

DANIEL T. HALLINAN JR.

Post doc

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Department of Chemical Engineering

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Education

Ph.D.	Chemical Engineering	Drexel University	2009
B.S.	Chemical Engineering	Lafayette College	2001
A.B.	Philosophy	Lafayette College	2001

Teaching Experience

Substitute teacher – Undergraduate Thermodynamics and Kinetics **2004-2008**

Teaching assistant – Led recitations, graded homework and tests **2004-2005**

Undergraduate Research Mentorship

Ishtiaque Ahmed – Undergraduate researcher (Drexel University) **2007-Present**

Nicole Wallace – Summer REU Student (University of Maryland Baltimore County) **2008**

Kelly Ware – Summer REU Dream Fellow (University of North Texas) **2007**

Derianne Jeffeke – Summer REU Dream Fellow (Lincoln University) **2006**

John Richter – Summer Mentorship Student (Illinois School of Math and Science) **2005**

Publications (*Peer-Reviewed Manuscripts*)

- Hallinan Jr., D.T.; Elabd, Y.A. Multicomponent Diffusion of Methanol and Water in Nafion[®], *J. Phys. Chem. B*, **2007**, *111*, 13221-13230. *Featured in Photonics Spectra, Jan 2008*
- Hallinan, D.T., Jr.; Elabd, Y.A. Diffusion of Water in Nafion using Time-Resolved FTIR-ATR Spectroscopy, *J. Phys. Chem. B* **2009**, *113*, 4257-4266.
- Chen, L.; Hallinan Jr., D.T.; Elabd, Y.A.; Hillmyer, M.A. Highly Selective Polymer Electrolyte Membranes from Reactive Block Polymers, *Macromolecules* **2009**, *42*, 6075–6085.

Book Chapters

- Hallinan Jr., D.T.; Elabd, Y.A. Sorption and Diffusion Selectivity of Methanol/Water Mixtures in Nafion[®], in *Micro-Mini Fuel Cells-Fundamentals and Applications*, Kakac, S.; Vasiliev, L. ; and Pramuanjaroenkij, A. (Eds.) Springer verlag, **2008**. *Invited Contribution*

Manuscripts in Preparation

- Hallinan Jr., D.T.; Elabd, Y.A. Sorption and Diffusion of States of Water in Nafion, to be submitted to *Macromolecules*.
- Hallinan Jr., D.T.; De Angelis, M.G.; Giacinti Baschetti, M.; Sarti, G.C.; Elabd, Y.A. Non-Fickian Diffusion of Water in Nafion, to be submitted to *Macromolecules*.
- Hallinan Jr., D.T.; De Angelis, M.G.; Giacinti Baschetti, M.; Doghieri, F.; Sarti, G.C.; Elabd, Y.A. Non-equilibrium Sorption of Water in Nafion, to be submitted to *Polymer*.

Presentations (*Oral, Presenter is underlined*)

- Hallinan Jr., D.T.; De Angelis, M.G.; Giacinti Baschetti, M.; Sarti, G.C.; Elabd, Y.A. Non-Fickian Diffusion of Water In Nafion, *American Institute of Chemical Engineers (AIChE) Conference*, Philadelphia, PA, **November 2008**.

2. Hallinan Jr., D.T.; Elabd, Y.A. Water Transport In Nafion[®] Using Time-Resolved FTIR-ATR Spectroscopy, *American Institute of Chemical Engineers (AIChE) Conference*, Salt Lake City, UT, **November 2007**.
3. Hallinan Jr., D.T.; Elabd, Y.A. Transport of Water in Nafion[®] using Time-Resolved FTIR-ATR Spectroscopy, *North American Membrane Society (NAMS) Conference*, Orlando, FL, **May 2007**.
4. Hallinan Jr., D.T.; Elabd, Y.A. Methanol Crossover: New Insights and Experimental Techniques, *American Chemical Society (ACS) Advances in Materials for Proton Exchange Membrane Fuel Cell Systems*, Pacific Grove, CA, **February 2007**. *Invited Contribution*
5. Hallinan Jr., D.T.; Elabd, Y.A. Multicomponent Diffusion of Methanol and Water in Nafion[®], *American Institute of Chemical Engineers (AIChE) Conference*, San Francisco, CA, **November 2006**.

Poster, Presenter is underlined

6. Hallinan Jr., D.T.; De Angelis, M.G.; Giacinti Baschetti, M.; Sarti, G.C.; Elabd, Y.A. Non-Fickian Diffusion of Water in Nafion, *Gordon Research Conference Polymer Physics*, Newport, RI, **June 2008**.
7. Hallinan Jr., D.T.; Elabd, Y.A. Transport of Water in Nafion[®] using Time-Resolved FTIR-ATR Spectroscopy, *American Chemical Society (ACS) Advances in Materials for Proton Exchange Membrane Fuel Cell Systems*, Pacific Grove, CA, **February 2007**.
8. Hallinan Jr., D.T.; Elabd, Y.A. Multicomponent Transport of Water and Methanol in Nafion[®], *North American Membrane Society (NAMS) Conference*, Chicago, IL, **May 2006**.
9. Hallinan Jr., D.T.; Elabd, Y.A. Transport of Water in Nafion[®] using Time-Resolved FTIR-ATR Spectroscopy, *American Institute of Chemical Engineers (AIChE) Conference*, Cincinnati, OH, **October 2005**.

Awards

AIChE MESD Poster Session Award (2nd Place) **2008**
 George Hill Jr. Fellowship **2007**
 Graduate Assistantships in the Areas of National Need (GAANN) Fellowship **2007**
 Drexel University Graduate Research Excellence Award **2007**
 NSF IGERT Fellowship **2006**
 Schering-Plough Research Travel Grant to attend the AIChE Annual Meeting **2006**
 North American Membrane Society (NAMS) Annual Meeting Student Travel Award **2006**
 NAMS Student Poster Competition Award **2006**
 Drexel University Teaching Assistant Excellence Award **2005**

Academic Outreach Activities

Founder – Drexel Engineering Research Symposium **2007**
 Judge – Lea Elementary School Science Fair **2007**
 Leader – Summer Engineering Experience at Drexel (SEED) **2004-2007**
 President – Departmental Graduate Student Association **2005-2006**
 Member – Student Retention Workgroup **2005-2006**

Research Interests

Fuel Cells, Lithium Metal Batteries, Energy, Water Purification, Polymers (Membranes, Polyelectrolytes, Biodegradable Materials, Nanocomposites and Barriers), Polymer Physics, Transport Phenomena and Spectroscopy Techniques

References available upon request.