

KRISTA S. WALTON
Georgia Institute of Technology
School of Chemical & Biomolecular Engineering,
Atlanta, GA 30332

Professional Preparation

University of Alabama–Huntsville	Chemical Engineering	B.S.E., 2000
Vanderbilt University	Chemical Engineering	Ph.D., 2005
Northwestern University	Chemical & Biological Engineering	2005-2006

Appointments

- 2018—present Academic Program Director, Professional Master’s in Manufacturing Leadership, Georgia Tech
- 2016—present Professor and Robert “Bud” Moeller Faculty Fellow, Georgia Tech
- 2014 – present Director, DOE Energy Frontier Research Center, *UNCAGE-ME*
- 2014 – present Associate Editor, *Industrial & Engineering Chemistry Research*
- 2012—2016 Associate Professor and Marvin R. McClatchey and Ruth McClatchey Cline Faculty Fellow, Georgia Tech
- 2009—2012 Georgia Institute of Technology, Assistant Professor
- 2006—2009 Kansas State University, Tim and Sharon Taylor Assistant Professor

Selected Honors and Awards

- 2016 AIChE FRI/John G. Kunesh Award for Excellence in Separations Research
- 2015 University of Alabama-Huntsville Alumni of Achievement Award
- 2015 ACS Women Chemists Committee Rising Star Award
- 2013 International Adsorption Society Award for Excellence in Publications by a Young Member of the Society (*Inaugural Award*)
- 2009 CAREER Award, National Science Foundation
- 2008 Presidential Early Career Award for Scientists and Engineers (PECASE)
- 2007 Army Research Office Young Investigator Award

Selected Publications (87 peer-reviewed papers, > 4900 citations, h-index = 33)

1. Jiao, Y., Y. Liu, G. Zhu, J. T. Hungerford, S. Bhattacharyya, R. P. Lively, D. S. Sholl, K. S. Walton, Heat-Treatment of Defective UiO-66 from Modulated Synthesis: Adsorption and Stability Studies, *Journal of Physical Chemistry C*, *ACS Editors’ Choice, 2017, 121, 23471-23479.
2. Walton, K. S. and D. S. Sholl, Research Challenges in Developing Materials for Large-Scale Energy Applications, *Joule*, 2017, 1, 201-211.
3. Marti, R. M., J. D. Howe, C. R. Morelock, M. S. Conradi, K. S. Walton, D. S. Sholl, S. E. Hayes, CO₂ Dynamics in Pure and Mixed-Metal MOFs with Open Metal Sites, *Journal of Physical Chemistry C*, 2017, 121, 25778-25787.
4. Darunte, L., K. S. Walton, D. S. Sholl, C. W. Jones, CO₂ Capture via Adsorption in Amine-Functionalized Sorbents, *Current Opinion in Chemical Engineering*, 2016, 12, 82-90

5. Mounfield, W. P., C. Han, S. H. Pang, U. Tumuluri, Y. Jiao, S. Bhattacharyya, M. R. Dutzer, S. Nair, Z. Wu, R. P. Lively, D. S. Sholl, K. S. Walton, Synergistic Effects of Water and SO₂ on Degradation of MIL-125 in the Presence of Acid Gases, *Journal of Physical Chemistry C*, 2016, 120, 27230-27240.
6. Jiao, Y., C. R. Morelock, N. C. Burtch, W. P. Mounfield, J. T. Hungerford, K. S. Walton, Tuning the Kinetic Water Stability and Adsorption Interactions of Mg-MOF-74 by Partial Substitution with Co or Ni, *Industrial & Engineering Chemistry Research*, 2015, 54, 12408-12414
7. Burtch, N. C., K. S. Walton, Modulating Adsorption and Stability Properties in Pillared Metal-Organic Frameworks: A Model System for Understanding Ligand Effects, *Account of Chemical Research*, 2015, 48, 2850-2857.
8. Burtch, N. C., H. Jasuja, K. S. Walton, Water Stability and Adsorption in Metal-Organic Frameworks, *Chemical Reviews*, 2014, 114, 10575-10612.
9. Tulig, K. and K. S. Walton, An Alternative UiO-66 Synthesis for HCl-Sensitive Nanoparticle Encapsulation, *RSC Advances*, 2014, 4, 51080-51083.
10. Schoenecker, P. M., C. G. Carson, H. Jasuja, C. J. J. Flemming, and K. S. Walton. Effect of Water Adsorption on Retention of Structure and Surface Area of Metal-Organic Frameworks, *Industrial & Engineering Chemistry Research*, 2012, 51 (18), 6513–6519.

Synergistic Activities

- **Presentations and Outreach**: Delivered more than 100 talks at national and international conferences. Host, Georgia Tech GIFT Program for local high school chemistry teacher and students, summer 2010.
- **National/International Research Leadership**: International Adsorption Society, 2010-2015, Vice-Chair AIChE Separations Division Area 2e Vice-Chair 2011-2013/Chair 2013-2015, Co-Chair for National Academy of Sciences German-American Frontiers of Science, 2011-2012
- **Federal Policy Advising**: Member, National Research Council Committee to Examine the Disposal of Activated Carbon from the Heating, Ventilation and Air Conditioning Systems at Chemical Agent Disposal Facilities, 2008-2009
- **Associate Editor for *Industrial & Engineering Chemistry Research***: Editor since 2014, handling manuscripts related to adsorption and separation