Niloufar Lilly Sarvian

Earth and Planetary Sciences
Northwestern University
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Education

PhD Candidate, Earth & Planetary Sciences 2017 – Present
Northwestern University
Research focus: Investigating the radiogenic ($\delta^{87/86}Sr$) and stable strontium ($\delta^{88/86}Sr$) isotopes in carbonate rocks from the Neoproterozoic Era.
Advisors: Matthew T. Hurtgen, Andrew D. Jacobson, Magdalena R. Osburn

Bachelor of Science, Chemistry 2011 – 2015
University of California, Santa Barbara

Research Interests

Element cycling in a modern and ancient Earth, Climate Change, Sustainable Energy, Novel Isotope Proxies

Fellowships and Awards

EPS Departmental Service Award 2019 – 2020
AAPG Foundation $500 Award for NU Geoclub 2020 – 2021
Institute of Sustainability and Energy at Northwestern Cluster Fellow 2018 – 2019
NSF Graduate Research Fellow – Honorable Mention 2018
NASA California Space Grant Consortium Spring 2013
UC Santa Barbara Rowing Mentorship Program Fellowship 2011 – 2015

Presentations

Stable Sr Isotopes and the Neoproterozoic Carbonate Cycle
Geologic Society of America, Virtual October 2020
Northwestern University GeoEquity Initiative
Geologic Society of America, Virtual October 2020
Radiogenic and stable Sr isotope records preceding the Sturtian snowball earth event
Goldschmidt Conference, Virtual July 2020
Stable strontium isotope ($\delta^{88/86}Sr$) record of pre-Sturtian carbonate rocks spanning a large $\delta^{13}C$ anomaly
Goldschmidt Conference in Barcelona, Spain August 2019
Midwest Geobiology Conference in St. Louis, MO September 2019
Power Threads – Cooling Military Helmet
Presentation to Venture Capitalists for March 2019
ISEN 430: NUvention – Energy

Experience

International Association of Sedimentology (IAS) May 2020 [pandemic, postponed]
International Summer School of Sedimentology, Eleuthera Island, Bahamas

Research Chemist November 2015 – August 2017
Omnis Mineral Technologies LLC, Santa Barbara, CA
Head of characterization laboratory - conducted solo and collaborative materials research projects including research on desulfurization, oxidation and purification of coal.
Research Assistant, Weldeab Lab June 2016 – December 2016
Department of Earth Science, UC Santa Barbara, Santa Barbara, CA
Paleoclimatology and paleoceanography research
Intern, Office of Radiation and Indoor Air, June 2015 – August 2015
U.S. Environmental Protection Agency, Washington, D.C.
Analysis on public comments for CFR 192 Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings.
Research Assistant, Stücky/Moskovits Lab March 2014 – December 2014
Department of Chemistry, UC Santa Barbara, Santa Barbara, CA
Testing the toxicity of nanoparticles using electrochemistry and examining new materials to be used for photovoltaic cells.

Research Assistant, Lubin Cosmology Lab June 2013 – September 2013
Department of Physics, UC Santa Barbara, Santa Barbara, CA
Researched the vaporization point of every element on the period table, and created and checked equations related to laser vaporization of meteorites

Teaching Assistantships

EARTH 373: Microbial Ecology Spring (virtual) 2020
EARTH 106: Ocean, Atmosphere, and Climate Fall 2019
ISEN 220: Introduction to Energy Systems for the 21st Century Winter 2019

Outreach

GeoEquity Initiative, Northwestern University June 2020 – present
I am part of a group of Earth and Planetary Sciences graduate students who started an initiative to increase the presences of underrepresented minorities in the Earth sciences. Includes education on how to be anti-racist and diversity and inclusion initiatives.
Science Club, Northwestern University January 2020 – [paused for pandemic]
I work with middle school students at the Pedersen-McCormick Boys & Girls Club in Uptown to create a science project, that generally last over a quarter. We mentor students from mainly underrepresented minorities in a lower income neighborhood and provide accesses to the scientific process at a young age.
Expanding Your Horizons, Workshop Presenter December 7th, 2019
Curated and hosted a one-hour workshop for middle school girls; performed an experiment to better understand ocean acidification

Adler Planetarium Earth Fest Climate Expert April 13th, 2019
Engage with the general public to answer questions about the science behind climate change.

Earth and Learn Symposium – Workshop Presenter May 20th, 2019
Co-presented a workshop concerning climate science to Whitney Young high school students on Earth Day.

Integrating Climate Science into STEM Courses June 28th, 29th 2018
Workshop contributor, curated activities related to climate change that can be easily integrated into any high school chemistry or physics course, emphasis on sea ice and glaciers

Isla Vista Elementary School Volunteer December 2011 – June 2015
Title 1 school teacher's aide for after school program and M.U.S.I.C club instructor; created mini lessons regarding science, gave cello private lessons

Junior Wheelchair Sports Camp Volunteer Summer 2013, 2014
Weeklong camp hosted at UC Santa Barbara. Assisted the wheelchaired instructors with lessons and set up/take down and interacting with participants.

Extracurricular

Northwestern University GeoClub – *Treasurer, President* 2018 – present
Member of executive board, responsible for keeping the budget, negotiating funding for the club, and organizing events. The NU GeoClub is for graduate and undergraduate students from any department to come together to participate in outdoor excursions, and discussions ranging in topics from how to get into graduate school to diversity in the sciences.

UC Santa Barbara Rowing Team – *Varsity Coxswain, Officer* 2011 – 2015
Four-year rower at UC Santa Barbara
Awarded: Most Improved 2013 & 2014, Legacy Award Recipient 2015
Officer responsibilities including Women's Team Recruitment/Retention Officer 2013 -2014, and Team Whip Officer 2014 – 2015.

Orchestra Cellist 2007 – 2011

Publications

Lubin, P., Hughes, G.B., Bible, J.J., Bublitz, J., Arriola, J., Motta, C., Suen, J., Johansson, I., Riley, J., Sarvian, N. and Clayton-Warwick, D., 2014. Toward directed energy planetary defense. *Optical Engineering*, *53*(2), p.025103.

Hughes, G.B., Lubin, P., Bible, J.J., Bublitz, J., Arriola, J., Motta, C., Suen, J., Johansson, I., Riley, J., Sarvian, N. and Wu, J., 2013, September. DE-STAR: phased-array laser technology for planetary defense and other scientific purposes. In *Nanophotonics and Macrophotonics for Space Environments VII* (Vol. 8876, p. 88760J). International Society for Optics and Photonics.