



Claudia Benitez-Nelson (1972-Present)

College of Arts & Sciences Distinguished Professor

**University of South Carolina, Marine Science Program
& Department of Earth & Ocean Sciences**

“There are now excellent networks comprised of successful minority men and women for people coming into the geosciences field. You don’t have to feel like you’re the only one.” Claudia Benitez-Nelson, 2014.

Overview

Dr. Claudia Benitez-Nelson is a College of Arts & Sciences Distinguished Professor in the Marine Science Program and Department of Earth & Ocean Sciences at the University of South Carolina. Her research focuses on the biogeochemical cycling of phosphorus and carbon and how these elements are influenced by both natural and anthropogenic processes. She is a diverse scientist, with expertise ranging from radiochemistry to harmful algal bloom toxins and is highly regarded for her cross-disciplinary research. Dr. Benitez-Nelson has authored or co-authored more than 90 papers, including lead author publications in the journals *Science* and *Nature*. Her many research honors include the Early Career Award in Oceanography from the American Geophysical Union in 1996, Fulbright and Marie Curie Fellowships in 2008, and she was named a National Academies of Science/Humboldt Foundation Kavli Fellow in 2012. Dr. Benitez-Nelson is also highly regarded as a teacher and mentor, having received the National Faculty of the Year Award from the National Society of Collegiate Scholars in 2005 and the University of South Carolina’s Mungo Teaching Award in 2006. In 2013, Dr. Benitez-Nelson was named the University of South Carolina’s Distinguished Professor of the Year and in 2014 received the Sulzman Award for Excellence in Education and Mentoring from the Biogeosciences Section of the American Geophysical Union. Her recent publications include:

- Puigcorb , V., Benitez-Nelson, C.R., Masqu , P., Verdeny, E., White, A.E., Popp, B.N., Prahl, F.G., Lam, P.J. (2015) Small particles drive summertime carbon and nutrient export in the Gulf of California and Eastern Tropical North Pacific. *Global Biogeochemical Cycles*, in press.
- Benitez-Nelson, C.R. (2015) Ocean chemistry. The missing link in oceanic phosphorus cycling? *Science*, 348, 759-760.

- McParland, E., Benitez-Nelson, C.R., Taylor, G.T., Rollings, A., and Lorenzoni, L (2015) Cycling of suspended particulate phosphorus in the redoxcline of the Cariaco Basin. *Marine Chemistry*, in press.
- Madden, L., Bedward, J.C., Wiebe, E.N., Benitez-Nelson, C.R. (2014) Lessons Learned in Summer Camp: A Case Study of the Learning Paths of Three Campers. *Electronic Journal of Science Education*, 16(3).
- Pinckney, J.L., Benitez-Nelson, C.R., Thunell, R.C., Muller-Karger, F. Troccoli, L., and Varela, R. (2015) Changes in phytoplankton community structure in the 1 Cariaco Basin from 1995 to 2011 in response to changes in physical forcing. *Deep-Sea Research*, 101, 27-37. DOI: 10.1016/j.dsr.2015.03.004

Early Life and Career

Claudia Benitez-Nelson is the only child of Nurith St. Pierre, a now retired nurse practitioner. Though she lived in New York City when she was very young, she and her mother moved to Seattle when she was six. Her mother remarried several years later and Claudia's single parent home became a family of seven. Dr. Benitez-Nelson says growing up in Seattle had an impact on her budding intellectual interests. "Seattle is a very environmentally conscious city," she notes. "I couldn't help but be aware of environmental issues."

Water is also a big part of Seattle's livelihood, and Benitez-Nelson was always attracted to it. She began her college career studying chemistry "because I was good at it;" she then took an introduction to oceanography course and found that she was good at that too. However, it took the guidance of a mentor to make her realize that she could pursue her scientific interests professionally. "At first, it didn't occur to me that I could study these subjects or have a career in them," she admits. "[But] one day, my professor told me to think about marine science as a career. He really got me involved and interested, and sent me to an advisor in the Oceanography Department. That's how it all started."

Dr. Benitez-Nelson earned her Bachelor of Science in chemistry and chemical oceanography from the University of Washington in 1992, and her PhD in marine chemistry and geochemistry from the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution joint program in 1999. Three weeks after receiving her doctorate, Benitez-Nelson took a job as a research faculty member at the University of Hawaii. "I had worked in labs as a research assistant up until then, but that was my first real environmental research job," she says. "I wasn't required to teach or mentor students, I just did research." Dr. Benitez-Nelson's research there involved examining how, and in what forms, phosphorous is utilized by marine organisms for growth. She also looked at how carbon dioxide is removed from the atmosphere by examining the formation and sinking of carbon containing particles in the ocean.

Contributions

In 2002, Dr. Benitez-Nelson joined the faculty in the Department of Geological Sciences (Now Earth & Ocean Sciences) at the University of South Carolina (USC), where she teaches and continues to do research. She is now a College of Arts & Sciences Distinguished Professor in Marine Sciences and has stayed there for more than a decade. "I found out the job was available, thought the position looked great and applied for it," she says simply. While, "I had other offers," she notes, "USC was the place that wanted me the most and felt like a family." She served as both the overall Director and the Director of

Undergraduate Studies at the school's Marine Science Program. In her roles, Dr. Benitez-Nelson modernized the undergraduate curriculum, expanded the number of Marine Science faculty, and increased the size of the undergraduate and graduate programs. Benitez-Nelson remains an active researcher and is still interested in phosphorus biogeochemistry and particle cycling. She has led a number of interdisciplinary programs and has authored or coauthored more than 90 publications and received more than \$3 million in grant funds.

Importance of Mentoring to Career

Benitez-Nelson's role as a mentor to her department's faculty and students stems in part from experience with her own mentors, especially her relationships with female professors and other female scientists. "In my field there are few to no minorities, so my mentors have mostly been women I saw who were successful," she explains. "Those women became great academics and research scientists. They were married with kids and could do it all. They weren't perfect, of course, but they were getting it done and they LOVED their jobs. I admired them and wanted to be one of them." She was also encouraged by her "outstanding" Ph.D. advisor, Dr. Ken Buesseler, and continues to look to her colleagues at USC for mentorship, especially Drs. Billy Moore and Bob Thunell: "Whenever I have questions, I go to them." She notes that her diverse range of mentors share one important characteristic: they are people who take their science seriously, but aren't consumed by it. "They thought it important to communicate science in a way that all people could understand, and they also thought it important to be with family," Dr. Benitez-Nelson says. She tries to follow their lead as much as possible, maintaining "a life outside work."

Mentoring to Others

Benitez-Nelson is now a mentor to developing scientists herself, a role that she cherishes. "Integrating research with teaching and mentorship has been the highlight of my career so far," she says. She admits mentorship wasn't something that initially attracted her, but through experience she discovered she loved it, and now "I try to do it all the time." She is currently involved in a number of diversity-related mentorship activities, including Minorities Striving and Pursuing Higher Degrees of Success in Earth System Science initiative (MSPHDs), the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), and several initiatives on the USC Campus. She also runs a program that takes undergraduate and graduate students into elementary schools to do science projects with at-risk kids, and she has mentored high school students in her lab. Dr. Benitez-Nelson notes that all of the programs she is currently involved in are mentoring programs, because "that's how you get people involved. As a mentor, I can show people that they can go into the environmental science field, they can obtain a good job, and love what they do. That's how I increase diversity directly."

Although Dr. Benitez-Nelson describes her career as being "wonderful" overall, there have been a few rough spots. One was the birth of her first child. "After my son was born, I loved being with him," she recalls. "It suddenly put things in perspective in terms of what was important and what wasn't." Dr. Benitez-Nelson says that at times, lack of sleep became a problem, and it was difficult to manage the shift in focus between her career and her son. "My career wasn't as important at that point—instead, my son was the highlight of my life," she says. However, she was able to get through that period with the support and encouragement of her mentors and her family, especially her husband and mom. "Life's been pretty

good in general,” Benitez-Nelson says. “Everyone has hardships, but you get through them.” Dr. Benitez-Nelson is now the proud mother of two children,

Benitez-Nelson acknowledges that it can sometimes be difficult working in the scientific field when “[I] look like I do.” She notes that she has sometimes been mistaken for a secretary because of her race and gender, and people have at times assumed she’d be more “comfortable” in certain areas of a city solely because that’s where “minorities live.” She realizes that such mistakes are often made out of ignorance rather than malice; however, educating others can become tiresome after awhile. Fortunately, Benitez-Nelson notes that attitudes like these are slowly improving. “I think it’s changing,” she says. “There is a lot of progress being made in people’s perceptions, and how they think.”

Benitez-Nelson is hopeful about engaging more minorities in the environmental field. “Once they are exposed to the exciting and diverse opportunities in the geosciences, a lot of minorities become intrigued and engaged,” she notes. “It’s all about exposure.” As for minorities pursuing careers in the field, Benitez-Nelson has this advice: “There are now excellent networks comprised of successful minority men and women for people coming into this field. You don’t have to feel like you’re the only one.”

For More Information

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This interview was conducted in 2015.