

Curriculum Vitae

Jeff Gostick

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1. Resume

Jeff Gostick, P.Eng.

Department of Chemical Engineering
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Waterloo, ON N2L 3G1

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Education

University of Waterloo (2004-2008)	Ph.D., Chemical Engineering Dissertation: "Multiphase Mass Transfer and Capillary Properties of Gas Diffusion Layers for Polymer Electrolyte Membrane Fuel Cells" Supervisor: Professor Michael Fowler
University of Waterloo (2000-2002)	M.A.Sc., Chemical Engineering Thesis: "Measurement of Local Mass Transfer Coefficients in a Packed Bed of Pall Rings using an Electrochemical Technique" Supervisor: Professor Mark Pritzker
Ryerson University (1995-2000)	B.Eng., Chemical Engineering

Professional and Academic Experience

University of Waterloo (2017-Present)	Associate Professor Department of Chemical Engineering
McGill University (2016)	Associate Professor Department of Chemical Engineering
McGill University (2010-2016)	Assistant Professor Department of Chemical Engineering
Lawrence Berkeley National Lab (2009-2010)	Postdoctoral Research Associate Environmental and Energy Technology Division Supervisor: Adam Weber
Tokyo Institute of Technology (2007)	Visiting Scholar Department of Mechanical Engineering Supervisor: Shoji Tsushima
TeckCominco (now Teck) (2002-2004)	Research Engineer Product Technology Center, Mississauga ON

Assinck Bros (1997)	Drafter Manufacturing Facility, Markham ON
Sterling Pulp Chemicals (1996)	Research Assistant R&D Center, Etobicoke ON
McAsphalt (1996)	Quality Assurance Technician Scarborough, ON

Affiliations

Academic Centers

Trottier Institute for Sustainability in Engineering and Design (2014-2016)
McGill Institute for Advanced Materials (2012-2016)
McGill Association of University Teachers (2010-2016)

Professional Societies

Professional Engineers of Ontario (fully licensed member since 2010, #100138143)
Electrochemical Society (2006-present)
International Society of Porous Materials (Interpore) (2013-present)
American Institute of Chemical Engineers (AIChE) (2010-present)

Honors and Awards

2015	Dean's Scholarship for Active Learning Development
2010	NSERC Postdoctoral Fellowship (declined)
2008	Park M Reilly Medal for Best PhD Thesis in the Department, University of Waterloo
2007	Japan Society for the Promotion of Science Visiting Scholarship
2006	NSERC PGS-D2 Graduate Fellowship
2006	President's Scholarship, University of Waterloo
2005	Graduate Award, University of Waterloo
2001	Graduate Award, University of Waterloo
1997	NSERC Undergrad Student Research Assistantship

2. Research Dossier

Table 1: List of secured research grants

2017-2020	CANARIE Software Reuse: <i>OpenPNM GUI and HPC</i> . J. Gostick (Principal) Type: Operating Amount: \$295,000
2017-2021	NSERC-Strategic Project: Grid-scale energy storage using zinc-air fuel cells with nanostructured electrode. J. Gostick (PI), E. Roberts, V. Birss, E. Kjeang. Type: Operating Amount: \$584,000
2017-2022	NSERC-CREATE: Materials for Electrochemical Energy Solutions, E. Roberts (PI), J. Gostick, V. Birss, K. Karan, M. Secannel, V. Thangadurai, M. Trifkovic, A. Whaley. Type: Operating Amount: \$1,590,000
2017	NSERC Engage: Developing Simple and Non-Destructive Tools to Perform Quality Control Tests on Gas Diffusion Layers for Fuel Cell Electrodes. J. Gostick Type: Operating Amount: \$25,000
2016	CFI-JELF: <i>Engineered Electrode Materials for Electrochemical Energy Storage</i> . Type of Grant: Infrastructure Amount: \$265,000
2016-2017	Argonne Advanced Photon Source: <i>The Nature of Coupled Heat and Mass Transport in Porous Carbon Electrodes</i> . I. Zenyuk (PI), J. Gostick, O. Burnheim. Type of Grant: User Access Amount: N/A
2015-2018	NSERC-Collaborative R&D: <i>Characterization of Nanoporous Catalyst Layers for Polymer Electrolyte Membrane Fuel Cells</i> . J. Gostick (Principal) Type of Grant: Operating Amount: \$216,000
2015-2018	NSERC-Strategic: <i>Readily scalable and efficient iron-based PEM fuel cell electrocatalysts from low cost metal organic framework precursors</i> . T. Friščić (principal), J. Gostick, F. Vidal (INRS) and S. Sun (INRS) Type of Grant: Operating Amount (Proportion): \$560,248 (25%)
2015-2018	NSERC-Strategic: <i>Nanoparticles to superparticles: New materials for clean energy</i> . J. Barralet (principal), J. Gostick. Type of Grant: Operating Amount (Proportion): \$501,404 (33%)
2013-2015	FQRNT-Industrial Innovation Scholarship: <i>Modeling cold-start of hydrogen fuel cell using pore networks</i> . J. Gostick (Principal) Type of Grant: Student Stipend (for Harold Day) Amount: \$42,000

2013-2014	US Department of Energy, Fuel Cell Technologies Office: <i>Understanding Water Infiltration Using Analogues</i> . J. Gostick (Principal) Type of Grant: Operating Amount: \$30,000
2012-2017	NSERC-Discovery: <i>Characterization and transport modeling of atypical porous materials</i> . J. Gostick (Principal) Type of Grant: Operating Amount: \$145,000
2012-2017	CFI-Leaders Opportunity Fund: <i>Electrochemical energy storage and conversion</i> . J. Gostick (Principal) Type of Grant: Infrastructure Amount: \$222,847
2011-2014	NSERC-Collaborative R&D: <i>Water Management Characterization of Gas Diffusion Layers for Polymer Electrolyte Membrane Fuel Cells</i> . J. Gostick (Principal) Type of Grant: Operating Amount: \$259,400
2010	NSERC-Research Tools and Instrumentation: <i>Imaging workstation for dynamic material studies</i> . A. Kietzig (principal), J. Gostick, N. Tufenkji and M. Cerruti. Type of Grant: Equipment Amount (Proportion): 93,022 (25%)

2.1. Scientific Contributions

Table 2: Overview of publications by year and journal

Journal	IF*	≤2011	2012	2013	2014	2015	2016	2017	In-Press	Under Review	Total
ACS Applied Materials & Interfaces	4.589				1						1
Chemical Engineering Journal	3.283	1						1			2
Chemical Engineering Science									1		1
Computing in Science & Engineering	1.248						1				1
Electrochemistry Communications	4.382	2									2
Electrochimica Acta	3.623		1			1				1	3
Fuel Cells	2.491						1				1
Industrial & Engineering Chemistry Research	2.067	1									1
International Journal of Heat and Mass Transfer	1.726					2					2
International Journal of Hydrogen Energy	3.811	1						1			2
Journal of Applied Electrochemistry	1.743	1							1		2
Journal of Membrane Science	3.829					1					1
Journal of Open Source Software										1	1
Journal of Physical Chemistry C	4.866					2					2
Journal of Power Sources	4.398	5				1					6
Journal of the Electrochemical Society	2.523	1		1		1	3	1			7
Langmuir	4.171					1					1
Physical Review E								1			1
Polymer	3.553	1									1
Small										1	1
Transport in Porous Media	1.254							1	1		2
Total		13	1	1	1	9	5	5	3	3	41

* IF = Impact factor averaged over past 6 years

2.2. Refereed Journal Publications

Statistics from Google Scholar: h-index = 17, i10 = 29, Citations > 2700
(Students in **bold**, * indicates corresponding author)

2.2.1. Under Review

43. **Sadeghi, A.**, Barralet, J. E. & Gostick, JT* *The interplay between microstructure, transport properties, and kinetics in flow battery electrodes: a pore network modeling study*. Electrochimica Acta.
42. **Kok, MDR, T Tranter, MR Lam**, and JT Gostick*, *PoreSpy: An image analysis toolkit for voxel images of porous materials*. Journal of Open Source Software.
41. **Kok, MDR.**, R. Jervis, D. Brett, P. Shearing, and JT Gostick*, *Pore network modeling of capillary hysteresis in neutrally wettable fibrous media*. Small.

2.2.2. In-Press

40. **Tranter, T.**, A. Burns, and W. Gale, J. Gostick*, *Pore network modeling of capillary hysteresis in neutrally wettable fibrous media*. Transport in Porous Media.
39. Moosavi, SM, M Niffeler, J Gostick, S Haussener, *Transport characteristics of saturated gas diffusion layers treated with hydrophobic coatings*. Chemical Engineering Science.
38. **Aghighi, M.**, J. Gostick*, *Pore network modeling of phase change in PEM fuel cell fibrous cathode*. Journal of Applied Electrochemistry.

2.2.3. Published

37. **Sadeghi, M. A., Aghighi, M.**, Barralet, J. & Gostick, J. T.* , *Pore network modeling of reaction-diffusion in hierarchical porous particles: The effects of microstructure*. Chemical Engineering Journal 330, 1002–1011 (2017).
36. **Liu, S, MDR Kok, YW Kim**, JL Baron, FR Brushett, JT Gostick*, *Evaluation of Electrospun Fibrous Mats Targeted for Use as Flow Battery Electrodes*. J. Electrochem. Soc. 164, A2038–A2048 (2017).
35. Gostick, J. T. Versatile and efficient pore network extraction method using marker-based watershed segmentation. Phys. Rev. E 96, 023307 (2017).
34. Hinebaugh, J., Gostick, J. & Bazylak, A. Stochastic modeling of polymer electrolyte membrane fuel cell gas diffusion layers – Part 2: A comprehensive substrate model with pore size distribution and heterogeneity effects. International Journal of Hydrogen Energy 42, 15872–15886 (2017).
33. **Tranter, T.G., P. Stogornyyuk**, J.T. Gostick, A.D. Burns, W.F. Gale, *A method for measuring relative in-plane diffusivity of thin and partially saturated porous media: An application to fuel cell gas diffusion layers*. International Journal of Heat and Mass Transfer. Volume 110(July), 132–141.
32. Lopes, J., F.-X. Colson, S. Ye, J.T. Gostick, J.E. Barralet, G. Merle, *Graphene modified nanosized Ag electrocomposites*. Materials Research Bulletin. 89(May), 42–50.
31. **Rashapov, R.**, and J. Gostick*, *In-plane effective diffusivity in PEMFC gas diffusion layers*. Transport in Porous Media, 2016. 115(3), 411–433.
30. Zhang Z., J.H. Lopes, S. Ye, J. Gostick, J.E. Barralet, and G. Merle, *Electrically Bloomed Platinum Nanoflowers on Exfoliated Graphene: An Efficient Alcohol Oxidation Catalyst*. Journal of the Electrochemical Society, 2016. 163(10), D615–D621.
29. **Tranter, T.**, J. Gostick, A. Burns, and W. Gale. *Pore Network Modeling of Compressed Fuel Cell Components with OpenPNM*, Fuel Cells, 2016. 16(4), p504–515.
28. Gostick, J.* , **M. Aghighi**, J. Hinebaugh, **T. Tranter, M.A. Hoeh, H. Day, B. Spellacy**, M. Sharqawy, A. Bazylak, A. Burns, W. Lehnert and A. Putz. *OpenPNM: A Pore Network Modeling Package*. Computing in Science & Engineering 2016. 18(4), p60–74.
27. **Kok, M., A. Khalifa** and J. Gostick*. *Multiphysics Simulation of the Flow Battery*
26. **Aghighi M.A.**, M.A. Hoeh, W. Lehnert, G. Merle, and J. Gostick*, *Simulation of a Full Fuel Cell Membrane Electrode Assembly Using Pore Network Modeling*. Journal of the Electrochemical Society, 2016. 163(4), p.F384–392.
25. Schalenbach, M., M.A. Hoeh, J. Gostick, W. Lueke and D. Stolten. *Gas Permeation through Nafion®. Part 2: Resistor*

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- Network Model*. Journal of Physical Chemistry C, 2015. 119(45), p.25156–25169.
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24. Quesnel C., **R. Cao**, J. Lehr, A. Kietzig, A. Weber and J Gostick*. *Dynamic Percolation Behavior in Double Layered Porous Materials*. Journal of Physical Chemistry C, 2015. 119(40), p.22934–22944.

 23. Gostick, J. and A. Weber, *Resistor-Network Modeling of Ionic Conduction in Polymer Electrolytes*. Electrochimica Acta, 2015. 179(October), p.137-145.

 22. Lopez, J., G. Merle, S. Ye , J. Gostick, J. Barralet, *Nanoparticle decoration of defect-free electrochemically exfoliated graphene*. Langmuir, 2015. 31(35), p.9718-9727.

 21. **García-Salaberri, P.A.**, J. Gostick, G. Hwang, A.Z. Weber and M. Vera. *Effective diffusivity in partially-saturated carbon-fiber gas diffusion layers: Effect of local saturation and application to macroscopic continuum models*. Journal of Power Sources, 2015. 296: p. 440–453.

 20. **García-Salaberri, P.A.**, G. Hwang, M. Vera, A.Z. Weber and J. Gostick*. *Effective diffusivity in partially-saturated carbon-fiber gas diffusion layers: Effect of through-plane saturation distribution*. International Journal of Heat and Mass Transfer, 2015. 86: p. 319–333.

 19. **Rashapov, R.**, **J. Unno** and J. Gostick*, *Characterization of PEMFC gas diffusion layer porosity*. Journal of the Electrochemical Society, 2015. 162(1): p. F603-F612.

 18. **Rashapov, R.**, **F. Imami** and J. Gostick*, *Experimental method of in-plane effective diffusion coefficient measurements of porous media*. International Journal of Heat and Mass Transfer, 2015. 85: p. 367-374.

 17. **Kok, M.R.D.**, J. Gostick*, *Transport properties of electrospun fibrous membranes with controlled anisotropy*. Journal of Membrane Science, 2015. 1(473): p. 237-244.

 16. **Morris, D.**, **S. Liu**, **D. Villegas** and J. Gostick*, *Electrical conductivity of fuel cell catalyst layers under controlled relative humidity*. ACS Applied Materials & Interfaces, 2014. 6(21): p. 18609–18618.

 15. Gostick, J.*, *Random pore network modeling of fibrous PEMFC gas diffusion media using Voronoi and Delaunay tessellations*. Journal of the Electrochemical Society, 2013. 160(8): p. F731-F743.

 14. **Morris, D** and J. Gostick*, *Determination of the in-plane components of the electrical conductivity tensor in PEM fuel cell gas diffusion layers*. Electrochimica Acta, 2012. 85(1): p. 665-673.

 13. Weber, A.Z., M.M. Mench, J.P. Meyers, P.N. Ross, J. Gostick, and Q. Liu, *Redox flow batteries, a review*. Journal of Applied Electrochemistry, 2011. 41(10): p. 1137-1164.

 12. Gostick, J.* and M.A. Ioannidis, *Comment on "Effect of gas diffusion layer properties on the time of breakthrough" by Shahraeeni and Hoorfar*. Journal of Power Sources, 2011. 196(22): p. 9844.

 11. Hwang, G.S., M. Kaviani, J. Gostick, B. Kientiz, A.Z. Weber, and M.H. Kim, *Role of water states on water uptake and proton transport in Nafion using molecular simulations and bimodal network*. Polymer, 2011. **52**(12): p. 2584-2593.

 10. Bunmark, N., S. Limtrakul, M.W. Fowler, T. Vatanatham, and J. Gostick, *Assisted water management in a PEMFC with a modified flow field and its effect on performance*. International Journal of Hydrogen Energy, 2010. 35(13): p. 6887-6896.

 9. Gostick, J., M.A. Ioannidis, M.D. Pritzker, and M.W. Fowler, *Impact of liquid water on reactant mass transfer in PEM fuel cell electrodes*. Journal of the Electrochemical Society, 2010. 57(4): p. B563-B571.

 8. Gostick, J., M.A. Ioannidis, M.W. Fowler, and M.D. Pritzker, *Wettability and capillary behavior of fibrous gas diffusion media for polymer electrolyte membrane fuel cells*. Journal of Power Sources, 2009. 194: p. 433-444.

 7. Gostick, J., M.A. Ioannidis, M.W. Fowler, and M.D. Pritzker, *On the role of the microporous layer in PEMFC operation*. Electrochemistry Communications, 2009. 11(3): p. 576-579.

 6. Gostick, J., M.A. Ioannidis, M.W. Fowler, and M.D. Pritzker, *Direct measurement of the capillary pressure characteristics of water-air-gas diffusion layer systems for PEM fuel cells*. Electrochemistry Communications, 2008. 10: p. 1520-1523.

 5. Gostick, J., M.A. Ioannidis, M.W. Fowler, and M.D. Pritzker, *Pore network modeling of fibrous gas diffusion layers for polymer electrolyte membrane fuel cells*. Journal of Power Sources, 2007. 173: p. 277-290.

 4. Gostick, J., M.W. Fowler, M.D. Pritzker, M.A. Ioannidis, and L.M. Behra, *In-Plane and through-plane gas permeability of carbon fiber electrode backing layers*. Journal of Power Sources, 2006. 162 (1): p. 228-238.

 3. Gostick, J., M.W. Fowler, M.A. Ioannidis, M.D. Pritzker, Y.M. Volfkovich, and A. Sakars, *Capillary pressure and hydrophilic porosity in gas diffusion layers for polymer electrolyte fuel cells*. Journal of Power Sources, 2006. 156(2): p. 375-387.

 2. Gostick, J., M. Pritzker, A. Lohi, and H.D. Doan, *Mass transfer variation within a packed bed and its relation to liquid distribution*. Chemical Engineering Journal, 2004. 100(1-3): p. 33-41.

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1. Gostick, J., H.D. Doan, A. Lohi, and M.D. Pritzker, *Investigation of Local Mass Transfer in a Packed Bed of Pall Rings Using a Limiting Current Technique*. Industrial & Engineering Chemistry Research, 2003. 42(15): p. 3626-3634.
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2.3. Non-refereed Articles

1. Aye T, Christensen D, Gostick J, Mogharei A, Olatunde G, Singcuna S, Won W, Aida T. Environmental catalysis: The Canadian Situation. *Canadian Chemical News*, 2000. 52: p. 2526.

2.4. Book Chapters

2. Gostick, J.T., et al., *Porosimetry and Characterization of the Capillary Properties of Gas Diffusion Media*, in *Handbook of PEM Fuel Cell Durability*, H. Wang, X.-Z. Yuan, and H. Li, Editors. 2011, Taylor Francis: Baton Rouge.
1. Gostick, J.T., et al., *Characterization of the Capillary Properties of Gas Diffusion Media*, in *Modern Aspects of Electrochemistry*, C.Y. Wang and U. Pasaogullari, Editors. 2010, Springer: Berlin.

2.5. Book Reviews

1. *Experimental Techniques for Chemical Engineers*, in *Canadian Journal of Chemical Engineering*, 2014. 92: p. 1160-1162.

2.6. Conference Proceedings

(Students in bold)

11. **Kok, MDR**, Jervis, R, Shearing, P R & Gostick, JT, Fluid Transport Properties from 3D Tomographic Images of Electrospun Carbon Electrodes for Flow Batteries. ECS Trans. 77, 129–143 (2017).
10. **Liu, SP, Kok, MDR** & Gostick, J. T. Fabrication and Characterization of Electrospun Electrodes for Flow Battery Electrodes. ECS Trans. 75, 15–25 (2017).
9. **Kok, MDR** and J Gostick, *Multiphysics Simulation of the Bromine Cathode: Cell Architecture and Electrode Optimization*. ECS Transactions, 2015. 69(1): p. 21-35.
8. **Tranter, TG**, AD Burns and J Gostick, *Multiphysics Pore Network Modeling of Compressed Fuel Cell Components with OpenPNM*. 5th European Fuel Cell and H₂ Forum, 2015. Chapter 05 – Sessions A08, 11, 12, 14. p. 138-148 (ISBN: 978-3-905592-19-1).
7. **Aghighi, MA** and J Gostick, *Pore Network Modeling of the Full Membrane Electrode Assembly of a Polymer Electrolyte Membrane Fuel Cell*. ECS Transactions, 2014. 64(3): p. 19-25.
6. Gostick, J et al., *Introducing OpenPNM: An open-source pore network modeling framework*. ECS Transactions, 2013. 58(1): p. 79-86.
5. **Shrestha, K** and J Gostick. *Measurement of capillary pressure curves in GDLs at elevated temperatures*. ECS Transactions, 2012. 50(2): p. 469-476.
4. Gostick, J, *Random pore network modeling of GDLs using Voronoi and Delaunay Tessellations*. ECS Transactions, 2011. 41(1): p. 125-130.
3. Kwong, A, et al., *Water Uptake in PEMFC Catalyst Layers*. ECS Transactions, 2011. 41(1): p. 647-650.
2. Gostick, J, et al., *Tomographic Imaging of Water Injection and Withdrawal in PEMFC Gas Diffusion Layers*. ECS Transactions, 2010. 33(1): p. 1407-1412.
1. Gostick, J, et al. *Effect of hydrophobic polymer treatments on the capillary properties of gas diffusion layers for polymer electrolyte membrane fuel cells*. in *AIChE Annual Meeting*. 2008. Philadelphia, PA: AIChE.

2.7. Presentations in Conferences, Workshops and Colloquia

(Students in **bold**)

35. García-Salaberri, P.A., J. T. Gostick, G. Hwang, M. Vera, I. Zenyuk, A. Z. Weber, *Multiphysics, Multiphase & Multiscale Modeling of PEFCs: With a Focus on the Gas Diffusion Layer*, Annual Fall Meeting of the Electrochemical Society, 2017. Washington, DC.
34. **Kok, MDR**, and J Gostick, *Fluid Transport Properties from 3D Tomographic Images*, Annual Spring Meeting of the

- Electrochemical Society, 2017. New Orleans, USA.
33. **Liu S**, and J Gostick, *Fabrication and Characterization of Electrospun Electrodes for Flow Battery Applications*, Annual Fall Meeting of the Electrochemical Society, 2016. Honolulu, USA.
 32. Gostick J, **T Tranter**, A Burns, *Pore network modeling of capillary hysteresis in neutrally wettable fibrous media*, International Society for Porous Media 8th Annual Conference 2016. Cincinnati, OH.
 31. Gostick J, **T Tranter**, **P Stogornyuk**, W Gale, *Measuring relative in-plane diffusivity of thin and partially saturated porous media*, International Society for Porous Media 8th Annual Conference 2016. Cincinnati, OH.
 30. **Kok MDR** and J Gostick, *Multiphysics Simulation of the Bromine Cathode: Cell Architecture and Electrode Optimization*, Canadian Society for Chemical Engineering Conference, 2015. Calgary, AB.
 29. **Kok MDR** and J Gostick, *Multiphysics Simulation of the Bromine Cathode: Cell Architecture and Electrode Optimization*, Annual Fall Meeting of the Electrochemical Society, 2015. Phoenix, USA.
 28. Tranter TG, AD Burn and J Gostick, *Pore network modelling of compressed fuel cell components with OpenPNM*, 5th European PEFC and H₂ Forum, 2015. Lucerne, Switzerland.
 27. Seyedmohamad M, J Gostick, S Haussener, *Tomography-based characterization of two phase transport in porous media using direct pore-level simulations*. International Society for Porous Media 7th Annual Meeting, 2015. Padova, Italy.
 26. Gostick J, **PA García-Salaberri**, G Hwang, M Vera, and AZ Weber, *On the Mass-Transfer Properties of Partially-Saturated Carbon-Paper Gas Diffusion Layers: Global Vs. Local Effective Diffusivity*. Annual Spring Meeting of the Electrochemical Society, 2015. Chicago, USA.
 25. Weber AZ, A Kusoglu, J Gostick and A Crothers, *Understanding Transport Phenomena in Perfluorosulfonic-Acid Membranes*. Annual Spring Meeting of the Electrochemical Society, 2015. Chicago, USA.
 24. **Aghighi M** and J Gostick, *Incorporation of the Stefan-Maxwell Multicomponent Diffusion Model into a Pore Network Model of the PEMFC Electrode*. Annual Fall Meeting of the Electrochemical Society. 2014. Cancun, Mexico.
 23. Gostick J and **M Aghighi**, *Modeling a Full PEMFC Membrane Electrode Assembly Using a Pore Network Model*. Annual Fall Meeting of the Electrochemical Society, Cancun, Mexico, Oct 6th, 2014.
 22. **Rashapov R** and J Gostick, *Experimental Method of Diffusion Coefficient Measurements of Porous Media (Poster)*. 4th Electrochemical Society Montreal Student Chapter Symposium. Montreal, QC. June 13th, 2014.
 21. **Rashapov R** and J Gostick, *Experimental Method of Diffusion Coefficient Measurements of Porous Media*. International Society for Porous Media 6th Annual Conference. Milwaukee, USA. May 27-30, 2014.
 20. **Kok M** and J Gostick, *Transport Properties of Electrospun Fibrous Membranes with Controlled Anisotropy*. International Society for Porous Media 6th Annual Conference. Milwaukee, USA. May 27-30, 2014.
 19. **Morris D** and J Gostick, *Structure-Conductivity Relationship of PEMFC Catalyst Layers*. Electrochemical Conference on Energy & the Environment. Shanghai, China. March 13-16, 2014.
 18. Gostick J, *Liquid Flow Through MPLs: The impact of holes and cracks on percolation through dual layers*. DoE Fuel Cell Modeling Workshop. Berkeley, CA. February 4th, 2014.
 17. **Laskey G** and J Gostick, *Low Pressure Liquid Extrusion Porosimetry for Determination of Pore Size Distribution in Gas Diffusion and Microporous Layers*. Annual Fall Meeting of the Electrochemical Society. 2013. San Francisco, USA.
 16. Gostick J, A Putz, A Bazylak, **H Day**, **M Aghighi**, J Hinebaugh. *Introducing OpenPNM: An open-source, pore network modeling software package*. Annual Fall Meeting of the Electrochemical Society. October 13-18, 2013. San Francisco, USA.
 15. **García-Salaberri P**, J Gostick, M Vera, A Weber and G Hwang, *Lattice Boltzmann simulations of anisotropic permeabilities in partially-saturated PEM fuel cell gas diffusion layers*. IV Iberian Symposium on Hydrogen, Fuel Cells and Advanced Batteries. June 26-28, 2013. Estoril, Portugal.
 14. **Morris DRP**, **S Liu**, **D Villegas** and J Gostick, *Percolation Conductivity of Fuel Cell Catalyst Layers*. 3rd Electrochemical Society Montreal Student Chapter Symposium. June 28th, 2013. Montreal, QC.
 13. Gostick J, G Hwang and A Weber. *Using Tomographic Images to Study Invasion Mechanisms in Fibrous GDMs*. Annual Spring Meeting of the Electrochemical Society. 2013. Toronto, ON.
 12. **Shrestha K** and J Gostick, *Measurement of Capillary Pressure Curves in GDLs at Elevated Temperatures*. Annual Fall Meeting of the Electrochemical Society. October 2012. Honolulu, HI.
 11. **Morris DRP** and J Gostick. *Electrical Conductivity of Gas Diffusion Layer Materials*. 2nd Electrochemical Society Montreal Student Chapter Symposium. June 22nd, 2012. Montreal, QC.
 10. Gostick J, *Random pore network modeling of GDLs using Voronoi and Delaunay Tessellations*. Annual Fall Meeting of the Electrochemical Society. 2011. Boston, MA.

9. Gostick J, B Kienitz, A MacDowell and A Weber. X-Ray tomographic study of liquid water distribution in GDLs under pressure-controlled capillary invasion and withdrawal. ECS Fall Meeting, Las Vegas, NV. October 15 – 20, 2010.
8. Gunterman P, J Gostick, A Weber and J Newman. Measurement of air-water capillary pressure curves of microporous layers in PEMFC electrodes. ECS Fall Meeting, Las Vegas, NV. October 15 – 20, 2010.
7. Kienitz B, J Gostick, A MacDowell and A Weber. Investigation of Nafion water content using x-ray radiography. ECS Fall Meeting, Las Vegas, NV. October 15 – 20, 2010
6. Gostick J, M Ioannidis, M Pritzker and M Fowler, Effect of hydrophobic polymer treatments on the capillary properties of gas diffusion layers. AIChE Annual Meeting, Philadelphia, PA. November 17 – 21, 2008.
5. Shim J, J Gostick, S Tsushima, S Harai. Analysis and verification of MEA degradation mechanism in PEMFC through SEM images and direct gas mass spectroscopy. 4th International Conference on Flow Dynamics, Sendai, Japan. September 26 & 27, 2007.
4. Gostick J, M Ioannidis, M Pritzker and M Fowler, Capillary pressure and permeability of gas diffusion layers: measurement and pore network modeling. 210th Meeting of the Electrochemical Society, Cancun, Mexico. October 29 – November 3, 2006.
3. Gostick J, E Lin, M Ioannidis, M Pritzker and M Fowler, Measurement of hydrophobic pore volume in GDLs at elevated temperatures. 9th Grove Fuel Cell Symposium, London, UK. October 4 – 6, 2005. (Poster)
2. Gostick J, M Ioannidis, M Pritzker and M Fowler, Effectiveness of PTFE coatings on GDLs at elevated temperatures. 1st Symposium on Manufacturing of MEAs for Hydrogen Applications, Dayton, OH. August 9 – 11, 2005.
1. Gostick J, H Doan, M Pritzker and A Lohi, Measurement of local mass transfer coefficients in a packed column of Pall rings using the limiting current technique. 51st Canadian Chemical Engineering Conference, Halifax, NS. October 14 – 17, 2001.

2.8. Invited and Plenary Talks

25. Visiting Speaker: OpenFCST 1st Annual Workshop (Invited by Prof. Marc Secannell)
OpenPNM: Open Source Pore Network Modelling in Python. Edmonton, AB. August 22nd, 2016.
25. Visiting Speaker: Henan Normal University 111 Kick-off Meeting (Invited by Prof. Tang)
OpenPNM: Open Source Pore Network Modelling in Python. Edmonton, AB. August 22nd, 2016.
25. Visiting Speaker: OpenFCST 1st Annual Workshop (Invited by Prof. Marc Secannell)
OpenPNM: Open Source Pore Network Modelling in Python. Edmonton, AB. August 22nd, 2016.
24. Visiting Speaker: SDFC Batteries Meeting (Invited by Prof. Paul Shearing of University College London)
Modeling Thin Porous Materials: Three Challenges, One Solution. Abbingdon, UK. July 15th, 2016.
23. Visiting Speaker: University of Leeds (Invited by Prof. Alan Burns)
Characterization & Modeling Transport in Gas Diffusion Layer. University of Leeds. July 12th, 2016.
22. Visiting Speaker: Tufts University (Invited by Prof. Iryna Zenyuk)
Thin Porous Materials: Characterization Challenges & Modeling Opportunities. Tufts University. March 10th, 2016.
21. Public Talk: Sustainable Engineering at McGill (SEAM)
Mobile Power: Want vs. Need. McGill University, Jan 26th, 2016.
20. Public Debate: McGill Engineering TechWeek
Batteries vs Fuel Cells for Mobile Power. Organized by the McGill Engineering Equity Committee. Sept 30th 2015.
19. Workshop Moderator: Universal Design in Learning
Four Things I Learned This Summer from the NETI-1. Organized by the McGill Engineering Equity Committee. Sept 30th 2015.
18. Tutorial: CSChE Conference (invited by Prof. Kunal Karan)
Code like a Pro: An Introduction to Object-Oriented Programming with Python, given as part of the Student Symposium at the 65th Annual Society Meeting in Calgary. Oct 6th 2015.
17. Tutorial: ECS Spring Meeting (invited by Dr. Adam Weber)
Measuring and Modeling Transport Processes in Porous Electrodes, given as part of the “State-of-the-Art Tutorial on Diagnostics in Low-Temperature Fuel Cells” at the Annual Spring Meeting of the Electrochemical Society, Chicago, USA, May 26th, 2015.
16. Public Talk: McGill Engineering TechWeek
Porous Materials Engineering and Analysis: Measuring, Modeling and Making, McGill University, Jan 28th, 2015.
15. Public Talk: TISED Annual Symposium (invited by Prof. Francois Bouffard)

- Electrochemical Energy Storage: Make Hay When the Sun Shines*, Trottier Institute of Sustainability in Engineering and Design Symposium on Storage in Sustainable Energy Electric Systems, Montreal, QC, Nov 20th, 2014.
14. Keynote: McGill Chemical Engineering Research Symposium (invited by Prof. Anne Kietzig)
How to Become a Professor in N Easy Steps ($N \gg 1$), given as part of the Departmental Semi-Annual Research Day, Nov 19th, 2014.
 13. Seminar: CSChE Conference (invited by Prof. Jason Grove)
How to Become a Professor in N Easy Steps ($N \gg 1$), given as part of the undergraduate symposium at the 64th Canadian Chemical Engineering Conference, Niagara Fall, ON, Oct 20th, 2014.
 12. Plenary Talk: ECS Fall Meeting (invited by Dr. Felix Buchi)
Modeling a Full PEMFC Membrane Electrode Assembly Using a Pore Network Model, given during the plenary session of the Annual Fall Meeting of the Electrochemical Society, Cancun, Mexico, Oct 6th, 2014.
 11. Workshop: University of Calgary (invited by Prof. Viola Birss)
Porous Media Research at McGill. Workshop on Electrochemical Energy Storage. University of Calgary, Calgary, AB. June 9th, 2014.
 10. Seminar: US DoE Working Group (invited by Dr. Adam Weber)
X-ray Tomography & Lattice Boltzmann Simulations, presented to the DoE Fuel Modelling Working Group, Lawrence Berkeley National Lab, Berkeley, USA. May 22nd, 2014.
 9. Visiting Speaker: Juelich Institute (invited by Prof. Werner Lehnert)
Porous Media Research at McGill. Juelich Institute, Juelich, Germany. May 16th, 2014.
 8. Seminar: Daimler Research Facility (invited by Dr. Jorg Kleeman)
Fuel Cell Electrode Characterization, given to research facility members in Naburn, Germany. May 15th, 2014.
 7. Visiting Speaker: University of Waterloo (invited by Prof. Michael Fowler)
How to Become a Professor in N Easy Steps ($N \gg 1$). University of Waterloo. Waterloo, ON. April 4th, 2014.
 6. Workshop: DoE Fuel Cell Modeling Workshop (invited by Dr. Adam Weber)
Introducing OpenPNM: An open-source, pore network modeling software package, presented to the DoE Fuel Modelling Working Group, Lawrence Berkeley National Lab, Berkeley, USA. Oct 12th, 2013.
 5. Seminar: Automotive Fuel Cell Cooperation
Random Pore Network Modeling, given as part of the Lunch & Learn series at AFCC, Burnaby BC. Feb 22nd, 2012.
 4. Workshop: DoE Fuel Cell Modeling Workshop (invited by Dr. Adam Weber)
GDL Transport Properties: Update and Status, presented to the DoE Fuel Modelling Working Group, Lawrence Berkeley National Lab, Berkeley, USA. Jan 26th, 2012.
 3. Seminar: Automotive Fuel Cell Cooperation
Random Thoughts on Wettability, given as part of the Lunch & Learn series at AFCC, Burnaby, BC. Feb 24th, 2011.
 2. Workshop: DoE Fuel Cell Modeling Workshop (invited by Dr. Adam Weber)
GDL Transport Properties: Overview and Status, presented to the DoE Fuel Modelling Working Group, Lawrence Berkeley National Lab, Berkeley, USA. Feb 28th, 2011.
 1. Public Talk: McGill Engineering TechWeek
Energy Storage: Make Hay While the Sun Shines. Academic Week, McGill University, Feb 7th, 2011.