

Rebeca Smith

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Academic Background

- 2001-2009 Ph.D. Degree, Material Science and Engineering, Arizona State University, Tempe, USA; Prof. Michael O’Keeffe
- 1996-2001 B.S. Industrial Chemical Engineering-Polymers Emphasis, Instituto Politécnico Nacional, Mexico City, Mexico

Work Experience

- 2010-Present ASU, Department of Chemistry and Biochemistry *Tempe, Arizona*
General Chemistry Instructor
- General Chemistry Senior Instructor
 - Lectured CHM114
 - Mentored Instructors and TAs
 - Developed standard operational procedures for recitation
 - Instructed the following general chemistry recitation courses and labs; CHM101, CHM113, CHM114, CHM116, 114 LAB and 101 LAB.
 - Lead recitation courses as well as managed Blackboard sites.
 - Lead 114 lab and assisted in managing the 114 lab Blackboard site.
 - Collaborated in presenting and developing demonstrations for general chemistry.
 - Authored, reviewed, revised and implemented online-based recitation activities.
 - Developed a new grading system for online-based activities.
- 2013-Present Grade School Level- Tutor *Mesa, Arizona*
- Taught math and science to 3rd-6th grade elementary school students.
 - Mentor elementary students in developing and completing science fair projects as well as their laboratory notebooks and final project reports.
 - Taught and helped 4th grade students prepared for the Arizona's Instrument to Measure Standards (AIMS) test.
- 2008-2009 Chemistry Tutor *Mesa, Arizona*
- Taught general chemistry to college and high school students
- 2002-2007 ASU, Department of Chemistry and Biochemistry *Tempe, Arizona*
Research Assistant
- Synthesized and characterized open-frameworks; focused on zeolite-type germanates and zirconogermanates.
 - Mentored undergraduate students in laboratory, poster presentations, and honor thesis.
- 2001-2002 ASU, Department of Chemistry and Biochemistry *Tempe, Arizona*
Teaching Assistant
- Instructed two general chemistry lab courses; CHM115 and CHM116

- 1999-2001 Centro Mexicano para la Producción Más Limpia *Mexico City, Mexico*
 Project Analyst
- Project member-*Cleaner Production in Sugar Factories of Mexico and Latin America.*
 - Evaluated sugar factories processes to improve waste management efficiencies.
 - Created ad-hoc reports for government and international agencies.
 - Designed cost-benefit analyses.
- 1999 Grupo Azucarero México *Veracruz, Mexico*
 Research Assistant, Quality Control Lab
- Conducted quality control analyses in sugar factories.
 - Conducted analyses on water treatment processes.
 - Conducted bacteriologic studies.

Academic Awards and Honors

- Arizona State University Graduate Academic Scholarship Fall 02-Spr 03
- Instituto Politécnico Nacional Research Scholarship 1999-2001
- Telmex Academic Excellence Scholarship 1997-2001
- Selected to represent Mexico at the Pan-American ACS Conference, Puerto Rico 2000

Leadership Activities

- 2000-2001 *Student Body President*, Instituto Politécnico Nacional Chapter; Mexican Chemical Society Mexico City, Mexico
- 1997-1998 *Student Council Member*, Instituto Politécnico Nacional, Mexico City, Mexico

Publications

- [1] Dawson, C. J., Sanchez-Smith, R., Rez, P., O’Keeffe, M., Treacy, M. M. J.
 “Ab Initio Calculations of the Energy Dependence of Si–O–Si Angles in Silica and Ge–O–Ge Angles in Germania Crystalline Systems”
Chemistry of Materials, Article ASAP (2014), DOI: 10.1021/cm402814v.
- [2] Bonneau, C., Sun, J., Sanchez-Smith, R., Guo, B., Zhang, D., Kentaro Inge, A., Edin, M., Zou, X.
 “An Open-Framework Germanate Built from the Hexagonal Packing of Rigid Cylinders”
Inorganic Chemistry (2009), 48 (21), 9962-9964.
- [3] Stadie, N. P., Sanchez-Smith, R., Groy, T. L.
 “Di- μ -acetato- κ^4 O:O’- μ -oxido- κ^2 O:O-bis[(acetic acid- κ O)bis(1H-imidazole- κ N³)magnesium(II)]”
Acta Crystallographica Section E (2007), 63, m2153-m2154.
- [4] Plevert, J., Sanchez-Smith, R., Gentz, T. M., Hailian, L., Groy, T. L., Yaghi, O. M., O’Keeffe, M.
 “Synthesis and Characterization of Zirconogermanates”
Inorganic Chemistry (2003), 42 (19), 5954-5959.