

## James Landon

**Position Title:** Research Engineer Principal, Center for Applied Energy Research, Univ. of Kentucky

### PROFESSIONAL PREPARATION:

Lehigh University	Chemical Engineering	B.S., 2006
Carnegie Mellon University	Chemical Engineering	Ph.D., 2011
University of Kentucky	Postdoctoral Scholar	2011-2012

### APPOINTMENTS:

Adjunct Professor, Chemical & Materials Engineering, Univ. of Kentucky	2016-present
Research Engineer Principal, Center for Applied Energy Research, Univ. of Kentucky	2014-present
Associate Research Engineer, University of Kentucky	2012-2014
Postdoctoral Scholar, Univ. of Kentucky	2011-2012

### PRODUCTS (5 MOST RELEVANT):

1. X. Gao, A. Omosebi, J. Landon, K. Liu, "Surface Charge Enhanced Carbon Electrodes for Stable and Efficient Capacitive Deionization Using Inverted Adsorption-Desorption Behavior", *Energy Environ. Sci.*, 2015, 8 (3), 897-909. <http://dx.doi.org/10.1039/C4EE03172E>
2. J. Landon, E. Demeter, N. Inoglu, C. Keturakis, I. E. Wachs, R. Vasic, A. I. Frenkel, J. R. Kitchin, "Spectroscopic characterization of mixed Fe-Ni oxide electrocatalysts for the oxygen evolution reaction in alkaline electrolytes" *ACS Catalysis.*, 2012, 2, 1793-1801. <http://dx.doi.org/10.1021/cs3002644>
3. A. Omosebi, X. Gao, J. Landon, K. Liu, "Asymmetric Electrode Configuration for Enhanced Membrane Capacitive Deionization" *ACS Appl. Mater. Interfaces*, 2014, 6 (15), 12640-12649. <http://dx.doi.org/10.1021/am5026209>
4. X. Gao, S. Porada, A. Omosebi, K. Liu, P. M. Biesheuvel, J. Landon, "Complementary Surface Charge for Enhanced Capacitive Deionization" *Water Research*, 2016, 92, 275-282. <http://dx.doi.org/10.1016/j.watres.2016.01.048>
5. J. Landon, X. Gao, B. Kulengowski, J. K. Neathery, K. Liu, "Impact of Pore Size Characteristics on the Electrosorption Capacity of Carbon Xerogel Electrodes for Capacitive Deionization" *J. Electrochem. Soc.*, 2012, 159, A1861-A1866. <http://dx.doi.org/10.1149/2.007212jes>

### Other Significant Products:

1. A. Omosebi, X. Gao, N. Holubowitch, Z. Li, J. Landon, K. Liu, "Anion Exchange Membrane Capacitive Deionization Cells" *J. Electrochem. Soc.*, 2017, 164 (9) E242-E247. <http://dx.doi.org/10.1149/2.0461709jes>
2. J. Landon and J.R. Kitchin, "Electrochemical Concentration of Carbon Dioxide from an Oxygen/Carbon Dioxide Containing Gas Stream" *J. Electrochem. Soc.*, 2010, 157, 1149-1153. <http://dx.doi.org/10.1149/1.3432440>
3. L. Zheng, J. Landon, W. Zou, K. Liu, "Corrosion benefits of Piperazine as an Alternative CO<sub>2</sub> Capture Solvent" *Ind. Eng. Chem. Res.*, 2014, 53 (29), 11740-11746. <http://dx.doi.org/10.1021/ie501346z>

4. X. Gao, A. Omosebi, J. Landon, K. Liu, "Enhanced Salt Removal in an Inverted Capacitive Deionization Cell Using Amine Modified Microporous Carbon Cathodes", *Envir. Sci. & Tech.*, 2015, 49 (18), 10920–10926. <http://dx.doi.org/10.1021/acs.est.5b02320>
5. A. Omosebi, X. Gao, J. Rentschler, J. Landon, K. Liu, "Continuous Operation of Membrane Capacitive Deionization Cells Assembled with Dissimilar Potential of Zero Charge Electrode Pairs" *J. Colloid Interface Sci.*, 2015, 446, 344-350. <http://dx.doi.org/10.1016/j.jcis.2014.11.013>

#### **SYNERGISTIC ACTIVITIES**

1. Member of the Electrochemical Society (ECS) since 2009
2. Member of the American Chemical Society (ACS) since 2007
3. Member of the American Institute of Chemical Engineers (AIChE) since 2006
4. Head of the seed research committee at the University of Kentucky, Center for Applied Energy Research
5. Reviewer for *ACS Applied Materials & Interfaces*, *Carbon*, *Chemical Communications*, *Chemosphere*, *Colloid Communications*, *Desalination*, *Electrochimica Acta*, *Energy & Environmental Science*, *Environmental Science: Water Research & Technology*, *Environmental Science & Technology*, *Journal of Colloid and Interface Science*, *Journal of Materials Chemistry A*, *Journal of Membrane Science*, *Journal of Physics: Condensed Matter*, *RSC Advances*, *Separation and Purification technology*, and *Water Research*

#### **COLLABORATORS FROM THE PAST 48 MONTHS:**

Prof. Marc Anderson	University of Wisconsin-Madison
Prof. Rodney Andrews	University of Kentucky
Maarten Biesheuvel	Wetsus Institute
Prof. Aaron Cramer	University of Kentucky
Prof. John Kitchin	Carnegie Mellon University
Prof. Zheng Li	Tsinghua University
Prof. Kunlei Liu	University of Kentucky
Dr. David Leubke	National Energy Technology Lab
Prof. Susan Odom	University of Kentucky
Prof. Volker Presser	INM - Leibniz Institute for New Materials

#### **GRADUATE ADVISOR:**

Professor John Kitchin                      Carnegie Mellon University

#### **POSTDOCTORAL ADVISOR:**

Professor Kunlei Liu                      University of Kentucky

#### **GRADUATE STUDENT ADVISEES, PAST 5 YEARS**

Dr. Xin Gao (Ph.D. 2012, Postdoctoral Scholar)  
 Dr. Liangfu Zheng (Ph.D. 2010, Postdoctoral Scholar)  
 Dr. Ayokunle Omosebi (Ph.D. 2013, Postdoctoral Scholar)  
 Dr. Rafael Franca (Ph.D. 2013, Postdoctoral Scholar)  
 Dr. Wei Li (Ph.D. 2016, Postdoctoral Scholar)  
 Mr. Landon Caudill, co-advised with K. Liu (M.S., Expected Graduation: Spring 2018)