

Education

PhD, Chemical Engineering, University of Colorado – Boulder	Expected: Summer 2010
GPA: 3.76/4.00 Thesis Work: Influence of adsorbate-induced crystal changes on zeolite membranes	
MS, Chemical Engineering, University of Colorado – Boulder	8/05-8/07
GPA: 3.76/4.00	
MBA Business Foundations Certificate, University of Wisconsin – Oshkosh	8/02-5/03
GPA: 3.5/4.0 Consists of 13 graduate level credits (7 classes)	
BS, Paper Science, University of Wisconsin – Stevens Point	8/97-5/02
GPA: 3.53/4.00, Cum Laude Minor: Chemistry	

Honors and Awards

GAANN Fellowship, 2006-2010	Denver X-ray Conf. – Best Poster Award, 2009
Best Should Teach Silver Award, 2009	1 st Place StARS Presenter Award, 2006, 2007, 2008
IZMM4 – Best Poster Award, 2007	CU - Beverly Sears Award, 2007
Paper Science Scholarship, 1997-2002	Dean's List; Phi Eta Sigma, 1998

Publications

- Sorenson, S. G.**, Payzant, E. A., Noble, R. D., Falconer, J. L., "Influence of crystal expansion/contraction on zeolite membrane permeation," J. Mem. Sci., 357, (2010), 98-104.
- Sorenson, S. G.**, Smyth, J. R., Noble, R. D., Falconer, J. L., "Correlation of silicalite-1 crystal expansion and MFI membrane properties," Ind. Eng. Chem. Res., 48, (2009), 10021-10024.
- Sorenson, S. G.**, Smyth, J. R., Kocirik, M., Zikanova, A., Noble, R. D., Falconer, J. L., "Adsorbate-induced expansion of silicalite-1 crystals," Ind. Eng. Chem. Res., 47, (2008), 9611-9616.

Employment

8/05 – Present	PhD Candidate, University of Colorado – Boulder, Boulder, CO
1/06 – Current	Research Assistant Advisors: John L. Falconer and Rich D. Noble Thesis Work: Influence of adsorbate-induced crystal changes on zeolite membranes
Summer 2010	Undergraduate Student Mentor
Spring 2010	Independent Study Undergraduate Student Mentor
5/09 – 5/10	Lead Teaching Assistant for Chem. and Bio. Engineering Department <ul style="list-style-type: none">Organized two workshops concerning academia, "Engaging Students in the Classroom" and a panel of 3 faculty "What I wish I'd Known in Grad. School"Completed over 50 hours of Graduate Teacher Training and workshops including learning styles, communication, academic leadership, and grading rubrics
8/08 – 5/09	Discovery Learning Center (DLC) Undergraduate Student Mentor
Summer 2008	Research Experience for Undergraduate Student (REU) Mentor
Fall 2007	Teaching Assistant Professor: David E. Clough Class: Applied Data Analysis 3010
Summer 2007	Research Experience for Undergraduate Student (REU) Mentor
Fall 2005	Teaching Assistant Professor: John L. Falconer Class: Thermodynamics 3320
6/02-8/05	Process Engineer II, Kimberly-Clark Corporation, Neenah, WI/Jenks, OK Product Technology and Development <ul style="list-style-type: none">Headed broke stock system project which reduced variability of broke going to the paper machine by 25% and allows for over \$30K in energy savings per yearLed and implemented several cost-savings projects such as a basis weight reduction, process changes, and chemical cost reduction which saved the company \$2.5 million

- Planned and analyzed multiple designed experiments in order to recommend the optimal furnish for a product extending the shelf life of product by 2 months
- Summer 2001 **Process Engineer Intern, Kimberly-Clark Manufacturing Facility**, Beech Island, SC
- Completed a mill-wide water balance to determine water usage and recommended areas for conservation
 - Collaborated with a chemical supplier to run an effluent study that researched and identified key causes of waste water treatment plant upsets
- Summer 2000 **Process Engineering Intern, Kimberly-Clark Experimental Mill**, Neenah, WI
- Designed and ran a speed probe on an experimental machine which showed a 67% increase in speed did not significantly affect product properties
- Summer 1999 **Engineering Co-op, Willamette Industries Corrugated Medium Mill**, Hawesville, KY
- Provided research on a cost savings opportunity that was used to assess feasibility of combining two paper by-product effluent streams
 - Investigated discrepancies between mill operator consistency tests and determined that sample size and mixing procedure were the largest contributors to variability
- 1998-2000 **Laboratory Assistant, University of Wisconsin – Stevens Point**, Stevens Point, WI

Awarded Proposals

Sorenson, S.G., Noble, R.D., Falconer, J.L., "Mixture Adsorbate-Induced Changes in Zeolite Structures," Jan. 2010, for work at Oak Ridge National Laboratory, TN (CNMS 2010-030)

Sorenson, S.G., Noble, R.D., Falconer, J.L., "Adsorbate-Induced Changes in Zeolite Structures," Jan. 2009, for work at Oak Ridge National Laboratory, TN (CNMS 2009-082)

Sorenson, S.G., Finotello, A., King, D.M., Noble, R.D., "Effective College Teaching Workshop: Presented by Drs. Felder and Brent," Feb. 2008, for \$10,670 from the CU Engineering Excellence Fund

Presentations

"Engaging students in the classroom: Ideas from Drs. Felder and Brent," Lead Teaching Assistant Workshop, Boulder, CO (2010)

"Correlation of zeolite membrane defect fluxes and zeolite unit cell parameters," 2009 AIChE Annual Conference, Nashville, TN (2009)

1st place presentation, "Adsorbate-induced expansion of MFI zeolite crystals," Student Annual Research Symposium (StARS), Boulder, CO (2008)

1st place presentation, "Influence of crystal expansion on MFI membranes," StARS, Boulder, CO (2007)

1st place presentation "Transient permeation through silicalite-1 membranes," StARS, Boulder, CO (2006)

Posters

"Using XRD to correlate MFI zeolite expansion and membrane permeation data," 2009 AIChE Annual Conference, Nashville, TN (2009)

Best XRD Poster Award, "Using XRD to correlate MFI zeolite expansion and membrane permeation data," 2009 Denver X-ray Conference, Colorado Springs, CO (2009)

"Adsorbate-induced expansion of MFI zeolite crystals," NanMemCourse: Nanostructured materials, membrane modeling and simulation, Patras, Greece (2008)

"Influence of crystal expansion on MFI membranes," ECI: The Role of Structure in Biological, Chemical and Environmental Separations, Puntarenas, Costa Rica (2008)

"Innovative applications of zeolite membranes/thin films," ECI: The Role of Structure in Biological, Chemical and Environmental Separations, Puntarenas, Costa Rica (2008)

Best poster award, "Influence of crystal expansion on MFI membranes," International Zeolite Membrane Meeting 4 (IZMM4), Zaragoza, Spain (2007)

Awarded Grants

Colorado Graduate Grant, 2008-2010
GAANN Travel Grant, 2006-2010
ECI Travel Grant, 2008
NanoMemCourse Travel Grant, 2008

UGGS Lead TA Team Workshop Grant, 2010
United Gov. of Grad. Students (UGGS) Travel Grant, 2009
2009 Denver X-ray Conference Travel Grant, 2009
IZMM4 2007 Travel Grant, 2007

Volunteer/Service Work

Meals on Wheels, 2007-Current
Science Fair Interviewer, 2006-2010
High School Honors Institute, 2006
Kimberly-Clark Peer Resource, 2003-2004
Habitat for Humanity, 2003-2004

CHEN Graduate Student Recruiting Captain, 2007-2009
Expanding Your Horizons Volunteer, 2008, 2009, 2010
CHEN Graduate Education Council, 2006-2007
New Employee Network Guide Committee Co-Chair, 2004
Paper Express, 1999-2002