

Justin Tran

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EDUCATION

Ph.D. Chemical Engineering

August 2018-Present

University of Colorado-Boulder, Boulder, Colorado

GPA: 3.96/4.00

Honors Bachelor of Science—Double Major: Chemical Engineering and Sustainability June 2017

Oregon State University, Corvallis, Oregon

GPA: 3.99/4.00, *summa cum laude*

RESEARCH EXPERIENCE

University of Colorado Boulder – Graduate Research Assistant

Dr. Alan Weimer, Department of Chemical and Biological Engineering

January 2019 – Present

- Conduct theoretical and experimental solar to fuel efficiency studies using Matlab and CU Boulder's high flux solar simulator (HFSS)
- Develop new materials for solar thermal water splitting using experimental setups
- Determine kinetic models for water splitting materials via redox reactions
- Acquired skills in Field Emission Scanning Electron Microscope (FESEM) and Labview

Oregon State University – Research Assistant

Dr. Nick AuYeung, School of Chemical, Biological, and Environmental Engineering

January 2015 – June 2017

- Explored different synthesis methods for solar thermochemical energy storage materials
- Managed lab equipment by setting up equipment calendars and creating standard operating procedures
- Acquired skills in thermogravimetric analysis (TGA), differential scanning calorimetry (DSC), and x-ray diffraction (XRD)

Portland State University – Research Assistant

Dr. David Stuart, Department of Chemistry

June 2014 – August 2014

- Optimized reactions to form pharmaceutical precursors in more efficient and greener conditions
- Assisted graduate students by preparing starting material and analyzing samples
- Acquired skills in nuclear magnetic resonance (NMR), liquid-liquid extraction, and column chromatography

Oregon State University – Research Assistant

Dr. Andrey Morgun, College of Pharmacy

October 2013 – June 2014

- Developed an algorithm using R to study changes in gene co-expression network for cervical cancer
- Participated in weekly lab meetings and journal clubs to discuss latest findings in bioinformatics

PUBLICATIONS (*indicates principle author(s))

1. Bagherisereshki, E.*; **Tran, J.***; Lei, F.; AuYeung, N. Investigation into SrO/SrCO₃ for high temperature thermochemical energy storage. *Sol. Energy* **2018**, *160*, 85 - 93.

ACKNOWLEDGEMENTS

1. Seidl, T. L.; Sundalam, S. K.; McCullough, B.; Stuart, D. R. Unsymmetrical Aryl(2,4,6-trimethoxyphenyl)iodonium Salts: One-Pot Synthesis, Scope, Stability, and Synthetic Studies. *J. Org. Chem.* **2016**, *81*, 1998 - 2009.

POSTER PRESENTATIONS

1. **Tran, J.**; AuYeung, N. Incorporation of polymorphic spacers to inhibit sintering of SrO/SrCO₃ for thermochemical energy storage. *Presented at Energy Storage 2017*, Oregon State University, Corvallis, OR, November 6, 2017. (Second Place)
2. **Tran, J.**; AuYeung, N. Incorporation of polymorphic spacers to inhibit sintering of SrO/SrCO₃ for thermochemical energy storage. *Presented at University Honors College Thesis Poster Fair*, Oregon State University, Corvallis, OR, June 2, 2017.
3. **Tran, J.**; Bagherisereshi, E.; AuYeung, N. Carbon dioxide shuttling thermochemical storage using strontium carbonate. *Presented at Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) 31st Annual Career Fair and Training Conference*, Jacksonville, FL, April 1, 2016.
4. **Tran, J.**; Bagherisereshi, E.; AuYeung, N. Carbon dioxide shuttling thermochemical storage using strontium carbonate. *Presented at 2015 American Institute of Chemical Engineers (AIChE) Annual Student Conference*, Salt Lake City, UT, November 9, 2015. (Second Place)
5. **Tran, J.**; Seidl, T. L.; Stuart, D. R. Optimization of the synthesis of Koser's reagent using electron deficient arenes. *Presented at 2014 AIChE Annual Student Conference*, Atlanta, GA, November 17, 2014.

CONFERENCE PROCEEDINGS

1. Bagherisereshki, E.; **Tran, J.**; Chen, C.; Li, L.; and AuYeung, N. Carbonation Kinetics of SrO By CO₂ for Solar Thermochemical Energy Storage. *Proceedings of the 2015 AIChE Annual Meeting*, Salt Lake City, UT, November 2015.

THESES

1. **Tran, J.** Incorporation of polymorphic spacers to inhibit sintering of SrO/SrCO₃ for thermochemical energy storage. Bachelor of Science Honors Thesis, Oregon State University, Corvallis, OR, June 2, 2017.

WORK EXPERIENCE

enerG2 Technologies, a subsidiary of BASF – Process Engineering Intern

January 2018 – June 2018

- Collaborated with manufacturing team, from operators to lab technicians, to improve process throughput, cost, quality, and process safety
- Managed contractors to install new equipment and improve current capabilities of the process
- Created and maintained Piping and Instrumentation Diagrams (P&IDs), Process Flow Diagrams (PFDs), and Piping Diagram Schematics (PDSs) library for all process equipment and pipes

Jacobs (formerly CH2M Hill) – Process Engineering Intern

June 2017 – December 2017

- Updated and expanded design tools using fluid modeling programs and VBA
- Assisted engineers on conceptual and detailed designs for the microelectronics industry
- Interfaced with other disciplines within the company, project management, contractors, and the client to provide fully coordinated projects
- Supported field construction efforts, including reviewing submittals, responding to questions from the client and contractors, and performing field walks

Siltronic AG – Line Engineering Intern

March 2016 – September 2016

- Applied knowledge of entire manufacturing processes, from slicing to polishing, to reduce losses of silicon wafers
- Executed improvement projects to continuously improve line yield, process capability, and reduce costs
- Resolved issues affecting process line in a promptly manner to achieve line yield targets
- Transferred final visual inspection to automated inspection, resulting in \$10,000 savings per year

VOLUNTEER EXPERIENCE

University of Colorado Boulder SMART Program

May 2019 – Present

- Serve as a graduate peer mentor to summer SMART interns to provide feedback on their proposal and poster while being a resource for research and graduate school

University of Colorado Boulder STEM Routes

January 2019 – Present

- Work with other graduate students to plan workshop and mentoring program to make STEM careers accessible for underrepresented students

University of Colorado Boulder Graduate Assistantships in Areas of National Need (GAANN) Planning Committee

January 2019 – Present

- Organized 2019 GAANN Science Policy Symposium for 40 plus students that included two keynote speakers and three experts for a panel discussion
- Planned 2019 GAANN retreat with other members for three day retreat to aide in professional development

Oregon State Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS)

May 2015 – June 2017

- Position(s) held: Publicity Chair
- Designed advertisements for club events, initiated collaborations with other clubs, managed weekly newsletter

Oregon State American Institute of Chemical Engineers (AIChE) Student Chapter

October 2013 – June 2017

- Position(s) held: Fundraising Coordinator, Junior Chemical Engineering Student Representative, Business Manager
- Raised over \$500 through t-shirt sales, represented junior class at meetings, managed student store

Oregon State Chemical Engineering Car (Chem-E-Car) Club

October 2013 – June 2017

- Position(s) held: Treasurer, Fuel Cell Team Co-Captain
- Led team to national competition for the twice within three years

FELLOWSHIPS AND SCHOLARSHIPS

Department of Education GAANN Fellowship in *Professional Preparation of Chemical Engineers for Rebuilding the Nation's Infrastructure* Jan. 2019

University of Colorado Dean's Outstanding Merit Fellowship Mar. 2018

Phi Kappa Phi Tunison Scholarship Feb. 2016

Glenn Holcomb Memorial Honors College Scholarship Sept. 2015

Ray & Eva Southwell Chemical Engineering Scholarship June 2015

Oregon State University-Portland General Electric Scholar Aug. 2015

Justin Tran Curriculum Vitae

James & Billie Jean Hickman Scholarship	July 2014
School of Chemical, Biological, Environmental Engineering (CBEE) Johnson Scholar	Mar. 2014
Oregon State University College of Engineering Dean's Scholarship	Sept. 2013
Oregon State University Academic Achievement Award	Sept. 2013

AWARDS AND HONORS

Second Place in Energy Storage 2017 Poster Competition	Nov. 2017
CBEE Schulein Outstanding Student Award	June 2017
First Place in Bunge 2017 Case Study Contest, MANRRS Annual Conference	April 2017
Second Place in Fuels, Petrochemicals, and Energy Poster, AIChE National Conference	Nov. 2015
College of Agricultural Science Dean's List	2015-2017
Oregon State University Drucilla Shepard Smith Award	May 2014-15
College of Engineering Dean's List	2013-2017

PROFESSIONAL MEMBERSHIPS

Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)	2019-Present
Pi Mu Epsilon, Mathematics Honor Society	2017-Present
Tau Beta Pi, Engineering Honor Society	2017-Present
Phi Kappa Phi, Honor Society	2016-Present
Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS)	2015-2017
American Institute of Chemical Engineers (AIChE)	2013-Present