

Experience

- **Dr. Jason D. Nicholas Research Group, Michigan State University** **East Lansing, MI**
2015 – Present
Undergraduate Research Assistant
 - Second year in the MSU Engineering Summer Undergraduate Research Experience (EnSURE) program
 - Fabricated and tested Solid Oxide Fuel Cells using Electrochemical Impedance Spectroscopy
 - Examined infiltrated nanoparticle size using Scanning Electron Microscopy
 - Characterized nanoparticle powders using X-Ray Powder Diffraction
 - Developed a Python application for data analysis and visualization using Matplotlib and Tkinter
 - Presented research at MidSURE 2015
 - Participated in a weekly professional development seminar for the duration of the program
 - Continued research for credit during the school year
- **College of Engineering, Michigan State University** **East Lansing, MI**
2015 – Present
Undergraduate Lab Mentor
 - EGR 100 - Introduction to Engineering Design
 - Mentored one lab section with approximately 45 students
 - Aided students as they completed team projects and professional development activities
 - Responsible for grading projects and assignments
 - EGR 291 - Spatial Visualization
 - Mentored four lab sections with approximately 140 students
 - Promoted learning by helping students learn to visualize and transform three-dimensional objects
 - Responsible for grading assignments and quizzes
- **Dr. Lawrence T. Drzal Research Group, Michigan State University** **East Lansing, MI**
2014 – 2015
Undergraduate Research Assistant
 - First year in the MSU EnSURE program
 - Investigated and designed a graphene nanoplatelet capacitive deionization cell
 - Characterized graphene nanoplatelet papers using Scanning Electron Microscopy
 - Used Solidworks to create a 3D printed model for the deionization cell apparatus
 - Presented research at MidSURE 2014
 - Participated in a weekly professional development seminar for the duration of the program
 - Continued research during the school year

Education

- **Michigan State University** **East Lansing, MI**
2012 – 2016
B.S. Materials Science and Engineering
 - 3.53 GPA
 - Dean's List, 4 semesters
 - MSU College of Engineering Endowed Opportunity Fund scholarship recipient (2015 – 2016)
 - Webmaster for the Materials Science and Engineering Society (<http://egr.msu.edu/msesoc>) (2015 – 2016)

Publications and Presentations

- "Performance of A-site deficient ($\text{La}_{0.6-x}\text{Sr}_{0.4}\text{Co}_{0.8}\text{Fe}_{0.2}\text{O}_{3-\delta}$, $x = 0.02, 0.1, 0.25$) infiltrated nanoparticles as MIEC materials for SOFC cathodes" (2015)
- "Graphene Membranes for Desalination of Seawater by Capacitive Deionization" (2014)
- "Determining Iron Content of Water: How iOS Devices Can Indicate Water Quality" (2012)
- "Comparison of Protein Powders Using the Kjeldahl Method" (2011)

Technical Skills

Materials Characterization Techniques: Differential Scanning Calorimetry (DSC), Electrical Impedance Spectroscopy (EIS), Hardness Analysis, Optical Microscopy, Thermal Gravimetric Analysis (TGA), Scanning Electron Microscopy (SEM), X-Ray Powder Diffraction Spectroscopy (XRD)

Programming Languages Cocoa, C++, CSS, HTML, Java, JavaScript, \LaTeX , MATLAB, Objective-C, Python, Solidworks