

Brandon D. Piercy

PhD Student · Materials Science and Engineering

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WORK EXPERIENCE

Graduate Research Assistant

August 2014 - present

Georgia Institute of Technology, *Atlanta, GA*

Advisor: Dr. Mark Losego

- Deposited ultrathin metal oxide films for solar cell, solar fuel generation, and electrocatalysis applications using **atomic layer deposition** (ALD).
- Developed a vapor infiltration method for modifying polymer properties.
- Designed and built ultra-high vacuum deposition reactors for chemical and physical vapor deposition.
- Designed and developed high-reliability control software for ALD process control, implementing a novel algorithm from the robotics industry.
- Mentored undergraduate students in academic research.

R&D Engineer I

June 2012 - July 2014

De Nora Tech, *Concord, OH*

- Developed a high performance anti-corrosion coating for oxygen evolution electrodes used in the metal plating industry
- Developed a process for producing titanium oxide-based photo-activated electrodes for water purification
- Developed a microchip-scale electrochemical ozone generator for use in appliances.
- Optimized the processing conditions for gas diffusion electrodes used in advanced salt splitting electrolysis reactors.
- Designed and developed command and control software for a lifetime analysis lab.

NNIN Undergraduate Fellow

Summer 2011

Harvard University, *Cambridge, MA*

Advisor: Dr. Michael Aziz

- Investigated the mechanisms and limitations behind making “hyperdoped” silicon alloys, potentially used in advanced solar cells.

SURF Undergraduate Fellow

Summer 2010

Georgia Institute of Technology, *Atlanta, GA*

Advisor: Dr. Gleb Yushin

- Synthesized and characterized electrodes for advanced supercapacitors using nano-templated carbon.

EDUCATION

Georgia Institute of Technology, 2018 (expected)

PhD — Materials Science and Engineering

GPA: 3.72

Case Western Reserve University, 2012

BS — Materials Science and Engineering

magna cum laude

GPA: 3.81

PUBLICATIONS

Piercy, B. D., Losego, M. D. "Tree-based control software for multilevel sequencing in thin film deposition applications." *J. Vac. Sci. & Tech. B.* **33**, 043201 (2015).

Piercy, B. D., Allen, C., Gulla, A. F. "Ta and Ti Anti-passivation Interlayers for Oxygen-Evolving Anodes Produced by Cold Gas Spray". *J. Thermal Spray Tech.* **24**, 4 (2015).

PRESENTATIONS

Piercy, B. D., Liu, C., Losego, M. D. "Organic-Inorganic Hybrid Dielectrics for Film Capacitors". *Electronic Materials and Applications 2016*. Poster. Jan. 20, 2016.

Piercy, B. D., Losego, M. D. "Sub-Nanometer Oxide Coatings for Improved Stability of Molecularly Sensitized Devices". *Center for Organic Photovoltaics Industry Partners Day*. Poster. Sept. 18, 2015.

Piercy, B. D., Losego, M. D. "Control software for multi-level sequencing in thin film deposition applications". *2014 MSE Industry Day and Career Fair*. Poster. June 14, 2014.

Piercy, B. D., Leng, C., Losego, M. D. "Interfaces and 3-Dimensionality for Energy & Security". *2014 MSE Research Symposium*. Poster. Sept 19, 2014.

FELLOWSHIPS AND SCHOLARSHIPS

President's Fellowship, *Georgia Institute of Technology*

Van Horn Scholarship, *Case Western Reserve University*

Trustees' Scholarship, *Case Western Reserve University*

HONORS, CERTIFICATIONS, PROFESSIONAL SOCIETIES

CETL Outstanding Graduate Teaching Award Finalist, *Georgia Institute of Technology*

2013 Workshop on Electrochemical Measurements, *Case Western Reserve University*

American Vacuum Society

American Ceramics Society

Tau Beta Pi

LEADERSHIP AND TEACHING EXPERIENCES

InterVarsity Christian Fellowship , <i>Case Western Reserve University</i>	2009-2012
Small Group Leader, Large Group Coordinator, Executive Team Leader	

Teaching Assistant , <i>Georgia Institute of Technology</i>	
MSE 2001 - Principles and Applications of Engineering Materials	Spring 2016
	Fall 2015
	Spring 2015

MSE 3002 - Structural Transformations	Fall 2014
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Teaching Assistant , <i>Case Western Reserve University</i>	
ENGR 145 - Chemistry of Materials	Spring 2012
	Spring 2010