

Natalie Saenz

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+1 954.439.8065.

EDUCATION

Columbia University , New York City, Ph.D. Chemistry	Projected end date: June 2022
Universidad de Granada , Granada, Spain M.S. Science and Technology of Architectural Cultural Heritage	September 2017
Princeton University , Princeton, NJ A.B. in Chemistry Cum Laude, Sigma Xi	June 2015
St. Thomas Aquinas High School , Ft. Lauderdale, FL Summa Cum Laude, STAHS Service Award	June 2011

RESEARCH EXPERIENCE

Owen Lab

Columbia University, Department of Chemistry September 2017- present

- Characterization of cadmium chalcogenide semiconductor nanocrystals

Cultrone Lab

University of Granada, Department of Mineralogy October 2016- August 2017

- Masters thesis: "Analysis of Tempered Bricks for Use in Restoration"
- Developed new brick materials for use in architectural conservation

Fulbright Research Grant: Ferritin as a Photocatalyst for Biomass Oxidation

University of Granada, Department of Inorganic Chemistry September 2015 –June 2017

- Investigation of the mechanisms for iron(II) release from ferritin protein as well as the protein's photocatalytic abilities

U.S. Department of Agriculture: ARS

Environmental Microbial and Food Safety Laboratory May-August 2015

- Designed metal-organic frameworks (MOFs) for controlled gas release for uses in fruit ripening and transportation

Bender Lab

Princeton University Department of Geosciences 2014-2015

- Implemented isotope ratio mass spectroscopic techniques to study plant metabolism
- Senior thesis: "Stable Isotope Analysis of Sunflower Leaf Respiration at Low Light Intensities: the Metabolic Origin of the Kok Effect" (2015)
- Princeton Environmental Institute internship "Shedding Light on Plant Respiration"

Dominguez-Vera Lab

University of Granada Department of Inorganic Chemistry Spring 2014

- Synthesized fluorescent magnetic bioinorganic probes for biomedical use with ferritin protein

Tse-Dinh Lab

Florida International University Department of Biochemistry Summer 2013

- Investigated topoisomerase correlation with diseases: tuberculosis, HIV/AIDS, autism

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Maloof Lab

Princeton University Department of Geosciences

2011-2013

- Prepared samples for uranium-lead isotope dating

PUBLICATIONS

P. Gauthier, G. Tcherkez, N. Saenz, K. Griffin, M. Bender, “Disentangling the origin of the Kok effect using 13 C position specific glucose labeling in *Helianthus annuus* (L.) leaves.” *New Phyt.* submitted

Zhang, B., Y. Luo, K. Kanyuck, N. Saenz, K. Reed, P. Zavalij, J. Mowery, G. Bauchan, “Facile and template-free solvothermal synthesis of mesoporous/macroporous metal–organic framework nanosheets.” *RSC Adv.*, **2018**,8, 33059-33064

N. Saenz, E. Sebastian, G. Cultrone. “Analysis of tempered bricks: from raw material and additives to fired bricks for their use in construction and built heritage conservation.” *European Journal of Mineralogy*, **2018**, 31, 1.

N. Saenz, M. Sánchez, N. Gálvez, F. Carmona, P. Arosio, J. Dominguez-Vera. “Insights on the (Auto)photocatalysis of Ferritin” *Inorganic Chemistry* **2016**, 55 (12), pp 6047–6050 DOI: 10.1021/acs.inorgchem.6b00547

AWARDS/ SCHOLARSHIPS

IIE Fulbright Research Grant	2015
Sigma Xi Honor Society	2015
Princeton Environmental Institute Grant	2014
Ingersoll Rand National Merit Scholarship	2011

RELATED SKILLS

Computer Proficient: Python, Microsoft Office

Languages: Native Spanish speaker, Latin, beginner German

OUTREACH/EDUCATION/MENTORING

The Avenue High School Program leader and mentor	2017-present
Girls Science Day, Experiment leader	2017, 2018
Colegio Mayor Alsajara, Resident Graduate Student	2016-2017
Club Asociación Universitaria Montillar, Volunteering coordinator for cultural club	2015-2016
Asociación de Mujeres Empresarias, After-school teacher for immigrant students	2016-2017
Wiggins House, Women’s Cultural Center, University Coordinator	2013-2015
Women in Science Colloquium, Officer, Board Member	2011-2015
Chemistry Department Social Outreach, Demonstration volunteer	2014-2015
SVC One-one-One Tutoring, Weekly tutor/mentor for at-risk girls	2011-2014