



Marcos García-Ojeda PEER Spotlight, January 2024

PEER Spotlights highlight the accomplishments and visions of PEER (People Excluded by Ethnicity and Race) members within the SABER community.

Marcos García-Ojeda, PhD, is the immediate past president of SABER and a Teaching Professor at the University of California, Merced. Marcos a founding faculty member at UC Merced and since 2022, he has been the Associate Dean of Equity, Justice, and Inclusive Excellence. Learn more about Marcos' research trajectory and his tips for finding a mentor in the interview below.

Recently, the Immediate Past President of SABER, Marcos García-Ojeda, took some time to have a conversation about his training trajectory in Discipline-Based Education Research (DBER). Marcos had many interesting insights to share about his motivations in AIDS/HIV research, his path to education research, and strategies on identifying mentors. Read on to learn about his tips and please say hi to Marcos at the next SABER meeting! You can always email him at mgarcia-ojeda@ucmerced.edu.

Laurel Lorenz (LL): So just to start off, I want to ask a question that I was asked several times during graduate school and post-doc interviews. Can you tell me about yourself?

Marcos García-Ojeda (MG-O): Alright, I was born and raised in Puerto Rico until I left at 18 to go to college in the US. I then got an undergraduate degree in Microbiology at the University of Illinois. The way I got into microbiology was because of both my interest in the AIDS pandemic and my high school counselor's recommendation. She thought genetic engineering could be a good field for me. While I got into the genetic engineering program, it was closed a year later. The good news is that someone recommended that I look into studying microbiology, which turned out to be a blessing in disguise.

It was a bit of a culture shock adapting to being in the Midwest of the United States as I was the only person who spoke Spanish and I was the only one with a Latino identity. But I adapted, and being at the University of Illinois was good training for me. I had research opportunities both at the University and outside of the University. I also developed a passion for immunology.

LL: Did you always want to study Microbiology or Immunology?

MG-O: I always wanted to be a biologist. To be honest, if I would have not seen the movie Jaws, I would have been a marine biologist because I'm from an island and my dad is a fisherman from a tiny fishing village. I was always fascinated by biology. The poor lizards in my house were terrorized by me because I was catching them and dissecting some of them!

But the AIDS epidemic changed the way that I approach things. Because I'm a gay man, I saw the bias and the hatred that people had, especially in the US. I thought to myself, I can do something about this. I may not be the smartest, but I can do something about it. So that was my high-school idea and what guided me in undergraduate school.

LL: What did you do after undergraduate studies?

MG-O: I came to the University of California, Santa Cruz, Biology Department for what turned out to be my master's. I thought I was going to get a doctorate, but you know, sometimes programs and advisors do not match that well. Afterwards, I went to work in industry for a couple of years, and that was really good. I had a fantastic mentor who saw a lot of potential in me and helped me lick the wounds of my master's program, rebuild my confidence, and have faith that I could do science.

My mentor suggested that I apply to Stanford University. She believed in my own capacity a lot more than I did. So, I applied and got into Stanford. I completed my doctorate in the Stanford School of Medicine's Program of Immunology. It was a really good training. It was an environment where I found myself thriving and enjoying science.

LL: What did you do after your graduate program in immunology?

MG-O: I was still motivated by the AIDS pandemic and wanted to complete research in France because that's where the Nobel Prizes for HIV were - Françoise Barré-Sinoussi and Luc Montagnier. France had a very different attitude than the US about HIV and AIDS. During the Reagan years, people in the US were not doing AIDS research because nobody wanted to touch it with a 10-foot pole.

I did my postdoctoral studies at the Pasteur Institute in Paris for four years. I was super happy living in Paris with my baguettes, my café au lait, and my little bohemian hat. I fit in well with the Parisian lifestyle. Then when it came to time to look for a job, I got hired at the University of California, Merced, which opened the year before in 2005. For almost eight years, I had a research lab studying developmental immunology. But for personal and funding reasons, it was not sustainable to me. My kind of work would have been better suited at a university with a hospital, and I required more facilities than we had. So, while I was being very creative with research, I had to decide to close my lab. But I didn't want to close the lab and leave the University. Fortunately, the University invited me to stay as a teaching professor.

LL: What was it like becoming a teaching professor?

MG-O: Initially, I thought I could keep teaching just like I had been doing. I loved teaching. I loved my students. I was good at teaching. But now, when I look back on those early years, I realize that I was doing a horrible job. I was lecturing. I was doing three exams per class - each of them was 30% of the grade. I was very faculty centered. So, I sat back and asked myself, "what's happening?"

That's when I learned that Brian Sato, Stanley Lo, and others were spearheading projects to see how faculty could be agents of change in improving student learning. I started learning more about pedagogy

by attending the STEM Education Research meeting at UC Irvine, took a sabbatical in the Department of Biology Teaching and Learning at the University of Minnesota, and started learning about biology education research.

When I attended my first SABER meeting in 2015, I was blown away by all the fantastic things that were being done. Meeting Jenny Knight and Kimberly Tanner literally changed the way I thought about teaching. Everyone was so supportive. They helped me realize that instruments are surveys - not machines!

LL: Now that you're familiar with instruments, what do your DBER projects focus on?

MG-O: I have two projects going on in the lab and both relate to the student populations at UC Merced, a minority serving institution. We have 52% Latino, 28% Asian, 10% White and about 5% African American students. So my question is, since a lot of the work with DBER theories has been done primarily at predominantly white institutions, do the Latino and other students of color that I serve get the same benefits from these theories?

My graduate student, John Espinosa, is looking at student's research cultural capital in CUREs. He's particularly interested in evaluating the experiences of transfer students because as they transition to the institution, the number of opportunities for them to interact with faculty to conduct research is greatly diminished. So, the number of interactions may influence students' scientific cultural capital and CUREs might be able to mitigate this difference.

The other project is my pet project. I'm looking into how the physical environment of classrooms in lecture halls and active learning classrooms benefit students. In our work, we are seeing that the performance gap is closing between women of color and white women. So, we are looking at what factors provide these benefits.

LL: Interesting! From your research, do you have any insights about what parts of the physical environment benefit your students?

MG-O: Well, I think even though the pedagogical structure in both classes is flipped, the environment influences the students' motivation to be prepared. In the lecture hall, students resist sitting with their group and the group dynamics are different than when groups are sitting at tables in an active learning space. So, I think that students in the active learning groups have a greater sense of responsibility and group dynamics when they are sitting at a table together.

My hypothesis is that in the active learning space, none of the students want to be the weakest link. Therefore, they try to do the legwork ahead of time to be prepared. Whereas when they're in the lecture hall, there's no incentive to come prepared. So that's my hypothesis and I'm working through theories that could explain what I'm seeing – maybe something beyond self-determination theory.

LL: Oh wow, that's very interesting about how the physical space impacts how prepared students are. From all of your work, what are you the proudest of?

MG-O: Whenever I have felt pride in what I do, it's seeing my students walk across the graduation stage and realizing that they made it. Their accomplishments get reinforced years later when I get a text

message from them about their life. A few weeks ago, I received one from a student saying, "Hi professor, I got into a residency at Yale and I just wanted to thank you for preparing me so well." I see those messages and think, no I didn't do anything - you did all the work.

It's particularly exciting to see the success of my students because my students are often children of immigrants and first-generation students. So, they are the dreams of their ancestors and having a chance to see them put in the hard work to realize their dreams gives me pride.

LL: Earlier, you mentioned that you had a mentor who really helped you regain your confidence in science. Do you have any strategies on how to find a supportive mentor?

MG-O: Let me phrase this from the perspective of the environment that I am in, in the US, which tends to be very individualistic. The popular rhetoric is that people have to pull themselves up by their bootstraps. But that is a myth, and I don't think that works for most people, especially if they do not have boots! I know that I would not be where I am without the support and the help of a small army of people who saw some promise in me. They decided that supporting me was worth their time and effort.

People with privilege already have nurturing environments, connections, and resources that allowed them to thrive. They may be able to pull themselves up by their designer bootstraps, because they had ample support. Without others, I would not have been able to get to where I am and this is the case for people of color in general. So, when looking for a mentor, I think it's important for us to be vulnerable, to talk to people about where we are, and what we need.

You need to find someone who is going to be able to give you the time that you deserve, who's going to be invested in your success, and who's going to be able to put in the work to mentor you. You need to find someone who is willing to build a relationship with you. And because we have multiple needs, we need multiple mentors. For example, if I need assistance with research, teaching, and writing, then I might need three or more mentors. It's not always easy to find someone who can mentor you in all those areas, so having a group of mentors is important.

LL: Thanks Marcos. It's inspiring. For my last question, is there anything else that you want to share that I haven't asked you about yet?

MG-O: For our PEER network colleagues, irrespective of whatever stage of their career they are at, I think that it is extremely important to embrace the background that makes them unique and different. PEERS are the largest growing population of students going to college nowadays. Students should wear their identities as a big badge - be that they are Asian, Latino, Native American, or Black or whatever their identity. Academia tries to put us all in a mold and make us all behave the same way; a way that tends to be very Eurocentric, White, and male. We PEERS need to continue to be the spice that is going to make academia real.

And I think it behooves us, the people who are a little ahead in our work, to be our authentic selves. That way students know that it is okay to be their authentic selves too. Academia can chew us up and spit us out all looking the same if it wants to. So, we must counter that as much as we can.

LL: Thank you, Marcos. You have an important message, and your students are lucky to have you. Thank you for taking the time to meet and share your stories!

MG-O: Thank you, I'm glad to contribute and to help in any way. I'm very honored that you decided to ask me for a spotlight.