

## Chemical Engineering Education

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THE UNIVERSITY OF TEXAS AT AUSTIN

AUSTIN, TX

**Doctor of Philosophy in Chemical Engineering**

**Graduation Expected Fall 2020**

- GPA 3.81
- Advisor: Bruce Eldridge
- Corporate Relations Chair of the Chemical Engineering Graduate Leadership Committee, 2019

UNIVERSITY OF ROCHESTER

ROCHESTER, NY

**Bachelor of Science in Chemical Engineering**

**Graduated May 2016**

- GPA 3.89: Magna Cum Laude with Highest Departmental Distinction
- Four-year member of football team, awarded three varsity letters. Named Academic All-American (2015).
- Quality Testing and Laboratory Technician in University of Rochester Biodiesel Club.

## Engineering Internship Experience

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EASTMAN CHEMICAL COMPANY

KINGSPORT, TN

**Graduate Intern in Scale Up and Process Innovation Division**

**Summer 2017**

- Designed and executed experiments using an autoclave reactor to determine the reaction kinetics of a novel heterogeneous system.
- Completed experiments to determine the phase equilibria of the novel chemical system.
- Performed lab-scale, heterogeneous reactive distillation experiments to test the system's viability.

THE UNIVERSITY OF TEXAS AT AUSTIN SEPARATIONS RESEARCH PROGRAM

AUSTIN, TX

**Research Engineering Assistant**

**Summer 2016**

- Performed a wide range of activities assisting with industry-sponsored projects on the unique pilot plant facilities of The University of Texas at Austin's Separations Research Program.
- Highlights included operating an ethanol-water total reflux Oldershaw distillation column to calculate the column's tray efficiency.

US ARMY NATICK SOLDIER RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER NATICK, MA

**Business Process Engineer**

**Summer 2014**

- Worked in a team of four within the Enterprise Process Management office of NSRDEC, the leader in the US Army's campaign to assure the decisive material edge for the 21<sup>st</sup> century warrior.
- Learned, observed, and helped implement key concepts and practices of business process management, as well as lean six sigma and systems engineering through improving processes involving technology transfer and human resources.

## Research Experience

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THE UNIVERSITY OF TEXAS AT AUSTIN

AUSTIN, TX

**Graduate Research Assistant**

**August 2016 - Present**

- Researching reactive dividing wall columns so that their commercial potential can be better evaluated.
- Designed and carried out lab-scale phase equilibria and kinetics experiments.
- Built and experimented on a lab-scale reactive distillation column and a reactive dividing wall distillation column using Oldershaw glassware.

UNIVERSITY OF ROCHESTER

ROCHESTER, NY

**Undergraduate Researcher****January 2015 – May 2016**

- Investigated hard particle ordering in condensed phases.
- Ran Monte Carlo simulations of binary hard sphere mixtures in C.

**UR Computational Fluid Dynamics Research Group****January 2015 – May 2016**

- Member of a research group based in the Department of Chemical Engineering that engages in experimentation and education relating to computational fluid dynamics.
- Created simple, interactive Navier-Stokes simulations in C++ that could run in real-time for educational purposes.

**Technical and Laboratory Skills**

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- Experimental: lab-scale distillation, reactive distillation design, autoclave kinetics determination, liquid-liquid equilibria, ebulliometry
- Software: AspenPlus®, DeltaV™, MATLAB, LabVIEW
- Analytical: GC, GC-MS

**Selected Publications and Presentations**

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**Publications**

- **Jeffrey A. Weinfeld**, Scott A. Owens, R. Bruce Eldridge, “Reactive dividing wall columns: A comprehensive review”, *Chemical Engineering and Processing - Process Intensification*, Volume 123, 2018, Pages 20-33, ISSN 0255-2701, 10.1016/j.cep.2017.10.019.
- Mitchell Anthamatten, Jane J. Ou, **Jeffrey A. Weinfeld**, Shaw H. Chen, “Enthalpy versus entropy: What drives hard-particle ordering in condensed phases?”, *Chemical Physics Letters*, Volume 660, 2016, Pages 18-21, ISSN 0009-2614, 10.1016/j.cplett.2016.07.051.

**Presentations**

- Mitchell Anthamatten, Jane J. Ou, **Jeffrey A. Weinfeld**, Shaw H. Chen, “Enthalpy versus entropy: the Thermodynamic Origin of Hard Particle Ordering”, *American Physical Society March Meeting 2016*, Baltimore, MD, March 2016

**Teaching Experience**

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THE UNIVERSITY OF TEXAS AT AUSTIN

AUSTIN, TX

- Transport Processes Teaching Assistant (Fall 2018), Process Design and Operations Teaching Assistant (Spring 2017)

UNIVERSITY OF ROCHESTER

ROCHESTER, NY

- Fluid Dynamics Teaching Assistant (Spring 2016), Tau Beta Pi Peer Tutor (Fall 2014 – Spring 2016)

**Languages**

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- English (Native), Hebrew (Proficient)