

Curriculum Vitae of Professor Wendy L. Queen

Education and Research

Current	École Polytechnique Fédérale Lausanne (EPFL) , Department of Chemical Engineering Assistant Professor
2012 – 2015	The Molecular Foundry , Lawrence Berkeley National Laboratory Project Scientist
2010 – 2012	Center for Neutron Research , National Institute of Standards and Technology National Research Council Postdoctoral Fellow; Supervisor: Dr. Craig Brown
2011 – 2012	University of California Berkeley Visiting Scholar in the lab of Prof. Jeffrey R. Long
2009 – 2010	Center for Neutron Research , National Institute of Standards and Technology (jointly with the University of Maryland at College Park under the Hydrogen Sorption Center of Excellence, a DOE-EERE funded position)
2003 – 2009	Clemson University , Department of Chemistry Ph.D., Inorganic Chemistry; Supervisor Prof. Shiou-Jyh Hwu
1999-2003	Lander University Bachelor of Science in Chemistry, Minor in Mathematics

Awards and Scholarships

2010-2012	NRC/NIST Postdoctoral Research Associate Award
2009	Outstanding Graduate Research Award - Clemson University Chemistry Department
2008	Outstanding Graduate Research Award - Clemson University Chemistry Department
2007	Research Incentive Award - Clemson University Chemistry Department
2003	Chemistry Discipline Award - Lander University Chemistry Department
2003	Harrison Twin Award - Lander University
2000-2003	NCAA Academic All-American
2002-2003	MBNA Foundation Scholar
1999-2003	South Carolina Palmetto Fellow
1999-2003	Anderson Sertoma Club Scholar

Peer Reviewed Articles (past 5 years)

1. "Understanding the formation mechanism of metal nanocrystal@MOF-74 hybrids", I. Luz, A. Loiudice, D. T. Sun, W. L. Queen, R. Buonsanti, *Chem. Mater.*, **2016**, 28 (11), 3839.
2. "Hydrogen Storage and Selective, Reversible O₂ Adsorption in a Metal-Organic Framework with Open Chromium(II) Sites", E. D. Bloch, W. L. Queen, M. R. Hudson, J. A. Mason, D. J. Xiao, L. J. Murray, R. Flacau, C. M. Brown, and J. R. Long, *Angew. Chem. Int. Ed.*, **2016**, 55, 8605.
3. "Transparent and Robust Metal-Organic Framework/Polymer Mixed Matrix Membranes as Water Vapor Barriers", Y. J. Bae, E. S. Cho, F. Qiu, D. T. Sun, T. E. Williams, J. J. Urban, W. L. Queen, Just Accepted, *ACS Appl Mater Interfaces*, **2016** 8, 10098.
4. "Hydrogen Storage in the Expanded Pore Metal-Organic Frameworks M₂(dobpdc) (M = Mg, Mn, Fe, Co, Ni, Zn)", D. Gygi, E. D. Bloch, J. Mason, M. R. Hudson, M. Gonzalez, R. Siegelman, T. Darwish, W. L. Queen, C. M. Brown, J. R. Long, *Chem. Mater.*, **2016**, 28, 1128.
5. "Enhanced Permeation Arising from Dual Transport Pathways in Hybrid Polymer-MOF Membranes", N. C. Sue, D. T. Sun, C. M. Beavers, D. K. Britt, W. L. Queen, J. J. Urban, *Energy Environ. Sci.*, **2016**, 9, 922 (featured cover article).
6. "Sub-Micron Polymer-Zeolitic Imidazolate Framework Layered Hybrids via Controlled Chemical Transformation of Naked ZnO Nanocrystal Films", S. M. Meckler, C. Li, W. L. Queen, T. Williams, J. R. Long, R. Buonsanti, D. Milliron, B. Helms, *Chem. Mater.*, **2015**, 27, 7673.
7. "Investigating the Adsorption of CO₂ in M-MOF-74 (M = Mn, Co, Ni, Cu) with Ab Initio Derived Force Fields", E. Haldoupis, J. Borycz, H. Shi, K. D. Vogiatzis, P. Bai, W. L. Queen, J. I. Siepmann, L. Gagliardi, *J. Phys. Chem. C.*, **2015**, 119, 16058.
8. "Flexible Metal-Organic Framework Compounds: In-Situ Studies for Selective CO₂ Capture", A. J. Allen, L. Espinal, W. Wong-Ng, W. L. Queen, C. M. Brown, S. R. Kline, K. L. Kauffman, J. T. Culp, C. Matranga, *J. Alloys Compd.*, **2015**, 647, 24.
9. "Recent Advances in Carbon Capture with Metal Organic Frameworks", K. C. Stylianou, W. L. Queen*, *Chimia* **2015**, 69, 274.
10. "Understanding Small-Molecule Interactions in Metal-Organic Frameworks: Coupling Experiment with Theory", J. S. Lee, B. Vlasisavljevich, D. K. Britt, C. M. Brown, M. Haranczyk, J. B. Neaton, B. Smit, J. R. Long, W. L. Queen*, *Adv. Mater.* **2015**, 27, 5785.

11. "Gradual Release of Strongly-Bound Nitric Oxide from $\text{Fe}_2(\text{NO})_2(\text{dobdc})$ ", E. D. Bloch, W. L. Queen, S. Chavin, P. S. Wheatley, J. M. Zadrozny, R. Morris, C. M. Brown, C. Lamberti, S. Bordiga, J. R. Long, *J. Am. Chem. Soc.*, **2015**, 137, 3466.
12. "Reversible CO Binding Enables Tunable CO/H_2 and CO/N_2 Separations in Metal-Organic Frameworks with Exposed Divalent Metal Cations", E. D. Bloch, M. R. Hudson, J. A. Mason, S. Chavan, V. Crocella, J. D. Howe, K. Lee, A. L. Dzubak, W. L. Queen, J. M. Zadrozny, S. J. Geier, L. C. Lion, L. Gagliardi, B. Smit, J. B. Neaton, S. Bordiga, C. M. Brown, J. R. Long, *J. Am. Chem. Soc.* **2014**, 136, 10752.
13. "Comprehensive Study of Carbon Dioxide Adsorption in the Metal-Organic Frameworks $\text{M}_2(\text{dobdc})$ ($\text{M} = \text{Mg}, \text{Mn}, \text{Fe}, \text{Co}, \text{Ni}, \text{Cu}, \text{Zn}$)", W. L. Queen*, M. R. Hudson, E. D. Bloch, J. A. Mason, M. Gonzalez, J. S. Lee, D. Gygi, J. D. Howe, K. Lee, T. Darwish, M. James, V. K. Peterson, S. J. Teat, B. Smit, J. B. Neaton, J. R. Long, C. M. Brown, *Chem. Sci.* **2014**, 5, 4569 (featured cover article).
14. "Ligand Coupling Symmetry Correlates With Thermopower Enhancement In Small-Molecule/Nanocrystal Hybrid Materials", J. J. Lynch, M. Kotiuga, V. V. T. Doan-Nguyen, W. L. Queen, J. D. Forster, R. A. Schlitz, C. B. Murray, J. B. Neaton, M. L. Chabiny, J. J. Urban, *ACS Nano*, **2014**, 8, 10528.
15. "Water Adsorption in Pours Metal-Organic Frameworks and Related Materials", H. Furukawa, F. Gándara Y-B. Zhang, J. Jiang, W. L. Queen, M. R. Hudson, O. M. Yaghi, *J. Am. Chem. Soc.*, **2014**, 136, 4369.
16. "Oxidation of Ethane to Ethanol by N_2O in a Metal-Organic Framework with Coordinatively Unsaturated Iron(II) Sites", D. J. Xiao, E. D. Bloch, J. A. Mason, W. L. Queen, M. R. Hudson, N. Planas, J. Borycz, A. L. Dzubak, P. Verma, K. Lee, F. Bonino, V. Crocellà, J. Yano, S. Bordiga, D. G. Truhlar, L. Gagliardi, C. M. Brown, J. R. Long, *Nature Chem.* **2014**, 6, 590.
17. "Selective Adsorption of Ethylene over Ethane and Propylene over Propane in the Metal-Organic Frameworks $\text{M}_2(\text{dobdc})$ ($\text{M} = \text{Mg}, \text{Mn}, \text{Fe}, \text{Co}, \text{Ni}, \text{Zn}$)" S. J. Geier, J. A. Mason, E. D. Bloch, W. L. Queen, M. R. Hudson, C. M. Brown, J. R. Long, *Chem. Sci.*, **2013**, 4, 2054.
18. "Evaluation of Cation-Exchanged Zeolite Adsorbents for Post-Combustion Carbon Dioxide Capture", T.-H. Bae, M. R. Hudson, J. A. Mason, W. L. Queen, J. J. Dutton, K. Sumida, K. J. Micklash, S. S. Kaye, C. M. Brown, J. R. Long, *Energy Environ. Sci.*, **2013**, 6, 128.
19. "Hydrocarbon Separations in a Metal-Organic Framework with Open Iron(II) Coordination Sites ", E. D. Bloch, W. L. Queen, R. Krishna, J. M. Zadrozny, C. M. Brown, J. R. Long, *Science*, **2012**, 335, 1606. Work was also highlighted in *C&E News*, **2012**, 90(16), 46.
20. "Unconventional and Highly Selective CO_2 Adsorption in Zeolite SSZ-13", M. R. Hudson, W. L. Queen, J. A. Mason, D. W. Fickel, R. F. Lobo, C. M. Brown, *J. Am. Chem. Soc.*, **2012**, 134, 1970.
21. "Hydrogen Adsorption in the Metal-Organic Frameworks $\text{Fe}_2(\text{dobdc})$ and $\text{Fe}_2(\text{O}_2)(\text{dobdc})$ " W. L. Queen, E. D. Bloch, C. M. Brown, M. R. Hudson, J. A. Mason, A.-J. Cuesta-Ramirez, V. K. Peterson, J. R. Long, *Dalton Trans.*, **2012**, 41, 4180.
22. "Symmetry Preservation in a New Noncentrosymmetric Lattice Comprised of Acentric POM Clusters Residing in Bowls of Cs^+ -Based Half SOD b-cage", W. L. Queen, J. P. West, S.-J. Hwu, T.-T. Tran, P. S. Halasyamani, D. VanDerveer, *Chem. Commun.*, **2012**, 48, 1665.
23. "Site Specific CO_2 Adsorption and Zero Thermal Expansion in an Anisotropic Pore Network", W. L. Queen, C. M. Brown, D. K. Britt, M. R. Hudson, P. Zajdel, O. M. Yaghi, *J. Phys. Chem. C*, **2011**, 115, 24915.
24. "Extended Utility of Molten Salt Chemistry: Unprecedented Synthesis of a Water-Soluble Salt-Inclusion Solid Comprised of High-Nuclearity Vanadium Oxide Clusters", W. L. Queen, J. P. West, S.-J. Hwu, *Inorg. Chem.*, **2011**, 50, 11064.
25. "Selective Binding of O_2 over N_2 in a Redox-Active Metal-Organic Framework with Open Iron(II) Coordination Sites", E. D. Bloch, L. J. Murray, W. L. Queen, S. Chavan, S. N. Maximoff, J. P. Bigi, R. Krishna, V. K. Peterson, F. Grandjean, G. J. Long, B. Smit, S. Bordiga, C. M. Brown, J. R. Long, *J. Am. Chem. Soc.*, **2011**, 133, 14814.
26. "Spaced Heterometallic 3d–4f Magnetic Chains from the Pseudo-One-Dimensional $\text{Na}_2\text{LnMnO}(\text{AsO}_4)_2$ Series: Stepped Magnetization in the $\text{Na}_2\text{GdMnO}(\text{AsO}_4)_2$ Ferromagnet", J. P. West, W. L. Queen, S.-J. Hwu, K. Mancheaux*, *Angew. Chem. Int. Ed.*, **2011**, 50, 1.