



The ALBA Diversity Podcast

Season 1- Episode 5

Dr Nancy Padilla-Coreano - Cultural immigrant in STEM

Speaker Key:

SM Shruti Muralidhar (Podcast host)

NP Nancy Padilla-Coreano (Guest)

00:00:09

SM Hello and welcome to the ALBA Diversity Podcast, an Alba Network undertaking to profile and highlight diverse and immigrant neuroscientists. The Alba Network aims to promote equity and diversity in the brain sciences. We talk to neuroscientists across positions, career paths, and backgrounds, to better understand their personal journeys.

We showcase the grit and determination it takes to overcome hurdles as part of underrepresented or minority groups. We talk about what keeps them going as individuals and as neuroscientists in today's world. And today we have with us Dr Nancy Padilla Coreano.

She's a postdoctoral associate at the Systems Neuroscience Laboratory at the Salk Biological Institute. Nancy, what was the first time you thought about the brain and neurons and how did it grow into a career in neuroscience?

NP The first time I thought about the brain was actually through music. I went to this public school that was specialised for music, because my mom is a piano teacher, and that's where she went when she was little. So, I did middle school and high school in this music school, and as I matured a little bit and my curiosity grew, what I was thinking was a lot about the effect that music has on us.

00:01:36

So, for example, I wondered how come some music sounds happy and makes us feel happy and other music sounds sad and makes feel sad. How does that happen?

So then, I think it was when I was in high school, I was like, I want to study the brain. I didn't know how I was going to study the brain. I didn't know a scientist. I honestly thought that scientists were people that get selected. So, the idea of me deciding to become scientist, that didn't cross my mind. But I knew there were medical doctors, and I was like, maybe as a medical doctor I can study the brain.

SM If you aren't given an example of a neuroscientist...

NP Yes, exactly.



SM You're not going to think about it as a possibility.

NP Right, exactly, yes. In my case, I could only imagine what I knew possible, and begin a scientist was out of the realm of my possibilities. And quickly, after I started undergrad in the University of Puerto Rico, that's where I'm from, I learned that there were scientists in campus. And I was like, what? There are scientists in Puerto Rico? I didn't even know that. Or, if I knew it...

00:02:46

SM It didn't really register that there were scientists.

NP It didn't really register, right. It was something of the movies or something in America, but not where I was from. A student that was a little older told me there are neuroscience labs, so I learned that word in college. I didn't know that word before, neuroscience. And I was like, neuroscience, the study of the brain, are you kidding? That's what I want.

SM Do you have somebody in your life that you consider to be a role model or a mentor? Bear in mind, it doesn't have to be somebody in science. What do you admire about them?

NP My undergraduate mentor was really special to me and to a lot of people. If you ask him, who are you? He'll say, I'm just a white guy from Connecticut. But he's not just a white guy from Connecticut. When he was in grad school, he kind of had a crisis of, science is just a rat race. And I think that's something that a lot of us experience. He felt empty. He was like, we're all just in this rat race to get this paper, and then what? What's the point of it all?

So, he lost a little bit of focus and then he started doing other things that included moving to Honduras to help collect data regarding... There had been a dictatorship that happened in Honduras and they were assaying PTSD in the population. So, for the first time, he experienced that you could use science for things that related to social justice and for things that could help the community.

00:04:24

SM What a surprise that must have been, as a grad student, to realise, oh, my God, I can actually do some immediate good with my work.

NP So, that was really gratifying to him, and then he wrote a grant to get a little bit of money and then start a neuroscience class in the medical school in Honduras, because the medical students didn't really get any neuroscience training. So, he got some equipment donated. This was fresh out of PhD, which is amazing when I think about it. And he set up a small research programme studying, in rats, how malnutrition affects behaviour in the pups, because that was something that was really relevant for the country.

And he went back to New York where he was from, and he was like, what now? He wasn't sure how to go back to the real science world. All of this led to him deciding to set up his research career in Puerto Rico because it's a place where he can get NIH funding, which is a huge deal. If the person listening to this is a scientist, we know that research is really expensive.



But there was not a lot of opportunity to research careers, and access to research opportunities in Puerto Rico is really limited, so he thought, if I go there, I'm going to be creating opportunities with the scientific training that I'm providing, while doing science. And he's the reason I'm here today. And that's what he taught us, too. In being in his lab, we discussed, often, that science can change people's lives in different ways.

00:05:59

It could be because it provides you with access to... A PhD doesn't cost money, as opposed to other graduate programmes, so it can be an opportunity for somebody who otherwise wouldn't have been able to do any graduate programme whatsoever. It can create opportunities and can empower the community. You collect data. You use that data to do things. It could be, we don't have this. We've quantified it, and I'm showing you that we don't have X.

So, from early on, that message seeded in my heart and my soul and my brain. I'm not going to have the same career path that he did, but in whatever I do end up doing, I know that science is a tool for changing people's lives in whatever way it ends up being. I'm really aware of that. And his name is Gregory Kirk.

SM I was just going to ask that. I was like, that sound amazing, but you haven't really mentioned his name yet.

NP His name is Gregory Kirk, yes.

SM I'm glad you mentioned it. Most of the people just end up falling in love with the science, and they love it because it gives them a chance to solve puzzles. It gives them a chance to push the boundaries of knowledge, hack away at the frontiers of what we know. But this is such an inspiring, different story about why somebody would get into science.

00:07:23

NP As academics, sometimes we forget that our institutions are embedded in these communities. And you should engage the community. You're in their space.

SM Greg's story sounds fantastic, and so does yours.

NP I'm hoping that he writes a book. He says that he might get to it.

SM I would love to read what he writes. His papers are amazing, as is, so I can't even imagine what his life story is going to be like. Tell us a little bit about what you work on right now.

NP I'm a postdoc right now, and I'm really interested, over all, in understanding, how does the brain help us behave in a social scenario. How does it take information about our social context? And how does it use that information to guide our social interactions? Specifically, how does the brain encode social rank information?

Humans and other social animals organise themselves into hierarchies. In our case, the hierarchies are pretty context dependent, like work hierarchies, family hierarchies, etc. The government, that's a hierarchy. And then, the position of each animal or each person in this hierarchy is going to help animals or humans decide



how to interact with each other. So, mice do that. I study mice, and I'm interested in understanding how the brain is capable of doing that.

You put a group of mice together, they'll form a hierarchy. You don't have to do much. You do have to work on being able to tell who's who, so using behavioural assays to tell them apart. So, once it's formed, I want to know, how is it represented in the brain? And what I've found is that prefrontal cortex, which helps us make decisions, the activity of the prefrontal cortex, of that part of the brain, is actually predictive of animals' social rank.

00:09:21

And I found a specific sub-circuit of cells that seems to be controlling these social rank and dominance related behaviours.

SM That's amazing.

NP Yes.

SM It's like finding the very tiny key to a very tiny lock to a very big question.

NP Yes, that's true.

SM Do you consider yourself to be part of an immigrant or a minority group? Have there been times where you've felt out of place, or have you faced some sort of discrimination because of this?

NP Yes. I'm a Latina. I'm born and raised in Puerto Rico. When it comes to race, we're mixed in my family, a mixture of Indigenous and European. I've never really thought about my race often. In fact, if you ask people in Puerto Rico, what's your race? They'll say Puerto Rican.

SM That's the best answer they can give, right?

00:10:22

NP Which, it's not an option to put that down. So, I do consider myself a member of a minoritized group. And the thing about being an immigrant, with Puerto Rico, it's kind of strange because culturally I was an immigrant, but Puerto Rico is a colony of the United States, so I am...

SM I was just going to ask that, because this is your country, but it's funny how things have evolved.

NP Yes, it's another country culturally. As people, as a nation, there's a separate government, there's a separate constitution. The trick is that that constitution, the US Congress can overpower it at any moment. It's not really a valid document. It's a really strange thing when you think big picture that these other people that we didn't elect can change anything. That's ridiculous. It's really a colony.

Because there is a constitution, there's the local laws that are different from the laws in the US, it really feels like another country. We speak Spanish, so there's a language divide. Obviously we're constantly thinking and talking about the US, but when we do, it's like them and us. It's in a very much...

SM There's this othering that's happening.



NP There is this othering.

SM You don't really consider yourself part of the group.

00:11:39

NP Yes, there is the othering. And when people leave it's like, oh, they went away. It means US. But it technically translates to they went outside, it's [non-English], it's out there, outside. It means they're in the US.

SM I can imagine. And of course, what you use as words to describe something like this changes the way you think about it, right?

NP So, that's culturally... It really feels like another place. We don't feel part of the United States. I'm sure there might be some Puerto Ricans that might feel differently, but that's how I feel.

But, the bottom line of your question is, I do consider myself a Latina and also a cultural immigrant, so a very different experience, but definitely nothing like the burden and the difficulties that our colleagues who are international, that have limited access to funding. It's like you're here, but there's so many closed doors. I am fortunate not to have experienced that.

I guess all of that was to explain that when I moved to New York City for grad school, I really felt like an outsider. My English wasn't as good as it is now. Inside the university, people spoke really well. Outside of the university, I felt fine. People spoke Spanish in Washington Heights, where I was, which is Upper Manhattan. It's a lot of Latino communities there. So, I felt fine.

00:13:06

But inside, at university, I could tell people were struggling to understand me, and I was certainly struggling to understand people. I could read a paper. I think scientific language is one thing. But then, when you're talking colloquial and using terms that I'm like, what is that word that you used? I remember that making me feel like I shouldn't have gone to grad school. I felt like I'm not ready, maybe I should have been a technician.

And then, I also had the intense imposter syndrome at the beginning of grad school. I've had it at many stages of my career, and in fact now it's my friend and I just accept it and it's there.

SM You pat it on the head. It sits on the side of the room and you're like, I know you're here.

NP You're here, but calm down. At the beginning of grad school it was overwhelming, and I remember both graduate students and other people underestimating me and stereotyping me as the Latina, as, oh, Nancy, blah, blah, blah. And they would see me and make a fake Latino accent and sexualise me in a way that made me really uncomfortable.

So that was a struggle, because there is this Latina stereotype that we see in the media, and maybe people don't realise. Maybe they're just trying to bond with me, it's not coming from a negative place, but it obviously makes me feel extremely



uncomfortable and not welcomed, like I'm not an equal. So, there were little comments here and there related to who I was and stereotyping me, and also comments like, I don't know if you've ever experienced this, but I dislike when somebody tells me, good for you.

00:14:57

SM It's one of the phrases I intensely dislike. I'm just like, I don't need that much patronisation in my life. I think I'm doing fine without you telling me, oh, good for you. It carries this weight of they don't know you and they didn't expect you to do this well, but you ended up doing well anyway. So, they don't know how to react to that. It's a classic phrase.

NP Yes. I remember feeling that in 2011, 2012, being told good for you several times. It was not a nice feeling. I never said anything, because it's supposed to be telling me something nice, but it made me feel so bad. It was so strange.

SM I feel like it's such a micro aggression at this point.

NP Nowadays, I think, in 2020, people will definitely label it as a micro aggression. At that time, that language didn't exist for me, so I was like, I don't know. I don't like it. It wouldn't sit well. Because people are like, where did you do your undergrad? I remember telling people, the University of Puerto Rico. Good for you, and you're here now. And I was like, okay. Thank you.

So I would say early in grad school were the most salient experiences, and it's because of me adjusting. I was adjusting and I was in a vulnerable position by adjusting.

00:16:22

SM But also the fact that you had all this on top of adjusting, on top of imposter syndrome, and you're starting grad school. It's not an easy thing to do. You have so much load. You have lab and you have courses, so many things to do.

NP Yes, it is overwhelming.

SM That's a really nice example. I never really thought about why it makes me feel mad, too, but thank you for voicing it. I understand now.

NP Now I can tolerate it more, and I think, because I feel like I'm better with the language, I understand the subtext a little bit better. So, the tone helps me decide if it feels good or bad.

SM That's a good call. That helps also. You're right, the emotion and the subtext help, and then you can guess more or less what they mean by it, and it's not loaded with meaning and honestly they're just happy for you. One of the last questions we have, and hopefully this ties everything together, diversity has become an overwhelming catch phrase. Everybody talks about diversity these days. What does it mean to you? Have you been part of an example where you've seen that diversity matters?

NP Yes. For me, diversity, it is true what you say, that it is over used, perhaps. But, for me, diversity is diversity of backgrounds, scientific and also personal, both. So



that means diversity of race, gender, sexuality expressions, cultures, your science expertise. Diverse voices, diverse opinions are going to help us, both in our scientific goals and in our non-scientific goals, as well.

00:18:08

SM Why not life goals?

NP In everything, right? We are humans trying to work with each other and navigate spaces together, and we want things to be equitable in the US. The American dream is that you can work hard and get the payoff for that working hard. So, basically, behind that, there is an equity idea, an idea of, if you work hard, that will pay off.

SM It doesn't matter who you are, it doesn't matter where you come from.

NP Exactly. It doesn't matter who you are. It doesn't matter your background, your race, your gender. So, how do we get there? It requires, in my opinion, that people that are very different from each other give their perspective, because there's no way that one type of person is going to know what the experience is like for everybody else.

And I guess an example of when it's mattered a lot to me. Once I decided I that was going to be a scientist, I made that decision in Puerto Rico as a non-minority, because there I was surrounded by Puerto Ricans.

SM Exactly.

00:19:15

NP I was in my space, and I built my scientific confidence at an early age, there. Once I left, I became minoritized, the only one in the room and whatnot. And I almost took that as default. It's sad because I think at the beginning stages of my career, in graduate school and even early in my postdoc, I never thought that was going to change. It never crossed my mind that that could change. It was like, it is what it is.

In my head, and especially, I think, in grad school, I didn't feel like I had the power to do anything, so it was like, survive, survive. And then, later, in my postdoc, I think as I stopped thinking about survival mode, a little bit, I started realising that policies make a difference. I remember, in graduate school at Columbia University, at the time, in the building where I was, there was no lactation room for women. And obviously there have been women and pregnant women and mothers in the building, for decades.

And during my grad school, that didn't seem odd to me. But I think, as I matured and I space in my head to think about this stuff, I was like, this is insane. I remember women talking about how expensive and difficult it was to get childcare and postdocs that were absolutely stressed by this. And then, when you think about it, you see the leaky pipeline. When people are women of an underrepresented group that you're already feeling like you don't belong in the room, it's even worse. It's like, get out.

SM You're just thinking, you know what? I'm probably going to have a better life if I



just end up going somewhere else and making more money.

NP Do something else, yes. Even if you're good...

00:21:02

SM It's that simple.

NP Yes, absolutely. So, I think that mid-postdoc, I would say, I want to do something about this. And the thing that made me want to do something in my capacity about it, was that I acknowledged my own bias. I was looking at a list of potential seminar speakers for an event, and I didn't notice that there was not a single woman on the list.

SM It comes slowly, but it hits you pretty hard, doesn't it?

NP Yes. And I was like, oh, my God, there's these great scientists. We have a great list. We're all good. And then my friend was like, Nancy, there's not a single woman. I'm like, no that's not true. It was like, nobody submitted a woman's name, including me, and including my friend. None of us thought of women. And it just freaked me out that I didn't notice.

That is how I came up with the idea of starting a project that increased the visibility of women in neuroscience, because I felt like I knew my friends in neuroscience, and I knew the really famous women. There's the really, really famous women, and there were my friends, and I didn't know anybody else.

00:22:11

So I was like, no, I'm tired of this. I know there's so many women. They're not as invited. They're not as highlighted, and we don't see them and we don't acknowledge their work and their contribution. Through this project, Stories of Women in Neuroscience, we have a dual goal. One goal is to increase visibility and highlight their contributions to neuroscience. And the other goal is to talk about their career paths and talk about those challenges, talk about the lack of lactation rooms for some women, or navigating these spaces that are male dominated.

It's a wonderful project that I never anticipated how good it was going to make me feel and how much it was going to help me with my own imposter syndrome. Talking to these full professors who are telling me about their imposter syndrome when they were already a professor, and learning that through these conversations with women, I was like, this is normal. A lot of people have it. And these women that are amazing that I admired often feel the imposter syndrome or, oh, I'm not so sure I'm good enough. The not being good enough, all these things.

And then you realise that you're not alone in that, and then you realise it's normal, and then it goes away a little bit.

SM There's solidarity in it. Maybe it's a bad analogy, but I feel like it's like sharing your pain a little bit lessens your own burden.

NP Yes, I guess so.

SM If you tell somebody that you're not feeling good about something, and they acknowledge saying, oh, yes, you know what? I've felt exactly the same way



before.

NP Yes, and there's something about admiring them. They've had amazing careers despite feeling like that occasionally or sometimes. And then you're like, oh, I could do it too. So, it's also helping me visualise and hopefully listen.

00:24:02

SM It gives you that little extra hope saying, if they can do it, I can do it.

NP Yes. So, through this project we definitely try to capture diversity of voices. When we interview women, we're including not just biologically born women, but transwomen, in the different spectrums of the sexuality. And we also try to cover different ethnicities, not just races, but people that are Muslim. We really try to capture... Because there is a lot of women in neuroscience from extremely diverse backgrounds. We make a point to not be biased in the pool of people that we interview and to try and capture the variety of stories.

So, I had the idea, but I knew I couldn't do it alone, so I contacted a friend at the SciCom. I sent her an email and she was like, I love this idea. I'm going to help you. I thought she was just going to give me some ideas, and she's like, I'm down.

SM What's her name?

NP Her name is Catie Profaci. She knew the community. Because I knew I was moving to San Diego, so she knew people in San Diego that were also interested in SciCom, and it happened to all be women. It's been a women-lifting-women project. It's an all-female team.

00:25:22

SM Perfect. Nobody could ask for a better organisation.

NP Yes, and it wasn't on purpose. It's not like we said, we only want to work with women. But it's made it such that it's... I don't know. We're all on the same page about the importance, and we feel really comfortable with each other. It's a really wonderful experience.

SM Last question, what do you do for fun? What is something that you like doing other than neuroscience?

NP I like running. It destresses me. I can be thinking about science if I want, but I don't have to. So sometimes, purposely, I'm like, I need a run and I'm going to listen to this amazing music that I like and not think about anything except breathing and not quitting.

SM Perfect meditation, that's what you do, right?

NP Yes, basically.

SM Is there anything else you want to add or you want to tell me about?

NP I guess I'll give a minute of advice for grad students or trainees listening. Remember that failure is part of it. Without failure, you're not going to succeed. Even if things fail and fail and fail, it's normal. You're on track.



SM That is something that's not just for trainees. That's something I needed to hear today, so thank you.

NP You're welcome.

SM Thank you for listening to this episode of the ALBA Diversity Podcast. To know more about the Alba Network and its activities to promote equity and diversity in the brain sciences, please visit alba.network. You can also register as a member, for free, and take full advantage of the network's resources. For more details, follow the Twitter handle, [@network_alba](https://twitter.com/network_alba) or [AlbaNetBrain](https://www.facebook.com/AlbaNetBrain) on Facebook.

00:27:17