researcher, Spring 2016-present

- Attended 2016 annual NSF funding meeting in Albuquerque, NM
- Attending and contributing to weekly student seminars on semiconductor manufacturing research
- Volunteer for Introduce a Girl to Engineering Day NASCENT exhibit

#### McKetta Department of Chemical Engineering Graduate Leadership Council

Recruitment Chair, Fall 2016-Fall 2017

- Coordinate vendors, new recruits, existing students and faculty during recruitment events
- Contributed creative recruitment weekend event ideas

#### McKetta Department of Chemical Engineering Graduate Leadership Council

Public Relations Chair, Fall 2015-Fall 2016

- Created and maintained Twitter and Facebook page
- Updated social media to publicize council events
- Published meeting minutes and council deliverables to council members and relevant external parties

#### Materials Research Society University of Texas Chapter

Member, Fall 2015-present

- Volunteered for Environmental Science Institute Interactive Community Science Fair Oct. 16

#### University of Oklahoma Dean's Leadership Council

Mentor, Recruitment Chair, Fall 2012-Spring 2014

- Helped freshman and transfer engineering students connect to a new campus
- Coordinated group events for mentors and freshmen
- Served as teaching assistant for introductory engineering classes

**Science Museum Oklahoma**

Exhibitor, Spring 2013

- Ran demonstrations with liquid nitrogen at science fair for Oklahoma middle school students

**ConocoPhillips SPIRIT Scholars Program**

Fall 2012-Spring 2013

- Painted low income housing with Rebuilding Together OKC
- Gathered donated food supplies with the Oklahoma Food Bank

**Sooner Engineering Education Center**

Mentor, Spring 2012-Fall 2012

- Designed science and engineering activities for K12 students
- Led K12 science experiences
- Initiated outreach to local K12 groups