



Scott C. Rowe

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Education

University of Colorado

Boulder, CO
2013-2018
PhD (Chemical Engineering)

University of Texas

Austin, TX
2010-2013
BS (Chemical Engineering)

University of California

Berkeley, CA
2007-2009
MS (Plant & Microbial Biology)

Selected Awards

Dean's Assistantship

University of Colorado
Recipient, 2013

GAANN Fellowship

University of Colorado
Recipient, 2014

STaRS Industry Expo

University of Colorado
Winner, 2014 & 2017

Skills

pilot plant commissioning
factory acceptance
optimization
molecular biology
C, Matlab, RsLogix
advanced process control
HYSYS, Solidworks, Aspen
P&ID, DCS, PLC programming

Instructor of Record

Multiple Universities | 2018-2019

Modernized labs with PLCs & process equipment (*CU Boulder*).
Led **86 students** in capstone coursework (*Florida State/A&M*)
Led **160 students** in capstone coursework (*CU Boulder*).
Lead instructor in *programming, separations, balances, control, thermodynamics, kinetics, projects, design, differential Eqs.*

Controls Engineer

University of Colorado | Boulder, CO | 2014-2017

Commissioned a **\$3M pilot plant**, including factory acceptance.
Led contractors, technicians and safety personnel.
Pilot plant advanced process control.
Integrated solar & electric heat.

Cofounder

bigbluetec.com | Commerce City, CO | 2015-2017

Design & control of continuous metals manufacture **>3000° F**.
Pilot plant instrumentation & interfacing.
Business development, **\$1.1M raised**.

Process Engineer

Process Science Tech. Center | Austin, TX | 2012-2013

Distillation modeling in a pilot plant environment.
Experiments for algal biofuels feasibility.

COOP

Genentech | South San Francisco, CA | 2011

Pilot plant experiments for strain improvement.
High Cell Density Culture (HCDC).

Honors

Invited Talk

Process Sci. Tech. Center Biannual Conference | 2018

“Paths for the Integration of Solar in Commodities Chemicals.”

Best Session Paper

AIChE Conference (paper 753b) | 2017

“Experiment Driven Choices in the Fab. of a 45kW Solar Simulator.”

Invited Talk

Switch at the Alliance Center | 2016

“Biofuels, Potential versus Practicality.”

Invited Talk

Tinkermill, Longmont, CO | 2016

“Do it Yourself Concentrated Solar Power.”

Fellowship

University of Colorado | 2014-2015

Department of Education GAANN Graduate Assistantship.

Best Talk

STaRS industry/Academic Expo CU Boulder | 2017, 2014

“Pilot Experiments for Hybrid Renewable & Conventional Utilities.”

“Novel Parallel Time Adaptive Model Predictive Control.”

Fellowship

University of Colorado | 2013

Dean’s Assistantship.

Invited Talk

farmscapedgardens.com | 2013

“Agriculture in the Urban Environment.”

Other

Acoustic and Electric Cello

1992-...

Salsa, Swing & Contra Dancing

2017-...

Secretary (Elected)

Tau Beta Pi Engineering Honorary, Texas Alpha | 2013

Publications

- Rowe SC, Cathleen SI & Clough DE.** "A Framework to Guide the Instruction of Industrial Programmable Logic Controllers in Undergraduate Chemical Engineering Education." Education for Chemical Engineers (in revision).
- Rowe SC.** (2019) US62926477. Washington, DC: USPTO.
Chubukov BA, Rowe SC, Palumbo AW, Wallace MA, & Weimer AW. "Investigation of Continuous Carbothermal Reduction of Magnesia by Magnesium Vapor Condensation onto a Moving Bed of Solid Particles." Powder Tech (in press).
- Rowe SC, Hischier I, Palumbo AW, Chubukov BA, Wallace MA, Viger R, Lewandowski A, Clough DE & Weimer AW.** "Nowcasting, predictive control, and feedback control for temperature regulation in a novel hybrid solar-electric reactor for continuous solar-thermal chemical processing." Solar Energy vol. 174,1 (Nov 1st 2018).
- Rowe SC, Wallace MA, Lewandowski A, Fisher RP, Cravey WR, Clough DE, Hischier I, Weimer AW.** "Experimental Evidence of an Observer Effect in High Flux Solar Simulators." Solar Energy vol. 158 (Nov 5th 2017).
- Rowe, SC, Wallace MA, Lewandowski A, Fisher RP, Cravey R, Clough DE, & Weimer AW.** (2017). "Evidence of an Observer Effect Predicted in High-Flux Solar Simulators, but not High-Flux Solar Furnaces." In Optics for Solar Energy (pp. RTh2B-5). Optical Society of America.
- Racolta A, Nodine MD, Davies K, Lee C, Rowe S, Velazco Y, Wellington R & Tax FE.** "A Common Pathway of Root Growth Control and Response to CLE Peptides Through Two Receptor Kinases in Arabidopsis." Genetics vol. 208, 2 (Nov 29th 2017).
- Weimer AW, Palumbo AW, Hischier I, Groehn AJ, Chubukov BA, Rowe SC, Fisher R.** (2016) PCT WO2017003528A1. Washington, DC: USPTO.
- Rowe SC, Groehn AJ, Palumbo AW, Chubukov BA, Clough DE, Weimer AW & Hischier I.** "Worst-case losses from a cylindrical calorimeter for solar simulator calibration." Optics Express vol. 23,19 (Sept. 21th 2015).
- Chubukov BA, Palumbo AW, Rowe SC, Wallace MA, & Weimer AW** "Enhancing the Rate of Magnesium Oxide Carbothermal Reduction by Catalysis, Milling, and Vacuum Operation" Industrial Engineering Chemistry Research vol. 56, is. 46 (Oct. 25th 2017).
- Chubukov B, Rowe S, Palumbo A, Hischier I & Weimer A.** "Experimental Investigation of Continuous Magnesium Production by Carbothermal Reduction." In Magnesium Technology, pp. 199-202. Springer International Publishing (2017).
- Hischier I, Chubukov BA, Wallace MA, Fisher RP, Palumbo AW, Rowe SC, Groehn AJ, & Weimer AW.** "A novel experimental method to study metal vapor condensation/oxidation: Mg in CO and CO₂ at reduced pressures." Solar Energy vol. 139, 389 (December 1st 2016).
- Chubukov BA, Palumbo AW, Rowe SC, Hischier I, Groehn AJ & Weimer AW.** "Pressure dependent kinetics of magnesium oxide carbothermal reduction." Thermochemica Acta vol. 636, 23 (July 20th 2016).
- Khan S, Rowe S, & Harmon FG.** Coordination of the Maize Transcriptome by a Conserved Plant Circadian Clock. BMC Plant Biology vol. 10, 126 (June 24th 2010).

Publications

*Belkhadir Y, Durbak A, Wierzba M, Schmitz RJ, Aguirre A, Michel R, **Rowe SC**, Fujioka S, & Tax FE.* "Intragenic Suppression of a Trafficking-Defective Brassinosteroid Receptor in Arabidopsis. Genetics vol. 185, 1283 (May 10th 2010).