Sabrina L. Peczonczyk

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Education

University of Michigan — **2009 – Present**
Doctoral Candidate, Department of Chemistry — *(Expected May 2014)*
Materials Chemistry

SUNY University at Buffalo — **2009**
Bachelors of Science in Chemistry — *Graduated Summa Cum Laude*

Research & Experience

Graduate Research Assistant — **2009-Present**
Department of Chemistry, University of Michigan
Advisor: Assistant Professor Stephen Maldonado

- Covalently bound organic groups to GaP(111)A, GaAs(111)A and GaN(0001) surfaces to impart stability and chemical tunability
- Characterized functionalized surfaces with X-ray photoelectron, infrared and Raman spectroscopy

Undergraduate Research Assistant — **2006-2008**
Department of Chemistry, SUNY University at Buffalo
Advisor: Professor Kenneth Takeuchi

- Improved reaction conditions to synthesize magnetite nanoparticles with a controllable size distribution under inert conditions.
- Characterized magnetite nanoparticles using powder X-ray diffraction.

Publications

3. Peczonczyk, S. L.; Mukherjee, J.; Carim, A. I.; Maldonado, S. "Wet Chemical Functionalization of III-V Semiconductor Surfaces: Alkylation of Gallium Arsenide and Gallium Nitride by a Grignard Reaction Sequence" *Langmuir*, **2012**, *28*, 4672-4682
2. Wen, W.; Carim, A. I.; Collins, S. M.; Price, M. J.; Peczonczyk, S. L.; Maldonado, S. "Structural and Photoelectrochemical Properties of GaP Nanowires Annealed in NH_3" *J. Phys. Chem. C.*, **2011**, *115*, 22652-22661
1. Mukherjee, J.; Peczonczyk, S.; and Maldonado, S. "Wet Chemical Functionalization of III-V Semiconductor Surfaces: Alkylation of Gallium Phosphide Using a Grignard Reaction Sequence" *Langmuir*, **2010**, *26*, 10890-10896

Presentations

10. (Invited Talk) Gordon Research Seminar on Chemical Reactions at Surfaces — April **2013**
    Les Diablerets, Switzerland
9. (Poster) Gordon Research Seminar on Chemical Reactions at Surfaces — April **2013**
    Les Diablerets, Switzerland
8. (Invited Talk) Graduate Student Symposium — May **2012**
    SUNY University at Buffalo, NY
7. (Invited Talk) Gordon Research Seminar on Electrochemistry — Jan. **2012**
    Ventura, CA
6. (Poster) Gordon Research Conference on Electrochemistry — Jan. **2012**
    Ventura, CA
5. (Poster) CERM ACS Regional Meeting — Aug. **2011**
    Indianapolis, IN
    Awarded poster prize in Colloid and Surface Chemistry subdivision
4. (Poster) Vaughan Symposium — Aug. **2011**
    University of Michigan, MI
3. (Seminar) Materials Student Seminar Series — Jan. **2011**
    University of Michigan, MI
2. (Poster) Vaughan Symposium — Aug. **2010**
    University of Michigan, MI
1. (Poster) Aldrich Symposium in Materials Science — Nov. **2010**
    University of Michigan

Awards and Honors

7. NSF Graduate Research Fellowship- Honorable Mention — **2011**
    National Science Foundation
6. NSF Graduate Research Fellowship- Honorable Mention — **2010**
    National Science Foundation
5. Hypercube Scholarship — **2009**
    University at Buffalo
4. Chemistry Alumni Scholarship — **2009**
    SUNY University at Buffalo
3. Chemistry Alumni Scholarship — **2008**
    SUNY University at Buffalo
2. Goldwater Scholarship- Honorable Mention — **2008**
    Goldwater Foundation
1. Ralph F. Theuer Scholarship — **2007**
    SUNY University at Buffalo

Teaching and Service

- General Chemistry Tutor **2010-Present**
  University of Michigan, Chemistry Department
- Graduate Student Instructor **2009-2011**
  University of Michigan, Chemistry Department
  - CHEM 130: General Chemistry
  - CHEM 241/242: Analytical Chemistry Lecture/Lab
- General Chemistry Tutor **2007-2009**
  University at Buffalo, Athletics Academic Student Development Services

Outreach and Professional Development

- Mentored many graduate, undergraduate and high school students on lab techniques and instrumentation, scientific theory, preparation for qualifying exams, editing of manuscripts and written applications and gave feedback on presentation format, content and delivery
- Volunteered as a guest speaker for the Michigan Math and Science Scholars High School Program. University of Michigan, 2012
- Volunteered as a judge for the Undergraduate Research Opportunity Program's Symposium. University of Michigan, 2010-2011.
- Developed an interactive lesson plan related to the source and uses of alternative energy, then taught a 7th grade science class. Seneca Middle School, Macomb, MI 2009

Instrumental Techniques and Computer Experience

<u>Instrumental Expertise</u>

- X-ray Photoelectron Spectroscopy
- Infrared Spectroscopy
- Contact angle goniometry
- Raman Spectroscopy
- UV/Vis Spectroscopy
- Time-Resolved Fluorescence Spectroscopy
- Standard Electrochemical Techniques (cyclic voltammetry, amperometry, etc.)
- Standard laboratory equipment (N_2 glovebox, Schlenk line, centrifuge, optical microscope)

<u>Software</u>

- CasaXPS
- OriginPro
- Adobe Illustrator
- Standard Word Processing (MS Office, Endnote, etc.)