



## *Cuentos/ Contos*



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# Introduction

During the Fall of 2021 I started a series, along with Emily Aguirre, Dr. Carly Kenkel and Dr. Oliver Rizk, titled “Cuentos/Contos” (Stories in Spanish and Portuguese) about self-identifying Latina/o/x scholars in Ecology and Evolutionary Biology (EEB) or broadly in the Biosciences. I identified and contacted 12 scholars, ranging from PhD students to Assistant Professors, that are Latina/o/x to hear their stories about how they navigated and continue to navigate academia. My primary motivation for gathering these cuentos/contos is to highlight Latina/o/x scholars in Ecology and Evolution as we make up just 6.6 percent of PhD recipients in EEB (O’Brien et al. 2020). At the time I gathered these cuentos/contos I was a first year PhD student just starting in a coral ecology and evolution lab at the University of Southern California. I am a neurodivergent first generation Mexican American PhD student who grew up in low-income communities across Southern California (East Los Angeles and Rialto, CA) and felt a lack of accessibility to anything science.

Although accessibility to opportunities in STEM were lacking, my curiosity for the natural sciences inspired my current research interests into how environmental factors drive functional evolution. From the few field trips my K-12 schools would organize in which we would go to natural history museums or zoos, I was exposed to the biodiversity that drove these curiosities. The urban environments I grew up in were packed with biodiversity as well, from observing our local sparrows, crows or even the occasional opossum to collecting bugs or tasting new fruits from my dad’s community garden in our apartment complex in East Los Angeles, these life experiences drove my curiosity in the biological sciences. In addition, books were a valuable resource. My siblings, in East Los Angeles, would come back with books that were thrown out or those they borrowed from the local/high school library. Some of these books were medical books on human physiology that taught me about core anatomy. At some point, I had every book on animal taxonomy in my elementary school. Finally, in addition to where I grew up, my roots lie in the state of Michoacan, Mexico. Going on family trips to my parents’ village and observing some of the biggest and vibrant moths of my life, frogs, bats and coral snakes all along the luscious green hill pastures solidified my love and curiosity for the natural sciences.

Although I did say, I was lacking in accessibility to anything science, this view came from the perspective of not having family members that were scientists or academics. However, looking back on it now, I realize I had a unique story to tell that may inspire students with similar backgrounds such as my own.

While my intellectual curiosities were being developed, core cultural values such as community or learning through community were foundational to my upbringing. Whether this was through family, friends or mentors, my intellectual curiosity would have meant nothing if the people to nurture them were not present in my life. To this point, I find myself in academia and everyday find myself trying to change a system that is so fixated on the myth of individualism and meritocracy.

One way to try and amend this academic culture is by sharing our stories, as Latina/o/x scholars in academia, specifically those in the broadly defined umbrella of Ecology and Evolutionary Biology (EEB). Through these cuentos/contos you will pick up a lot of themes about career inspirations, hardships, support systems, community, ways to encourage representation and welcoming in EEB. My hope in sharing these cuentos/contos is that each cuento/contos highlights a different researcher’s perspective and all of them encapsulate the complexities of being Latina/o/x in EEB. These cuantos/contos do not stop here, I encourage readers who are inspired by these cuentos/contos to share their own, in a way to highlight our often-silenced voice and perspective in academia.

## Cuentos/Contos

### Dr. Stepfanie Aguillon



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

I'm interested in understanding how new species come to be! I mostly think about this through the lens of genomics. Most of my work has been done in birds, but I'm starting to expand and work on fish, too. My work is a combination of field work, lab work, and (a lot) of computer work.

I was born in Del Rio, Texas—a border town, which prior to the last few weeks, you may have never heard of. However, I grew up in Sierra Vista, Arizona about 10 miles away from the border. I did my BS and MS at the University of Arizona, in Tucson, and moved to upstate New York to get my Ph.D. at Cornell.

After many years in New York, I'm excited to have recently moved back to the West (!), as I'm currently doing a postdoc at Stanford. It feels so much more like “home” here in California, and I'm really glad I get to be here for the next few years!

**How does your Latino/a/x identity impact the way you navigate academia?**

As a Latina, first-generation college student, and someone that didn't grow up with money, navigating academia has always meant navigating a space that was not created for someone like me. In fact, it was historically (and often currently) made to actively *not* include someone like me. The difficulties have always been there—from assuming that my parents would understand how to help me register for classes as an undergrad, to assuming it was “easy” to travel home to visit family during grad school or front expenses for reimbursement.

But because of my identity and all of the difficulties, I have a really strong appreciation for all of the sacrifices my parents made for me to be here in the first place, and how lucky I am. My parents always prioritized my sister and I, they worked to make sure we would have more and brighter opportunities than they did. I try to remind myself every day how lucky I am to be here, and that being able to pursue the ideas that interest me is a huge privilege.

And because of that, I've worked *hard*. Both on my own research, but also on efforts to promote recruitment and retention of other folks with backgrounds like mine. I really hope to be able to help lift folks up along the way, and make navigating these academic spaces easier for others.

### **What does your support system look like?**

My two biggest sources of support are my family and my academic friends from similar underrepresented backgrounds. My family is always cheering me on—even if they don't always understand what I'm doing or why it's important. They keep me grounded, and I've found that to be so incredibly important.

My closest friends and supporters within academia have always been people from similar underrepresented backgrounds or who really understand issues around DEI. The folks that actually put in the time and energy to empower and support BIPOC, first-gen, low income, and LGBTQIA students are people I know will have my back.

And this hasn't just been with folks I know in person! I've really found so much support and community online (even before the pandemic). I've used Twitter to build a community of folks that understand issues around DEI, but this could really come in many forms.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

I really, really hope to stay in academia, but I know that's not an easy path (and it's definitely not for everyone). I have been (and continue to be) inspired by all of the wonderful friends and students that I have met during my time in grad school. I hope that by persevering, I can serve as an example, a mentor, and an effector of positive change.

There is so much that needs to be done to make academia a more welcoming and inclusive place, and right now at least, I do feel like the best way for me to do that work is by staying

the course. I really love the science and the work that I get to do, so I hope I'll eventually be able to land a faculty position somewhere.

**What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

Listen to your students. *If they are saying something is an issue, don't argue that it isn't an issue.* If they say a particular form of a support would be useful, find a way to implement it. Trust that your students' experience of your department and university are accurate, and that they know the types of support they need to be successful.

Actually recruit students and faculty from non-white, privileged backgrounds. Bring them in and then encourage and nurture them as scientists. *If your hiring/recruiting practices are not bringing these folks in, figure out why and change them.*

Use your resources and show you're serious. Statements of support and change after tragedies are not enough. *Making committees to talk about changes that never lead to action is not enough. You need to actually do the work: advocate for your students with university administration and the broader scientific community; be loud and question when things are just following the status quo; interrogate your recruiting practices; and again, listen to your students about what is needed.*

# Emily Aguirre



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

My family is of Central American (Salvadoran and Honduran) origin and came to the United States while fleeing civil war (El Salvador) and political instability/violence (Honduras). Many Central American immigrants settled in Los Angeles in the 1980s, and my parents were among them. I'm the only "American-born" child in my familial generation and was born/raised in Los Angeles, California.

I didn't develop an interest in science until my early-twenties, but became interested in the concept of symbiosis when I picked up (out of curiosity) a copy of "Microcosmos" by Lynn Margulis and Dorion Sagan, at a local Goodwill thrift store. After reading it, I gained insight on Lynn's lifetime's work and formulated some thought experiments; I only paid \$0.50 for the book and received a wealth of invaluable knowledge!

Currently, I study host-microbe interactions in the emerging symbiotic cnidarian model system, the pale anemone "*Aiptasia pallida*", in Dr. Carly Kenkel's lab at the University of Southern California. There, I tease out the role of bacteria in maintaining the cnidarian-algal symbiosis using genomic sequencing, metabolomics, and microscopy.

I plan to continue studying symbiotic interactions (organism agnostic) past the Ph.D. and combining this interests with practical applications, like increasing production of novel products via symbiotic interactions in some microbes or exploring algal biofuel research and whether interactions with bacteria can improve fitness and resilience in commercial strains.



## **2. How does your Latino/a/x identity impact the way you navigate academia?**

I'd like to emphasize that I'm quite fortunate to be in Los Angeles, CA, where educational opportunities abound, and Latinos are ubiquitous (which is not the case for folks in other places of the country). However, Latinos remain underrepresented in the sciences/academia (yes, even in our CA universities) despite the large Latino populace in the state.

My first encounters with folks of color in the sciences involved a Black chemistry professor and a Mexican physics professor at Los Angeles Trade Tech Community College. Prior to these interactions, I genuinely assumed science participation was an activity exclusive for other demographics that were not Black or Latino, because I had never met someone of a similar background that studied science. This is when I decided, I could do this too, and I did!

Being first-generation and the daughter of immigrants definitely contributed to my complicated relationship with academics. As a child, I was warned that attracting too much attention to our family (either by getting in trouble at school or always raising my hand and being called on) would result in deportation of family members if officials were ever called. From an early age, I was very cautious regarding my interactions with teachers, fellow classmates, and school staff. I aimed to minimize attention to myself (good or bad) so I wouldn't jeopardize my family. This is an obsolete precaution that has followed me throughout my academic career, since it's hard to shake off habits picked up and practiced as a child and for years thereafter.

Professors and former advisors have accused me of "not understanding" or being "disinterested" in a world where active participation is championed, while quiet contemplation is dismissed and viewed as an indicator of incompetency. I've always understood and performed very well in my classes but shied away from open discussion and "raising hands" in undergraduate or graduate classes (unless I felt comfortable or became overtly passionate about a subject).

Despite it all, I appreciate the resilience I've stockpiled from navigating this country as a first-generation Latina. Intergenerational trauma, and issues relating to cultural, gender and assimilation expectations are prevalent from birth as a "foreign but not foreign child". It's quite difficult to break free from those expectations and forge a path in a new world our parents dreamed of but were not ready for.

This translates to our experiences in the sciences, where we tend to navigate a predominant white, male academic culture with limited resources (emotional, physical and financial), while being subjected to cosmopolitan sexism that is sprinkled with a bonus layer of stereotypical bias (exotic beauty, spicy, loud and ghetto). In other words, it's a constant headache, especially when unfairly challenged, undermined, or ignored due to our physical and cultural attributes.

I still grapple with how my identity shapes my intellectual achievements, which seem to be a direct output of culture, unique experiences, curiosity, and bilingualism (Spanish and English). In the end, being a first-generation Latina has been a driving force for internal creativity and resilience despite constant bullshit from external biases.

### 3. What does your support system look like?

I had many wonderful mentors in undergrad and have felt emotionally supported throughout my education. I'm extremely thankful to the wonderful folks over at the MORE Programs, California State University Los Angeles. Without their support, I wouldn't have been able to get through my first research experiences as an undergraduate both emotionally and financially, as they paid me a stipend for my undergrad work. I'd like to additionally shout out Vicki Kubo-Anderson and Dr. Sunil Mangalassary for always encouraging me to continue, no matter what. We still have lunch every now and then, and it's always a soul-filling experience.

My current advisor embodies the best of academic leadership, extremely brilliant but also kind and understanding and an advocate for all students. I've never met anyone at an R1 institution with such vigor, brilliance, strategic compassion, all packed into one energetic person, which makes her THE BEST advisor in town (admittedly, I'm biased)!

The real friends in academic spaces that continue to take this journey with me. Not too many, but quality > quantity. I am very grateful and honored for their presence in my life.

I was a ward of the court and roamed the streets as a teen in Los Angeles. I've been estranged from my immediate family since I was 14 years old, so my support system is rather different than the average student/person. Fortunately, I've been lucky to have found friends that became my *chosen family*, no doubt. Some I've known for up to 20 years, others for less, but we're all still supporting each other through life's happiness, mediocrities, and tragedies. Although they may not fully understand my academic trajectory (as we have taken different paths in life), they still listen to me rant and support me through it.

My teenage kid has been on this academic and life journey with me, as a single mom, for the past years through community college > undergrad > grad school. We've grown together and they are my favorite person in this world! They consistently share the natural world through their view and reignite the curiosity and awe I felt as a child, conveniently when I start feeling the academic world becomes too serious, redundant or monotone. Plus, they're just so sassy and fun to be around, I couldn't have asked or found a better partner through this!

Also, my kid's family (dad, grandmother, uncles, and extended family). I can't do this without them. We've had our ups and downs but pursuing any degree (from A.A.S, B.S. to now) simply wouldn't have been an option without their help. I am deeply grateful and in debt to them, especially the grandmother, she's always been kind and loving to me.

Lastly, the After School Education and Safety program (ASES) that operates in tandem with Los Angeles Unified School District (LAUSD). Without my child's participation in this program, I wouldn't have been able to attend classes and obtain my B.S. or complete the first three years of Ph.D. studies and research. This public program provides affordable, after school instruction and care until 6:00pm, M-F, for children in K - 9<sup>th</sup> grade and is funded by the state of California. I am eternally grateful to the educators in our public schools and to the California voters that made ASES

possible. I sincerely hope ASES continues to be funded indefinitely, as it's an effective tool for equity in our communities.

As you can see, I'm a lucky person and it's taken a village to get me to and through this Ph.D. program!

**4. How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

**Discouraged for many reasons.** First, I'll acknowledge that all work settings have the potential for substandard conditions, however academia, as I've observed, is quite unique. Academia prides itself as the pinnacle of literary and scientific progress yet the institution itself is conservative and unwelcoming of new characters that question its antiquated practices/habits. There are many journal articles published by social scientists on this topic that provide suggestions and recommendations for better practices in academia. Seek them out if you don't believe me!

Personally, when the intricacies of academic politics and the hidden curriculum are not discouraging me to stay, it's the dread of the lack of work/life balance expected during the tenure-track stage, and the low wages to get there (AHEM → post-doctoral "training").

I can hear the nay-sayers, naysaying in their head, "But research shouldn't be done for the money!". Sure, but passion is not going to pay for the student loans I acquired due to a lack of financial support from my family, and these loans may no longer qualify for deferment once I graduate with the Ph.D. How will I afford a (1) comfortable life for my children or (2) a down payment for a home to establish roots or (3) money for medical bills when they come (because we are all one or a few inches away from health complications)? I'd like to challenge the naysayers to give me an insightful solution to this, not a cookie-cutter response.

The current traditional trajectory is riddled with unnecessary barriers, leading me to wonder, "Why would a professional that has been refining their skills for a combined minimum of 9 years (supposing 4 years undergrad and 5 years PhD, but more in some cases) obtain a post-doctoral position or two, averaging between 1-3 years, each, for an average of \$50-60k, for a shot at the rare tenure-track professorship? Does this make sense today?

Additionally, bad practices in academia deter me. These would not be easily tolerated in other professional sectors like industry or government. I personally experienced (prior advisor), and conversed with graduate students that have encountered some type of abuse or infraction from their advisors or other faculty at some point during their Ph.D. This includes temper tantrums, yelling, intimidation, bullying and other unprofessional antics such as microaggressions, sexism, and racism. This type of behavior in other sectors would warrant, at the very least, a stern warning by HR or worse, removal from the position and possible litigation from the plaintiff. But in universities, the process that leads to accountability is extended or simply doesn't happen! It's difficult to hold tenured professors accountable because their position is untouchable and immune to consequences due to bad behavior. Many times, this leads to Ph.D. students dropping out and remembered as "incompetent", "difficult", or "not a fit to the lab/program" when the real issue lies in the advisors.

Why are advisors in universities allowed to continue this behavioral pattern without consequences? Why are there no policies revoking tenure for bad behavior? Institutions seem to value money more than the individual and prize “intellectual brilliance/genius” or “\$15M of incoming, public funding in NNN grants” as excuses for questionable behavior. It’s possible to reward brilliance, decency, and kindness, those two are not mutually exclusive. When institutions start addressing their flawed core values, many of us will be inspired to stay/return to academia.

**On the other hand, I’m also encouraged to stay in academia for two reasons.** Research and recruiting/retaining more diversity in academia.

I love the idea of pursuing several research questions at once, while training folks from a similar background. When in the lab, my curiosity and imagination run wild as I compile information that can help better understand the natural world. I truly enjoy the challenges of the lab and spending time with my microscopic and anemone friends!

However, I’m unsure if the two latter reasons for staying in academia can trump the former to keep me away from academia. I’m currently eyeing industry or government as alternatives but I am considering a postdoc, but only with the right mentor.

## **5. What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

I’ll start by providing a general suggestion that would help folks from all backgrounds and in all academic departments:

- **REQUIRE MANAGERIAL AND LEADERSHIP TRAINING FOR ADVISORS/ TENURE TRACK PROFESSORS** and anyone that will oversee 1+ people. The lack of professional managerial experience in academia baffles me (see my rant on bad practices in academia above). Military-style autocratic leadership has its place elsewhere, but it fails to promote innovation or a positive mental framework for those in an academic setting. My hope is that advisors seek out appropriate training, specific for guiding graduate students. This may lead advisors to identify their own toxic behavior and provide them with alternative ways of mentoring mentees.

*Why break down your mentee when you can respect and develop their strengths for the advancement of your lab using positive feedback and open communication?*

- Require an ethics course and bias assessments for all faculty (incoming and senior). Identify weaknesses and address them.
- Better wages! We are educated professionals with bachelor’s or master’s degrees, advancing your school and your labs with our innovative ideas and contributions. Many of us work 40–60-hour weeks for 50 % pay, for the 4–6 years we’re here and will continue to be underpaid for 1–6 more years, if we choose to pursue a postdoctoral position.

Based on my casual conversations with students from various places about their annual Ph.D. salaries, I surmised ranges of \$27k to \$36k, per year and postdocs between \$52k to \$65k (as of 2022). This may be a living wage if one receives help from family or a spouse to

split costs with, but for those that lack this, it's simply not enough (especially in metropolitan cities like Los Angeles, New York, and San Francisco).

Many departments don't allow Ph.D. students to take a second job to supplement their income. This becomes an equity issue for students that don't have a supporting financial net (former foster/wards of the court, from low-income families, no spouse, etc.), especially in expensive metropolitan areas. If departments are requiring full-time commitment to Ph.D. duties, they should also be prepared to give students living wages above the poverty line and pay them year-round (many departments don't pay Ph.D. students during the summer but still expect Ph.D. duties to be continued).

A solution may be to hire less Ph.D. students to be able to split funds equitably, RETAIN them and provide more individualized attention and support. Currently, the United States is experiencing a Ph.D. oversupply issue relative to the total supply of research jobs. Of course, haphazardly making admission cuts may lead to limitations in increasing diversity in research, if not carefully implemented; but these plans should be drafted to include/prioritize addressing demographic gaps in the program.

- **Provide more support** (scholarships, dedicated spaces, and resources) **for non-traditional students** (community college transfers, former foster youth/ wards of the court, older adults, military vets) and **students with families/dependents**.

My current institution recruits mostly traditional students (typically younger adults, straight from high school or B.S./M.S. program with no dependents) and lacks resources for non-traditional students, especially those with children or dependents (there is no program or website for students with children, it feels like we don't exist!). This includes decent housing and childcare resources, as well as scholarship/fellowship opportunities.

Here, faculty usually receive significant support and resources whereas graduate students with children do not receive the same or even a decent fraction of support. E.g., childcare costs in Los Angeles average between \$1118-\$1522 per month and are not feasible on an average graduate student's stipend of ~\$2500-2900 per month, if we account for the student's rent (which in the case of parents, need more space = more rent or living in less desirable units further from campus to afford the rent) and other living expenses, like food, medical insurance, transportation, school expenses, clothes for growing children, etc. There is a childcare subsidy which the student can apply to but it's competitive, only < \$1500 total award per semester and breaks down to \$350 aid per month. Another factor not considered is that graduate students tend to work during "school breaks" and during the winter as well, and may necessitate childcare during that time as well, regardless of whether the childcare subsidy award has been renewed or not (new applicants are prioritized so previous awards may not be renewed).

In the same spirit, university family housing is close to market prices and very competitive. When I had a housing crisis earlier this year, I reached out to my current institution and was told there is a long waiting list for student housing, and provided with "resources" which was a curated list of landlords affiliated with the university offering single-occupancy rooms and apartments at current market price, women's shelters, single occupancy student shelters

for those under < 24 years old (sorry, I'm too old!), a link to a defunct Facebook group for students seeking housing, and public aid (welfare) offices.

Luckily, I was able to independently figure it out, and am now secure with my current housing situation. However, it's disheartening and hurtful to look back and reflect on the lack of empathy from the institution and no official follow-up or concern in the aftermath.

It's important to highlight these problems and address them, especially when departments and institutions are launching equity initiatives. Currently, I cannot enroll my child under my student healthcare plan, so they must be enrolled in a separate plan with different costs and premiums. Folks with children are pushed out or leave Ph.D. programs because of similar issues related to the lack of supportive infrastructure (housing, healthcare, and wages).

It's unfortunate that some departments lose brilliant minds due to inadequacies in identifying and addressing the individualized needs of their non-traditional students!

I have raised these issues locally and in forums, and my inquiries have fallen on deaf ears. Departments and universities must actively listen to their students and consider support for student parents under their university equity initiatives. Additionally, they should take guidance from those that have already established clear roadmaps. For example, some public universities, like the UCs have dedicated programs for students with families, and offer subsidized (I mean subsidized, not market price) family housing units for families, as well as on-site, comprehensive (considers graduate student budgets) subsidized tuition for childcare.

Suggestions specific for welcoming more Latino students:

- Hire more folks of color in professorships, not just recruitment. Representation matters!
- Understand that some “extracurricular” activities are not familiar to foreign or first-generation students of color from immigrant backgrounds. Please understand they may not be interested due to cultural/religious/philosophical differences (E.g., I wasn't introduced to American games like “cornhole” until my first year of Ph.D. when I was in my late 20s. I didn't find joy in the game but don't mind when others play).
- Be aware of scheduling. Some students may have family responsibilities and cannot attend happy hours or weekend activities. Try to be more inclusive in event planning. If you can't be inclusive or accommodate, don't take offense when students can't attend events or label them “antisocial”.
- Be aware of your own biases and avoid expressing a defensive attitude when called out. Listen, instead. Yes, even if you're a white woman: being a recipient of sexism doesn't prevent you from exhibiting microaggressions to other groups. EVERYONE has something to learn, always.

All views here are my own and are not anyone else's.



## Melody Aleman



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

In general, I am interested in marine microbial ecology. Plankton, bacteria and viruses and how they influence and interact with their environment.

I am from Harrisburg, PA and currently am doing my PhD in the Marine Biology and Biological Oceanography program at the University of Southern California.

**How does your Latino/a/x identity impact the way you navigate academia?**

What does it mean to be a scientist of Latin American descent in the United States?

For starters, it's important to note that being Latina is one aspect of my intersectional identity. I am a woman, the first person in my family to go to college and I am also from a lower-income background, etc. Latinx-Americans are not a single monolithic group. We're not all "Hispanic", in fact, some of us don't like that word. We come from different countries, with different traditions etc.



My cultural identity – a byproduct of Spanish colonization cutting off my indigenous Latin-American roots. Talk about an identity crisis. My mother is an immigrant from Ecuador and my dad is from Puerto Rico ( a U.S. territory, aka modern-day colonization). I was born in Harrisburg, the capital of Pennsylvania, which is a majority minority city.

There is a stark contrast in race and class when crossing the Susquehanna River from Harrisburg to Camp Hill. I have been the recipient of racist and xenophobic remarks, both blatant and via microaggressions, which only increased after I began my undergraduate studies, attending a predominantly white institution (PWI) and continued on to the graduate level.

So how am I surviving? Through mentorship, money, and utilizing the university's access to mental health resources.

### **What does your support system look like?**

As no one in my family attended college, I relied heavily on my high school teachers and guidance counselor to get me through the college application process. I was thankful for feedback on my personal statement, trips to visit the financial aid office of the colleges I was applying to, and so much more.

I am so thankful to Dr. Kimberly Mahaffey, who organized the Latino Student Leadership Institute in Millersville University – which is the undergraduate institution where I majored in Biology with a Marine Biology concentration. This weekend retreat connected all incoming Latinx students with other Latinx upperclassmen, alumni, and faculty.

Here, we had the opportunity to speak openly about the challenges we face and will face in academia. I distinctly remember a medical student telling us how there was even less diversity in graduate school. Her peers were either White or Asian, she was the only Latina. While disheartening, I left that retreat feeling determined to do my best, work hard, and to make the most out of all the opportunities available. This worked, but to the point of burnout and exhaustion. Study and sleep, no social life.

Still, I am eternally grateful to my peers, tutors and teachers who helped me get to where I am today. My marine biology professor and research advisor, Dr. Jean Boal has been one of my main supporters. She helped guide me through applying for a National Science Foundation Research Experience for Undergraduates (NSF-REU) internship when I had expressed interest in gaining some sort of work experience, but not at an aquarium. She also connected me with a Millersville and USC alumni, Dr. Johanna Holm who introduced me to the Marine Biology and Biological Oceanography Program at USC. I guess the rest is history!

However, I couldn't make it this far into graduate school without access to mental health resources. All my life I have struggled with anxiety. As a child I was the "shy kid". However, the feeling is more intense. I woke up practically every day in junior year of college with a sharp pain in my chest. I was constantly going to class, doing homework, doing research, working as a lab assistant, and being an officer for the Ocean Science Club. Any of my previous roommates can attest the daily late nights I had constantly working and studying.

Looking back, I thank my undergraduate-self for putting in all that hard work. But I also feel sorry that I was suffering and could not bring myself to seek help. Graduate school brought upon its own challenges, on top of moving across the country and taking care of myself more independently. Life is not just work.

In my household, mental health was taboo. I am again so grateful for the mental health resources available at USC - I took the first step in my 3<sup>rd</sup> year of graduate school by going to group therapy for anxiety.

Unbeknownst to many of us, a global pandemic struck. I continued my mental health journey. I have an official diagnosis of general anxiety. I meet weekly with my therapist and monthly with my psychiatrist, and I am on medication. Mental health is a work in progress, and I am thankful that I have access to these resources and can afford it for now.

**How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

As a graduate student, I currently make more money than both my parents' income combined... and growing up my mom was a stay-at-home mom until I was 12. I went to public school and most of the students there were also low-income. Most of us qualified for free or reduced school lunches.

There was no way my family could afford a ~\$20K a year in-state tuition rate, and that's on the lower end. I took Honors Level and AP Courses, took Biology 101 from the local community college through a "College in the High School" program to earn college credit while still in high school. I knew that I needed good grades to hopefully get scholarships for college.

I graduated Valedictorian of my high school, and got accepted to all four schools that I applied to. By the way, the only reason I could even apply to college was because we qualified for four free application fee waivers and four free SAT score reports. I was told by my teachers that the earliest I submitted my applications, the better chance of getting a good financial aid package/scholarships.

I also applied for the Free Application for Federal Student Aid (FAFSA). I had to input my parents' tax information (which doesn't make sense to me as their money does not equal my own money), as they are not tech-savvy. In fact, I didn't get my own laptop with at-home Wi-Fi until my freshman year of high school (2009).

I was accepted to all schools, but could only afford to attend my 4<sup>th</sup> choice, Millersville. Millersville University offered me a full-tuition scholarship. I received a Federal Pell Grant as well as the Pennsylvania State grant. Through my school, I received \$500 for textbooks. That still left around just over \$3K per year for remaining education costs, not including textbooks and school supplies.

Depending on how wealthy you are, that seems like nothing. But to me, where my father did not contribute a penny to my higher-education costs, that was a lot. I applied to multiple jobs the summer before starting college with no luck. Some might say, get a loan!

As an 18-year-old, I most surely did not have financial literacy and still to this day afraid of any debt. My mom covered the rest of my education costs through monthly payments. She did not want me to have a campus job so that I could spend my time studying. I am very grateful for her support and the sacrifices she made for me to get a bachelor's degree.

While in undergrad, there were additional scholarships that helped reduce the financial burden. For instance, the Rachel Carson Field Course Scholarship, which helped partially cover costs in attending a field course, which was required for the marine biology track.

I took Biological Oceanography taught by Dr. Vaillancourt at the Chincoteague Bay Field Station in Virginia at the end of my sophomore year, which changed my life. It was my first time on a boat out at sea. I learned various oceanographic techniques and discovered my love for plankton. I had struggled with my major choice because even though fish are cool, I didn't want to study them. Also, scuba diving terrifies me to this day. God bless biological oceanography and research vessels!

This brings me to another big opportunity that led me to where I am today. I was working on a few applications for NSF-REU opportunities in my junior year with Dr. Boal, preferably working on projects about plankton or cyanobacteria and primary production in the oceans. At the time, I was conducting independent studies with Dr. Boal and Dr. Kumar to develop into a senior thesis, in case I was successful with my REU applications. Dr. Kumar emailed me about an NSF REU opportunity at the Lamont-Doherty Earth Observatory at Columbia University, a few days before the deadline. I submitted the materials as soon as I could, and all there was left to do was wait.

Dr. Ajit Subramaniam reached out to both me and my biological oceanography professor Dr. Vaillancourt, as he was looking for someone with field experience to go on a research cruise in the South China Sea. I really do think fate put things into place, and despite my anxieties, summer 2016 was a monumental time in my life. I went on 2 research cruises to the South China Sea and Gulf of Mexico to study the phytoplankton communities there using flow cytometry and taking samples for pigment analysis.

I could go on and on about this AMAZING opportunity. Conducting research at sea with people from all over the world, from various career stages and disciplines, was priceless. I came out from this experience the most confident and reassured with my research interests. I can't thank my mentor Ajit enough. More information about the South China Sea research cruise can be found [here](#).

In addition, this experience was completely paid for (travel costs, housing, food) and I got a stipend of \$5,000. This money helped me cover GRE and graduate application costs. This money was also useful in paying for the upfront costs of registering and traveling to the American Geophysical Union (AGU) conference in San Francisco in December 2016, which I thankfully was able to get reimbursed later through a professional development grant I was awarded from Millersville.

I also received a travel award from AGU. This was the first conference I attended and presented a poster on my REU work. Remaining funds I had left over from my REU were completely used up to move from the East Coast to Los Angeles when I began graduate school in Summer 2017.

Money has been a huge factor in my career goal decisions. I remember in my senior year of undergrad, trying to determine whether I should do a Master's or PhD program. I ultimately decided to apply for PhD programs because of the stipends.

The cost of living in Los Angeles is no joke. Again, I am grateful for opportunities at USC to travel for conferences (though WiSE and Graduate Student Government) among others. I am also grateful for Dean Meredith Drake Reitan's External Fellowship Boot Camp which allowed me to receive feedback and work on my personal statement for the NSF Graduate Research Fellowship Program (GRFP) application.

I also want to thank my advisor Dr. Jed Fuhrman for working with me on my GRFP application which turned out to be successful! Being an NSF Fellow has also been a blessing as I navigate through graduate school, which has been very challenging for me.

Everyone's journey through life is different. At the end of the day, I just want to teach hands-on marine science and give back. I love giving students guidance and advice for the college application process, because it was such a daunting process for me. I want to be like my favorite teachers - the teacher who actually cares about their student's success and well-being.

In the meantime, I am thankful to my SACNAS community. It feels less isolating to be with people who face similar struggles. We have to stick together, being the few BIPOC in our respective departments. Your support and friendship is invaluable.

I am privileged to have been born in the United States and not have to worry about my citizenship status. Shoutout to all the dreamers and those living in constant fear of deportation. You have my empathy and support.

To the victims and survivors of Hurricane Maria, you deserved better.

**What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

Money + {Genuine} Mentorship + {Accessible} Mental Health Resources.

## Alonso Delgado



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

My name is Alonso Delgado, I am from Van Nuys, Los Angeles CA.

I started my education at Pierce Community College. After a few years of being academically deluded, I decided to pursue a BS degree in biology. I then transferred to Portland State University in Portland (Oregon) to attain my BSc degree. I am currently a Ph.D. student at The Ohio State University, interested in evolutionary systematics and genomics of sea anemones.

My research involves understanding venom diversity within sea anemones while making transcriptomes and comparing venom profiles within a phylogenetic framework. To best understand how venom changes across specific events.

In my focal group, off-sea anemones, Aiptassidae, we have many species with symbiotic relations. These relations vary across each species and can be internal (endosymbionts) and externally (ectosymbionts). Their role in modulating the type/amount of venom a species can produce is a current gap in venom science. By investigating these questions, we can synthesize a grounded understanding of venom's evolutionary processes.

### **How does your Latino/a/x identity impact the way you navigate academia?**

I am a first-gen Mexican American, and navigating academia has often been a challenge. In the early stages of my academic journey, I found myself lost and trying different majors. At one moment in my academic career, I was a third-year student in an Aviation Administration degree.

I had some life changes and decided to pursue a career in biology. It was not until I transferred to Portland State University that I was fortunate to have found great mentors. These mentors allowed me to ask questions and guided me through my academics.

Beyond mentors, I was able to find a community of supportive POC STEM students in the **Louis Stokes Alliances for Minority Participation (LSAMP)** program and the **Ronald E. McNair Post-Baccalaureate Achievement Program**. These programs offered additional mentorship, and opportunities but also taught me the importance of the "*hidden curriculum*" and networking.

Due to these life experiences, I was able to give back and mentor other students during my undergraduate degree and help others get into graduate school. Because of COVID-19, I started an organization called "Latinx in the Marine Sciences", which aims at creating these communities virtually. I am now part of committees that allow me to understand the interworking of academia and more. Due to that exposure, I feel more prepared than others when it comes to tackling broad issues and academia.

### **What does your support system look like?**

At Ohio State University, my support system is composed of colleges and lab mates. I also have a great PI who is beyond understanding and supportive of my crazy ideas. Like many other academics, we tend to move away from family due to where we work. But I try to visit yearly or when I can.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

Due to my past experiences with mentoring and working within academic systems, I see the many flaws in academia. From students not having enough support or to advisors who are absent-minded. I am determined to continue on this path to be a professor and curator.

My short-term goals are to get a postdoc position in a museum and then to find a tenure track position somewhere. In general, I want to continue to grow as a scientist and help others achieve their goals within academia.

### **What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

I think many departments have good intentions but as a result of that, and or lack of funding, these goals often are felt as performative and hence turn students away. There are many things that can be done to be a more welcoming department for all.

I think it starts with not tokenizing students and having opportunities to build community specifically outside of their own work walls. There can also be some sort of facilitation of information from other organizations within the university to allow for events to be cross-shared.

The biggest thing is having a support system in place and that usually means paying students a living wage to not have financial stress hanging over them, as well as allowing them to be themselves without the fear of that affecting their future.

## Dr. Raul Diaz



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

My parents grew up in Ciudad Guzmán, near Guadalajara, Jalisco (MX). In the late 70s, they came to California to find a better life, both only being educated through the 3rd grade. Their unique combination of attributes (my father's enthusiasm for nature, or through his experiences growing up on a farm but also my mother's passion for reading and interest in origami!) sowed the seeds I needed to start my path in academia.

In the early 80s, my parents were able to move from Huntington Park, CA and purchase a home in Baldwin Park, CA. My mother was afraid I would either fall victim to gang activity in this community, so my time away from home was primarily spent at our local public library, where I read all the books I could on reptiles and amphibians. From reading such literature and identifying college faculty that were herpetologists as a career (it was the early days of the internet, which allowed me to explore university home pages), I soon realized that there were more options for me beyond owning a pet store after high school.

My research emphasizes ecology and evolution, but is framed within developmental biology and also explores human pathologies as a gateway to understanding the evolution of morphologies in nature. My academic journey was both fun and challenging; I shuttled



between UC Berkeley and La Sierra University during my undergraduate period and ultimately obtained Bachelors.

I moved to the University of Kansas for my Masters, and then to Stowers Institute for Medical Research/University of Kansas Medical Center for my Ph.D. The very broad training I received, fueled my interest in reptiles and amphibians. Consequently, the research in my lab explores the development and evolution of body plans of these organisms (from cell biology to genomics by way of embryos), yet we also engage in field work in the tropics, where we conduct classic morphology and ecology surveys.

### **How does your Latino /a/x identity impact the way you navigate academia?**

Growing up Mexican-American was a fascinating experience for me, as there was a large emphasis in agriculture (my father's family had a farm) and most community members of similar backgrounds were encouraged to go to the university and become doctors, lawyers, etc.

Ecology and Evolution as a discipline emphasizes studying nature for what it is. It is developing a specialty, to better understand its organization and change over time. **With religion being heavy in the Latin community, studying evolution was frowned upon (even as an adult, I get pushback)** and studying an organism for its own sake is a foreign concept for Latin-American parents.

However, I find that the dry dichotomy of an 'ecology' and 'evolution' department does not necessarily speak to the broad research topics students can understand.

### **What does your support system look like?**

My parents still think I "just study frogs". Their lack of academic training is a major cultural hurdle that paints them as not showing interest in my career, which is not true. Rather, my parents know I study something that I love but are not quite able to appreciate it, though they are truly proud.

I have seen this same scenario across peers with parents of similar background. While my own parents were unable to help me with my homework during K-12, they worked very hard so that I had supplies, while also encouraging me to seek additional help from tutors and surround myself with friends that were driven and good influences. This latter point drives me today: I am not afraid of admitting I do not know certain topics (sic) and I aim to surround myself around people that know material better than myself. I am fortunate to be around such smart people.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

Being a first generation college student (and first generation US Citizen) was not unique to me as an undergraduate on campus, but the further I dove into academia with advanced degrees the more I found myself unable to relate to the experience of my peers in these programs. This has not changed as a faculty member, though my current campus (California State University Los Angeles) is more diverse than most, and is nested within a very diverse community in L.A.

This has allowed me to return to the community in which I grew up. A lack of diversity amongst my peers or a lack of shared experiences has not altered my interest in this career at all. My excitement and interest in research, along with being able to share a similar passion with colleagues, no matter what their background is, is ultimately what makes my institution a great place to be.

Having faculty with a rich cultural, intellectual and experiential background benefits universities. Additionally, such diversity may allow the student population to see faculty that are similar to them, both physically and emotionally (those who may have shared similar challenges in their academic journey).

**What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

I believe diverse faculty and faculty research is the best way to attract students from the Latin-American community, as this highlights the role education can have in leading to a diverse array of research questions and careers.

# Daisy Flores



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

Hi! I am from San Diego, California and recently moved to Texas to start my Ph.D. degree at UT Austin. I study coral reproduction and larval propagation for reef restoration. My work currently involves scuba diving at night to collect coral eggs and sperm to fertilize in the lab and raise coral larvae to study their settlement behavior.

**How does your Latino /a/x identity impact the way you navigate academia?**

Anywhere I go, I am automatically aware of how many other BIPOC are around, in a classroom, or in leadership. I use that information to gauge how and when I should speak. I definitely do not recommend this approach, unless it is unsafe to do so.

In classrooms, hiding in a corner affects your education! Ask questions, share answers, and participate in discussions. You belong there!

I also find myself code switching when I feel intimidated, but am working on staying true to myself as well. Increased visibility and representation in academia will hopefully help change this in the future.

Fortunately, I have travelled and studied abroad while surrounded by people different from me and experienced how valuable it is to be part of classrooms and work environments that are not predominantly white. Even more valuable to me is to work in groups that are not predominantly American. Although it is harder to find this type of experience in the United States, I hope I can contribute to building these spaces where BIPOC and international students feel heard and celebrated.

### **What does your support system look like?**

My parents are my rock and tether my authentic self. Whenever I feel out of depth, my parents listen and encourage me to stay true. My best friends from college are also women of color in various fields, so we lean on each other when we need support.

It is disappointing that racism and sexism, whether overt or through microaggressions, persists in our workplaces. However, in spite of these challenges we also have each other! I was also very fortunate in being able to find the people, mentors, and supervisors that will have my back and value all the different parts of me. Find these people and make those connections!

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

There have been many times where I felt that I did not belong somewhere and felt discouraged. After talking with friends and family (either venting or crying), I would think to myself whether I really wanted to continue.

What was my alternative and would I be happy with that work? The truth is that any career will likely have the same issues! In these moments I think about my mother, my grandmother, and our ancestors who dealt with so much and still persevered. Their legacy was to be defiant in the face of adversity and to fight for what they wanted and needed to do for their families.

Asking myself whether I belong, then sounds so ridiculous to me. Of course, we feel doubtful! We have been historically excluded! But it is also a disservice to internalize my doubt and let academia continue to shut people like me and other BIPOC. I know I cannot change the whole system, but maybe I can help someone else along the way or be a mentor to the next generation who will hopefully deal with less of this doubt. I will probably come back to this paragraph in five years to remind myself of my idealism and laugh. Or perhaps I should just read this periodically to treat any creeping pessimism.

### **What can we do to make ecology and evolution departments more welcoming to latino/a/x students?**

To be honest it is always a little uncomfortable when a department or university insists they are working on diversity, equity, and inclusion, but all of the people they hire to

run these committees are white. Less uncomfortable, if the volunteers for these discussions are white, but still very strange. Almost dystopian? The intent may be to act as allies, but in the age of “wokeness”, I tend to doubt these are all good intentions.

Instead, I look for whether these conversations are centered around BIPOC voices. First and foremost, universities and departments need to put money where their mouth is and hire BIPOC, as leaders and professors. Funding and effort towards outreach in local schools, especially for universities located in predominantly Latinx neighborhoods, is also valuable for all involved. Personally, visibility and representation makes me feel more welcome than a token BIPOC photograph on a brochure that says the department will “try harder”.

## Kiersten Formoso



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

I was born in New York City, to a Cuban father and Black mom from East Harlem. I was raised in New Jersey and I am a “Jersey Girl” through and through. I completed my

undergraduate degree at Rutgers University in Ecology and Evolution in 2016, and am currently doing my PhD at the University of Southern California in the Earth Sciences department.

My research interests lie in the major evolutionary transformations in vertebrates. Some famous examples are the sea to land transition, where those first walking fish emerged that would eventually evolve into all modern four-limbed vertebrates.

And the land to sea transition where some of these four-limbed terrestrial vertebrates went back into aquatic environments, with examples like whales and seals and extinct groups like mosasaurs and plesiosaurs. This latter one is what I study!

I specialize in locomotion morphology (the shape of living things) that enabled these animals to go from walking on land to swimming in the sea.

### **How does your Latino/a/x identity impact the way you navigate academia?**

My Latina identity impacts the way I navigate academia in the sense that there truly are not many in this field like me and I am acutely aware of that. It's good to see the numbers increasing little by little, for example all of the Latinx scientists I've been able to connect with on Twitter. My department just hired a Latino professor, but it would be nice if there were more.

I often find myself being the only, or maybe one of two/three people of Latinx descent in most of the academic spaces I've been in. This is a feeling that I have learned to shake off and continue my endeavors, but it's ever present in the background.

### **What does your support system look like?**

My support system are my close friends and professors. Though none of them come from the underrepresented ethnic/racial backgrounds that I do, I've been lucky in how supportive and understanding they have been and rooting for me to achieve a position where I may do the same for up and coming students, but as someone of a more diverse background.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

I would say I've been very lucky and fortunate with my academic experiences and I am eager to continue on a path to stay in academia, hopefully land a tenure-track position, and represent myself, being both Latina and Black, in the field of evolution and paleobiology.

I am greatly enjoying my PhD career and I love what I do on both the research and outreach front.

However, I know there are people who have had negative experiences and it is critical that such experiences which have discouraged people in academia are listened to and worked through, so they are not repeated or propagated throughout the academic community.

**What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

People often say representation is the answer, and I think that's part of it. However, more of what we need, I think, is overt welcoming by clearly breaking down the barriers and the historical systems that have prevented Latinos from entering these fields in the first place.

For example, financial commitments would be a starting point. The poverty rate for Hispanic Americans is 15.6% according to the most recent Census, barely above Native and Black Americans, not to mention these groups tend to overlap with Latinos.

More scholarships, paying students for their undergraduate research, and higher graduate stipends would make a wealth of difference. Also, outreach programs, but not just outreach that exposes young people to the awesome aspects of various fields in biology, but especially making it clear what a scientific career entails, their salary potential, and how to achieve them, and for parents to see this too, so they can help support the passion in their potential future scientist.

How many of us at the graduate level come from families who had no idea how to guide us into science careers, have no idea what we are doing, or don't understand why we are "still in school?"

"¿Por qué Kiersten todavía está en la universidad?"

So I believe that three things, 1) representation, 2) financial commitment, and 3) clearer outreach with an emphasis on the scientific career, not just the science, would make a big difference in galvanizing and assisting Latinx students in entering the fields of Evolution and Ecology.



## Dr. Bryan Juarez



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

I am interested in identifying possible mechanisms driving broad patterns of evolution in large groups of species. For example, for my postdoc I am studying how water transport proteins may be driving the relationship between breeding behaviors and climate change across thousands of species of frogs.

I am originally from South/East Los Angeles, and I grew up during my teens in San Bernardino. I got a Master's from the University of Michigan, and earned my PhD from Iowa State University.

**How does your Latino/a/x identity impact the way you navigate academia?**

I originally navigated academia from a more introverted place. This came partly due to the fact that I did not know the academic culture at all, coming from a low-income household. I am also the first one in my family to graduate from a 4-yr college, and obtain a PhD. I think my low-income background directly applies to the research I did for my PhD.

Scientists often use expensive equipment and technology that costs a fortune, I made it a point to design novel mathematical approximations for jumping in frogs that quite honestly saved me decades of research and probably more than tens of thousands of dollars. I call those methods my lo-cash methods.

### **What does your support system look like?**

Like many other Latinos, I have a strong relationship with my parents and siblings. I moved around a lot when I was younger, so I probably have less “long-term” friends that I’ve been able to build relationships with when compared to others. A lot of my support comes from the phone calls I have with my parents and siblings, since I spent 8 years away from California during grad school. I also think my parents did a good job of raising me to be strong-willed and independent – I’ve been complimented on my ability to take constructive criticism and I thank my parents for that.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

Academia has some obviously discouraging aspects to it. I’d forward people considering a career in academia to this paper <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250662>, which I think is an honest representation of the personality young scholars must continue to develop as they excel in academia.

I also wish to emphasize the importance of choosing the correct mentors in academia for you. In my own personal experience, one thing I think Latinos and people from low-income backgrounds often excel at is, honestly speaking, spotting fake s\*\*\*. Translation: spotting dishonesty and performative diversity efforts by individuals or organizations.

At times academia can have a toxic environment about it where individuals have ulterior motives and do not have your best interests in mind. One of the most important suggestions I’ve given is to know your people, know who is in your corner. I’ve been blessed with wonderful mentors who I know only have my best interests in mind and have supported me throughout my whole career. I consider my mentors life-long friends and I think that is something important to consider when finding a new home (research lab).

### **What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

I will answer this question after giving some context. Despite all we talk about with regard to the Latino experience, I think something is still missing. I put my finger on it this morning. We are all familiar with *culture shock* (the feeling of disorientation experienced by someone who is suddenly subjected to an unfamiliar culture, way of life, or set of attitudes). It is a word that gets thrown around a lot.

This is where I've found something is missing: I still feel as if people do not *understand* the experience Latinos have when they speak of "culture shock", despite reading the definition. I will give my own experience. I argue that it is not just an unfamiliar culture or way of life, but an entirely dissimilar way of life.

When I started grad school at the University of Michigan, I threw myself into the following: white culture, midwestern culture, academic culture, a new financial landscape, and uncharted angst associated with living thousands of miles away from my family who I was literally physically next to basically every single day of my life. Not only this; I basically had nothing and was starting over with nothing, designing a new life for myself. This involved spending money, while not financially burdening my family back home. I can go on.

Therefore, my answer to this question is for EEB departments to pay graduate students, postdocs, and other professionals to give seminars on their experiences in academia, so they may become aware, on a more personal level, of the challenges their own kinds of students may face when beginning somewhere new. As historically-excluded scholars, we have been excluded from all aspects of the grad school lifestyle, not just the academic part. I think collegiality and strong friendships come from empathy. Therefore, understanding what individual Latino scholars may be going through, their *Cuentos*, supplements understanding the general Latino experience in grad school and may promote a more sustainable academic experience for us in EEB departments.

## Dr. Suzana Leles



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

My name is Suzana Gonçalves Leles and I am interested in interactions and processes in the ocean involving microorganisms. I combine data and mathematical models to answer my questions and my research scales from the cell to entire plankton food webs.

I am from Rio de Janeiro, Brazil, where I studied oceanography (UFRJ) and ecology (UERJ). I then left the tropical weather to pursue a joint Ph.D. in the UK between Swansea University (Wales) and the Plymouth Marine laboratory (England). If you are wondering, I found joy in the many (many!) gray, wet and cold days (and I learned that the British summer is usually on a Wednesday). Now I am enjoying my time as a postdoc in sunny California and... I miss the rain!

**How does your Latino/a/x identity impact the way you navigate academia?**

A-ha, in many ways! My mother language is Portuguese so it took me some time to gain confidence in my English skills. It can be difficult to network, when I had something to say the subject of the conversation would have changed already! Oh, and jokes are probably the

best metric for proficiency; if you can make a joke in English, giving a seminar will be a piece of cake.

Another thing that I struggled with involved hierarchy in academia, which can be very different from country to country, and in Brazil there is not a big gap between students and professors, so this is definitely a thing.

As a Latina, I also dealt with stereotypes, related to my color, to my accent, to my body, to my country of origin. Being the only Latina in the table can be intimidating at times. But all these helped me to be more aware and to seek for change. It also helped me to connect and learn about other cultures which share similar experiences and to find my community.

Privileged, white academics know/recognize very little of the science done elsewhere, this is a big issue that I hope to contribute to change.

### **What does your support system look like?**

I am the first in my family to get a Bachelor Degree. My father (and step-father) had 10 siblings and never had the chance to finish school because they started working very young. I am very fortunate that my grandmother, from my mother's side, was able to give me access to education and everything else I needed growing up. Despite the disagreements within my family, we were always together, and they were always there for me.

I am also grateful for the valuable friends that I have, now scattered around the world, and each of them support me in their unique way. I had very good (and very bad) mentors. I lacked an appropriate support system in academia during my PhD. I believe we have a long path to implement a system that truly supports students in academia.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

My personal experiences unique to my Latina identity never discouraged me to stay in academia. They hurt at times, but they made me stronger and more ambitious. Yet, I recognize that they could have caused damage, and that's why I think the support system is key. At the institution-level, representation is urgently needed, as well as truly effective DEI actions. ***I fear for certain actions that seem more "check-in" boxes only to promote Institutions. We need real change, and it's not for today, it's all for yesterday.***

### **What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

Hire Latinx researchers! Host Latinx researchers for seminars but also, and more importantly, collaborate with Latinx researchers. Be curious about our culture, try and learn, it is so good to learn from people that have different backgrounds. Give examples about Latinx scientists in class, read papers authored by Latinx researchers.

Try to not speak too fast if there are non-native English speakers in the conversation and make an effort to understand different accents. ***Do not assume that a Latinx person falls within a certain stereotype. It's okay to make mistakes, we all do, apologize and keep learning!***



## Ivan Moreno



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

My name is Ivan Moreno, I am a first generation Mexican-American college graduate of California State University, Dominguez Hills. I am currently a 4th year PhD candidate at the Scripps Institution of Oceanography in San Diego. I was born and raised in North Long Beach, CA, and only moved to attend graduate school.

As a microbial ecologist, my research interests include using genomics to uncover hidden diversity and ecology of microbes in extreme environments and more specifically in freshwater hot springs.

**How does your Latino/a/x identity impact the way you navigate academia?**

Being a Latino in the field of microbial ecology, and marine biology as a whole, has been an eye opening experience that has motivated me to advocate for all underrepresented scientists. However, the most important lesson I've learned from being an advocate and adding my voice to conversations surrounding academia's diversity, equity and inclusion

issues as a Latino is to unapologetically be myself. I believe that preserving cultural diversity is just as important as improving the look of a student body and the first step to doing so is being accepted for who we are as a people.

### **What does your support system look like?**

My support system includes friends and family alike, including my dog Lava, my wife and my close friends who started the Ph.D. program at Scripps with me. Additionally, having advisors and supervisors who acknowledge and respect your life outside of academia has helped substantially with work-life balance.

Having hobbies and interests outside of work also are a huge part of my work week. I enjoy playing football (soccer) and video games and make sure I schedule those into my week the same way I do with my work responsibilities.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

At the moment, I'd like to stay in academia and provide others with research opportunities and a welcoming environment similar to those I've been fortunate enough to be a part of. While there have been many things about academia, and this field, that I'd like to see change, I believe I can help the cause by being the best scientist and graduate student I can be. In this way, I can best prepare students I work with to do the same amid the obstacles that many face in academia.

### **What can we do to make ecology and evolution departments more welcoming to Latino/a/x students?**

Creating a department that is comfortable with having conversations surrounding current events and work-life balance issues that affect underrepresented students would help create a more welcoming environment. Acknowledging the obstacles that many students face in attaining an education is also needed to effectively change the way admissions processes work.

Organizing affinity group meet-ups, such as "Latinx" meet-ups that are open to all, helps provide a sense of community for students who may think they are alone. ***Above all, attempting to fix these issues across the institutional level will more than likely take repeated efforts that should not be carried out by students who are already part of an underrepresented group trying to feel welcomed.***



## Eduardo Tassoni Tsuchida



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

My research interests include basic cell biology, genetics and biochemistry. Currently, I am pursuing a Ph.D. at Stanford University studying how cells respond to stress, and working in Dr. Onn Brandman's lab. Briefly, cells have evolved specific pathways to adapt to exposure of different stressors, such as heat, nutrient availability, salt and chemicals. These pathways often lead to upregulation of specific genes that help cells deal with the stress they are facing.

My research question is trying to address how cells regulate this decision of what should be transcribed and translated during a stress condition, potentially exploring the role of RNA compartmentalization in this process.

I was born and raised in Sao Paulo, Brazil, where I did my undergraduate at University of Sao Paulo. During my undergraduate, I received funding to develop part of my research project abroad and ended up coming to Stanford for a summer, and was encouraged to

apply to graduate school in the US. Now I am in my 4th year of my PhD in the Biology department at Stanford University.

### **How does your Latino/a/x identity impact the way you navigate academia?**

As a first generation college student born and raised in Brazil, I felt like going to college was already a major achievement for me. I did my undergraduate at University of Sao Paulo, a public university in Brazil, where students don't have to pay anything for their education. Without this obligation of paying for my education and the privilege of not having to work a part-time job to help my family financially, I have dedicated my time to conducting scientific research since my freshman year. At that time, I barely knew what I wanted to do in the future and had no experience in the academic setup at all, but I had time to explore and decide if research was a feasible option for me in the future.

Since my parents did not attend college, it was always hard to explain to them what exactly I was doing or even why I was working in a lab without being financially rewarded in the beginning. However, I felt strongly supported by my mother to pursue whatever I wanted to pursue, even though I was not fully aware what I could do if I decided to stay in academia in the future or if that was a financially viable option.

On the other hand, I never felt support from my father, with a constant feeling that I should be getting a real job as my brother, instead of working crazy hours in a lab (weekends eventually). My identity as a Latino student in STEM, started to develop when I came to the US for the first time to do a summer internship at Stanford. Fortunately, the lab I worked in had great Latinx representation in scientists, including the principal investigator, which made me feel a little closer to home in our many long lunch breaks, potlucks and happy hours.

However, I did notice that this lab was an exception, as Latinx scientists were not very well represented in other labs or PhD programs. When I started graduate school in 2018, I believe I was the only Brazilian student in the whole Biosciences community. Since then, it has been a constant challenge to navigate academia in a foreign country where I have no family at all.

It is a constant feeling that I am privileged to be where I am, while wanting to share similar experiences to the rest of my family, like bringing them here to visit and getting to know how my daily routine looks like. That is usually done by having daily video calls with my mom where I try to make her experience a little bit of the dream I am living in.

Being a graduate student here in the US also gave me the opportunity to provide for my family in times of financial crisis, including the recent COVID-19 pandemic where my mom lost her job. Another aspect of being a Latino scientist in STEM is the feeling of not feeling represented or feeling like home in multiple scenarios. **I often see my culture and my family in people that work in universities here, but that are historically excluded from attending places like that. I often find those people working as cleaning staff in the research buildings or coffee shops that I go to; and that for me is a constant reminder of my roots and culture, and how we need to push for change and make academia more inclusive to Latinx students.**

### **What does your support system look like?**

In the beginning of graduate school, I struggled to find a support system as I often felt like people did not fully understand where I came from or my culture. However, with time, I developed a stronger support system consisting of friends I made here. I became closer to some people in my cohort, developed more meaningful connections with graduate students that I worked with during my rotations, and met people that share a similar background as mine through other activities I got involved with, such as the Stanford Summer Research Program (SSRP).

My mentor also became one very aspect of my support system, especially in the research aspect. The strongest support system continues to be my family, even though they are far away, they keep encouraging me to move forward and follow my dreams.

**I also realized that therapy was essential to help me cope with my feelings and concerns, especially during the pandemic where I could not go back home since the beginning of 2020.** I realized that finding a support system early is essential to navigate the academic environment, and if I could have done something differently in the beginning, I would have made more efforts to connect with people instead of working so hard.

### **How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

So far, my experience in academia has not been the smoothest. However, instead of giving up and letting this environment be the way it is, I decided to put more effort into changing it little by little. I realized that my personal background and experiences could serve as a role model for other scientists that are going or have gone through similar experiences.

I became more involved in multiple activities to help make academia a more inclusive environment, not only for Latinx students, but for historically underrepresented students. I took a class on diversity, equity and inclusion topics, and ended up TAing that class later on.

I participated twice as a program leader for SSRP, which aims to provide opportunities for URM undergraduate students from other universities to conduct research at Stanford University. Together with other colleagues in the department, we started a Preview Program that is helping to demystify the graduate school requirements and application targeting URMs from all over the world.

I also participated on the mentorship and admissions committee in my home program, trying to recruit and promote belonging/inclusivity to students from these backgrounds. Even though I am usually overloaded, I definitely feel that my participation in initiatives like that increased my performance in the lab. We all know that research is challenging and does not give immediate results, but the parallel feeling that I am serving as a support system for other students counterbalances the many failed experiments, and brings me joy at the end of the day.

In the future, I plan to become a principal investigator, hopefully having my own lab in Brazil, serving as a mentor that will train the next generation of scientists and their scientific discoveries.

**What can we do to make ecology and evolution/biology departments more welcoming to Latino/a/x students?**

Representation is key, in order to make Latinx students feel like they belong. For sure, increasing the number of Latinx students is important, but change also needs to be made at higher hierarchical levels, such as hiring faculty that identify as Latinx.

As I experienced here in Stanford, activities that include Latinx scientists can help promote this feeling of belonging. Some of these initiatives include creating support groups for Latinx students in their department or a larger community (such as Biosciences), creating happy hours or casual hours for students to speak Spanish, and outreach opportunities that target the Latinx community.

## Maya Yanez



**Briefly, what are your research interests, where are you from and where did you do/are doing your graduate degree?**

I look for aliens! I am exploring conditions on Saturn's moon Titan that could harbor life. Specifically, acetylenotrophs (or organisms that eat acetylene) could thrive on Titan and I will constrain where and how they do it.

I am from the South Bay of Los Angeles: Lawndale/Hawthorne/Gardena area. I went to Leuzinger High School in Lawndale before transferring out. I went to Boulder, CO and the University of Colorado Boulder to get my BA in Astronomy.

For my current studies, I came back home to LA. I am in the Earth Sciences Department at USC working on a PhD in Geobiology. My advisors are Jan Amend (in MBBO and Earth Sciences at USC) and Morgan Cable (at NASA Jet Propulsion Laboratory).

**How does your latino/a/x identity impact the way you navigate academia?**

In addition to being Latina, I am the first generation in my family to go to college (let alone get a PhD), and I grew up poor where my immigrant father still works a blue collar, hard labor job, despite being in his 60s. So academia was terra incognita.

There was a terrifying weekend immediately before I moved in at CU Boulder, where the loans to get me to school were denied. The following Monday they were “reconsidered” and approved. Before I even started, I felt like academia was not open to me because of the huge cost.

Then I moved from the rich diversity of LA to a city where (at least at first) I felt like my culture and identity had no place. I loved my time in Boulder, but the culture shock of moving to this city (where the population is nearly 90% white) is akin to how it feels entering academia.

My two huge connections to my heritage are food and language. Especially because these are almost always shared with others. I was used to hearing Spanish nearly as much as English at home; I could go to a Mexican supermarket in LA or even a normal Kroger and find ingredients. Most of that was missing in Boulder. In fact, I literally would fly from LAX with cans of enchilada sauce in my luggage so I could make the dishes I wanted back in Boulder.

The first friend I made at CU was from Colombia and we met in our Introductory Ecology & Evolutionary Biology class. But he hated speaking Spanish because he had worked so hard throughout elementary school (in Boulder, and surrounding areas) to lose his accent, for which he was bullied. Being white, unless you see my last name, most people have no idea that I have any Mexican heritage, which often meant that people would doubt whether or not I was Latina, including a NASA engineer, at a conference.

So while I have never hidden my identity, I definitely have had periods of time where I would not bring it up because there was not a space for it. I did not want to have to defend a part of me. It felt like an obstacle in academia instead of what it is: just another facet of me.

In more recent years, I try to embrace it! Since moving back to LA, I get to practice Spanish more often and try to share Mexican food and celebrations with those that are important to me (including my lab group!). I try to step up more in DEI efforts, specifically highlight Hispanic Serving Institutions when relevant, and engage with other Latinx students.

To be clear, I have privilege that others do not because my skin is white. I was still accepted in places like Boulder because outwardly (unless speaking Spanish), one would just assume I was a white woman. But when I tried to incorporate my ethnicity is when I began to feel like an outcast or at least that my culture did not belong in my career.

Bringing your whole self into your science/career is important because just as much as science goes hand-in-hand with the rest of my life, my Latina identity is just another part of me. Having a community of Latinx scholars is extremely helpful, too.

### **What does your support system look like?**

My biggest supporter is my boyfriend of 10 years. He helps me through everything, and he is ever expanding his Spanish vocabulary (slowly but surely!) because it's important to me. My parents are incredibly proud of me; even if they have no idea what it is that I am doing, they cheer me on and participate when they can. I have tíos and tías in abundance and some of them are amateur astronomers themselves.

While my dad is Mexican he also has Mayan heritage, so my family in Mexico looks forward to sharing the ancient astronomy of the Mayans with me too. So while I may not turn to them when stressed, or confused in the lab, I can rely on them for a good conversation about space, which grounds me; it's a reminder of why I am getting a PhD.

**How has your experience in academia influenced your career trajectory - are you more encouraged or discouraged to stay in academia because of your experiences?**

***I am discouraged from pursuing a career in academia; I plan on pursuing positions at national labs or research centers versus universities.*** As a first generation and low income (which to me are closely tied to my Latina identity) undergraduate student, I felt like I was always fighting an uphill battle against the cost and bureaucracy of universities. And I would speak up about it! I specifically requested that my department use their scholarship funds to target underrepresented minority students or to make the scholarships needs-based. But bureaucracy always came into play; it frequently hindered the ability to help URM students.

I saw my Latinx friends (graduate students at the time) suffer and “flunk out” of the program, despite their ability to accomplish independent research, due to arbitrary and outdated practices that ended the year after Latinx students were kicked out.

***Barriers to success that reward the same type of learners and people that have been given access to education for centuries, and refuse to be adapted to those that do not fit that mold are what discourage me from continuing in academia.***

**What can we do to make ecology and evolution departments more welcoming to latino/a/x students?**

This extends beyond the Latinx community but generally making space in our departments for people to freely speak another language without judgment would be more welcoming. When I had the opportunity to speak in Spanish with my friends or the custodial staff in undergrad, I often found non-Spanish speakers feeling uncomfortable or even accusing us of talking *chisme* (gossip) behind their backs (i.e. not in English).

Because language and food are the two ways I most connect with my heritage, when I feel like my Spanish is unwelcome or I'm being judged for speaking it, it makes me clam up and feel like part of me (and therefore all of me) is unwelcome in that space too.

Departments ought to listen to the Latinx students they have been able to recruit. **If those students identify a problem, address it!** This does not mean anyone in a department should approach someone and ask their opinion just because they are Latinx. *It means conducting exit interviews and the like on a consistent basis for all students. So that as a whole, the department can understand how it is perhaps preferentially recruiting students, or why some students choose to leave a program early.* Or perhaps what the department should continue to do because it is welcoming!





## Special Interview - Dr. Melissa Guzman



[Link to Melissa Interview](#)

## References

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