

# Daniel D. Taylor

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## *EDUCATION*

### **University of Maryland**, College Park, MD

Ph.D. Candidate in Materials Science and Engineering (GPA 4.0), 2017 (expected)

Advisor: Professor Efrain E. Rodriguez

Thesis title: Crystallographic and chemical factors governing anion reactivity in perovskite oxides

### **McDaniel College**, Westminster, MD

B.A. in Chemistry with departmental honors (GPA 3.8), 2010

## *HONORS AND AWARDS*

Ludo Frevel Crystallography Scholarship Award Recipient, 2016

NIST Graduate Research Fellow, 2012 - present

Materials Science and Engineering Merit Scholarship Recipient, Spring 2013

Phi Beta Kappa, 2010

Magna Cum Laude, 2010

McDaniel College Department of Chemistry Writing Fellow, 2009

Gamma Sigma Epsilon, 2008

## *POSITIONS HELD*

### **NIST Guest Researcher**, 2013 – Present

Work with NCNR scientists utilizing neutron scattering instruments for the study of the structure and dynamics of various inorganic materials.

### **Graduate Research Assistant**, 2012 – Present

University of Maryland – College Park, Department of Materials Science and Engineering  
Research projects focused on linking a material's structure to its physical and chemical properties relevant to energy storage and conversion. Laboratory work centered on the synthesis and characterization of bulk functional transition metal oxides.

### **Research Assistant**, X-ray Crystallographic Center, University of Maryland, 07/2013-08/2015

Trained new facility users in the theory, data collection, and analysis of X-ray diffraction. Developed instrumentation and methods for performing in-situ XRD experiments under controlled temperature and atmosphere.

### **Analytical Chemist**, Department of Clinical Studies, The New Bolton Center, School of Veterinary Medicine, University of Pennsylvania, Kennett Square, PA, 2011-2012.

Developed and optimized UHPLC-MS/MS methods for the extraction, detection, and quantification of various doping agents in equine plasma for pharmacokinetic studies.

**Chemist**, Pharmaceutical Product Testing, Lancaster Laboratories Inc., Lancaster, PA, 2010-2011.

Worked in laboratory aimed at assessing various quality aspects of pharmaceutical products during phase II clinical trials. Performed new method feasibility and validation.

**Research Assistant/Intern**, Department of Clinical Studies, The New Bolton Center, School of Veterinary Medicine, University of Pennsylvania, Kennett Square, PA, Summers 2008-2009.

Member of research team developing methods to detect and quantify various banned substances in the equine system, using UHPLC-MS/MS systems.

## **PUBLICATIONS**

**Taylor, D. D.**; Schreiber, N. J.; Levitas, B. D.; Xu, W.; Whitfield, P. S.; Rodriguez, E. E. Oxygen Storage Properties of  $\text{La}_{1-x}\text{Sr}_x\text{FeO}_{3-\delta}$  for Chemical-Looping Reactions—An In Situ Neutron and Synchrotron X-ray Study. *Chem. Mater.* 2016, DOI: [10.1021/acs.chemmater.6b01274](https://doi.org/10.1021/acs.chemmater.6b01274)

**Taylor, D. D.**; Schreiber, N. J.; Brown, C. M.; Arevalo-Lopez, A. M.; Rodriguez, E. E. Stabilization of cubic  $\text{Sr}_2\text{FeMoO}_6$  through topochemical reduction. *Chem. Commun.* 2015, 51, 12201–12204 DOI: [10.1039/C5CC04145G](https://doi.org/10.1039/C5CC04145G)

Jolley, A. G.; **Taylor, D. D.**; Schreiber, N. J.; Wachsman, E. D. Structural Investigation of Monoclinic-Rhombohedral Phase Transition in  $\text{Na}_3\text{Zr}_2\text{Si}_2\text{PO}_{12}$  and Doped NASICON. *J. Am. Ceram. Soc.* 2015, 6. DOI: [10.1111/jace.13692](https://doi.org/10.1111/jace.13692)

Lennox, R. C.; **Taylor, D. D.**; Vera Stimpson, L. J.; Stenning, G. B. G.; Jura, M.; Price, M. C.; Rodriguez, E. E.; Arnold, D. C. PZT-like structural phase transitions in the  $\text{BiFeO}_3$ - $\text{KNbO}_3$  solid solution. *Dalt. Trans.* 2015, 44, 10608–10613 DOI: [10.1039/C5DT00140D](https://doi.org/10.1039/C5DT00140D)

You, Y.; Uboh, C. E.; Soma, L. R.; Guan, F.; **Taylor, D.**; Li, X.; Liu, Y.; Tsang, D. Investigation of the Role of Androstenedione-19-oic Acid in the Presence of 19-Norandrostenedione in Intact Male Horse Plasma Using Liquid Chromatography–Tandem Mass Spectrometry. *J. Equine Vet. Sci.* 2014, 34 (7), 860–869 DOI: [10.1016/j.jevs.2014.02.005](https://doi.org/10.1016/j.jevs.2014.02.005)

You, Y.; Uboh, C. E.; Soma, L. R.; Guan, F.; **Taylor, D.**; Li, X.; Liu, Y.; Chen, J. Validated UHPLC-MS-MS Method for Rapid Analysis of Capsaicin and Dihydrocapsaicin in Equine Plasma for Doping Control. *J. Anal. Toxicol.* 2013, 37 (2), 122–132 DOI: [10.1093/jat/bks098](https://doi.org/10.1093/jat/bks098)

## **ORAL PRESENTATIONS**

American Crystallographic Association 2016 annual meeting (scheduled)

Electrochemical Society PRiME 2016 meeting (scheduled)

## **POSTER PRESENTATIONS**

American Chemical Society Fall 2015 National Meeting, August 2015

University of California - Santa Barbara, International Center for Materials Research Workshop on advances in oxide materials, August 2014

Gordon Research Conference on Solid State Chemistry, July 2014