



The ALBA Diversity Podcast

Season 1- Episode 2

Jose Zepeda - Academia needs a culture change

Speaker Key:

SM Shruti Muralidhar (Podcast host)

JZ José Zepeda (Guest)

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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.

JZ Yes, so hi, my name is José Zepeda. So I've started a PhD-programme at Vanderbilt where I hope to pursue a track of neuropharmacology. I did my undergrad in biochemistry at UMass Boston.

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SM What have you done up to now in terms of neuroscience? What does your neuroscience path look like?

JZ Well, I was at MIT, I was working in a visual neuroscience lab, specifically looking at synaptic plasticity. We did some really cool experiments where we were able to image activity at single dendritic spines. And I mean, that was just fascinating, I think that it really solidified my passion for neuroscience.

I just became intrigued with how many unanswered questions there are regarding synaptic plasticity. We know that it's so important for things like learning and memory. But I learnt later that it's also extremely important for a lot of diseases where we can have an excess of neuroplasticity or lack of it or sometimes it can just go array.

So with substance abuse, you can have these circuits which are overpotentiated and some diseased state where a person who's addicted to a substance just can't really... There is nothing that their brain can do to sort of break down that circuit. It's been way too solidified.



I'm very interested in what forms of synaptic plasticity might be occurring there. Is there something different about these synapses? What led to that and can we interrupt that to help people?

I think that I really began thinking about neuroscience some time in high school when I was kind of really interested in science but also extremely naïve. I didn't really fully understand what being a scientist encompassed, and for a very long time, I was really into theoretical physics.

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But then I was also really interested in consciousness, and I think that sort of, what brings those together or where that originates from, is probably just like, a curiosity for the deepest questions in philosophy, like philosophical conundrums.

SM Things that keep you up at night, things that don't have answers.

JZ Yes. Yes, those really deep questions that people love to write about and I, for some time, loved to read about. And my curiosity, yes, it really stemmed from that.

Probably my first real exposure with a brain scientist was actually at the Massachusetts State Science Fair, so it was at MIT and I was presenting this experiment that I'd done with a double pendulum. It's a dynamic system, so it's chaotic but still inherently deterministic.

But I had read in a book somewhere that you couldn't repeat the double pendulum swing twice and so I just thought, that really got me going, so I went ahead and tested that.

The really curious thing about a double pendulum is that at high energy levels, it does behave very chaotically. You can imagine that at very low levels, it doesn't. Anyways, I was really excited to share my discovery even though I'm sure that so many people had showed this before, but there I was.

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And a brain scientist who just come to me and was really fascinated with the project and told me that they'd actually done their PhD studying the brain as a chaotic system. I'd never really thought of the brain like that.

SM Do you have somebody in your life that you consider to be a role model or mentor and if you do, then what do you admire about them? I mean, bear in mind, though, they don't have to be another scientist, so.

JZ I think that probably one of the greatest role models in my life has been my mom. I know that's like super-corny, probably a bit of [?] a cliché.

SM We don't thank moms enough, that's my personal view.

JZ Yes, I agree, actually.

SM Yes.

JZ And my mom raised us on her own, four children, and so I saw her struggle a lot and she was always just determined to provide the best life for us. But even then, she always did all of these things to enrich her education with the limited resources



that she had, so when my mom immigrated into the US, she hadn't completed high school.

Yet, around age 35, she got her diploma, finally, here in the US and so, just seeing her go and teach herself English, teach herself how to do all these things, always put extra effort to be the best at whatever she could do, that was extremely inspiring.

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SM Do you consider yourself to be a part of a minority group? You already mentioned that you're an immigrant, but have there been times when you faced covert or even overt discrimination because of this?

JZ Yes, I am the son of Mexican immigrants. I think that like many people of a minority group, I have experienced racism, but I think that I've experienced it in many forms. I think that racism can be extremely raw and overt and then at other times it can be more nuanced.

I do remember at a very young age, perhaps probably one of the most marking events in my life. We grew up, or I grew up in Cambridge, Massachusetts for the most part. My mom fell in love with my stepdad and followed him there, essentially. But they were going through a rough time and so there's a time where we moved to Arizona.

While I was in Arizona, I was attending Kindergarten, so I had made some friends, Max and Sam, whom I would walk to school with every day. I remember one day, Sam's mom just out of the blue, just told me that I wasn't welcome walking with her children to school anymore.

I remember just going home and feeling extremely confused. I really just tried to trace back what I had done wrong or if I had done anything wrong and I never really made sense of it. Not until I was a lot older that I sort of looked back on the event.

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And so that morning that she asked that after we got to school, my grandma had come out. She called out to me the morning, to tell me I forgot something or something like that, but she spoke to me in Spanish.

And my grandma's also brown and I thought, okay, well, maybe there was something that went on that specific day that led to that. And it wasn't until then that I realised that maybe she didn't feel comfortable that some first-generation Mexican was hanging out with her children.

SM Yes, my next question is something that's very relevant for all of us, so diversity has become like an overwhelming catchphrase recently, but what does diversity mean to you? And if you have an event in your life where you've seen the good effects of having inclusivity and diversity and places where it really made a difference, can you tell us a little about such incidents?

JZ I think I have a very weird relationship with the word diversity, actually. I mean, it's been very much like a recent sort of hot term, everybody's using it. It's sort of



always within this context of like, well, if we recruit people who look different and have different backgrounds, it's going to have some profitable, materializable effect. It's going to benefit everybody who's here.

So therefore, those who are different than us, we'll invite them over only if they can benefit us in some way or some regard.

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SM It's a very transactional relationship.

JZ Yes, so there's many immigrant stories of people will come and they're top of the class and they're doing all of these things. But I have the opinion that these are human beings and people deserve to be here, even if they're not reinventing, I don't know, or working at NASA or all these things that we deem glorifiable within society.

With that said, I think that diversity can be a weird way of sort of integrating people who'd been neglected in the past from certain disciplines or institutions. With all that said, I think diversity's great and I think that it's necessary. I think that it's often just not communicated correctly.

SM I agree with you on that. That's a really nice stake [?].

JZ Yes, I mean, if you want different thinkers or if you just want to sort of change the type of institution that you're in, I don't know that the best strategy is to just say, hey, we're going to recruit a bunch of people that are different because they're going to produce some, like I said, material, profitable substance, be it ideas or actually inventions.

SM Don't try to profit off of diversity but choose diverse people for the sake of diversity so that it better reflects who we are as a society, right?

JZ Yes.

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SM I mean, we are different people and we come from different parts of the world with different ideas and slices of that society, are what we see in institutions. And it makes perfect sense, what you said. I mean, don't pursue them as a means to an end, they are the end.

JZ To answer the second part of the question, I think that one of the very positive things of these initiatives is that younger students are finally starting to find idols that look like them, starting to learn that you can do it.

Just because in the past certain people were neglected from participating in something like science doesn't mean that there is some inherent truth for why that's happened. Instead, it's been malpractice, it's been power falling into the hands of a very few.

So that's been great, I mean, and I think that that should be happening. I think that anybody who wants to study brain cells or ecology or whatever it may be, should first of all, be given the tools to do so. But secondly, the possibility of them thinking of that in some way that's achievable, starts with having role models.



Yes, there's some very despicable numbers out there like, I think, within US institutions, there's only 3% of fully tenured black professors. It's despicable, it's not reflective of the population, it's clearly reflective of years and years of oppression which continue [overtalking].

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SM Yes, I mean, it continues today, it's all the elitism, all the exclusionary habits, principles, system rules that's been put in place and propagated over years. Yes, 3% is an appalling number.

JZ Institutions, if they really are truly invested in increasing diversity, then one of the things that they also have to think about is their culture. Do they have a culture that's welcoming, ultimately? Sometimes that has to do with making some sort of drastic changes and I think that if people aren't prepared to make those drastic changes, you're not going to see real, healthy outcomes.

The example that I always think of is, think of somebody that's professional. What do you imagine? You probably imagine somebody in a button-up shirt, wearing a tie, they're maybe carrying a suitcase and they're maybe a white male. A lot of us will try to sort of assimilate that, because that's the common idea of what professionalism is.

And so, until we can change what we view as a professional, a lot of these things are going to perpetuate because a lot of people are being left out due to the very culture. If you don't see yourself reflected in some of these people within academia, you're not going to want to be part of academia. Yes, that's just the [overtalking].

SM Right, I mean, there's only a few of us who, despite the fact that we don't have idols to look up to, a very, very few handful of us is going to break through that barrier and be like, no, I can see myself in that position in the future and sort of work towards it.

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But for more than, I'm sure, 98% of us, it helps so much to see somebody or to see what you're working for, and you're absolutely right, it's the vision that matters.

JZ Yes. And I think, yes, so developing a better culture within the institutions might help develop a culture without the institutions because, ultimately, you're recruiting from the regular, ordinary, everyday populace. If you're only selecting for people who fit what you deem is appropriate for academia, then you're creating a great divide.

And I think that's why there's so much distrust right now between the general community and scientists because we're not creating a culture where we actively participate with the community and communicate with them. We're self-selecting for what we consider professional or to have professional potential.

I mean, I think that as scientists, we kind of always rely on these deep ideas of wanting to instil change or help the world in some way. And if we're not actively participating in the grander orchestra of science, then, ultimately, we're not



achieving that to that fullest potential that I think we must.

SM Academia is notorious for not having any semblance of a work-life balance. How have you managed so far and do you have any tips or habits that you think has helped you and you think could help other people?

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JZ Science can and will be very temporally and mentally demanding, so I think it's important to have outlets for creativity. For me, there's just happen to be poetry. I like reading poetry and outdoor activities, so just going out and riding my bike.

So I think it's always good to have things outside of science, even though you can be more successful and maybe you'll get a paper published before some of your colleagues or whatever.

Your sanity's so much more important in the long run. Especially as brain scientists, we know of the horrible effects that stress and sleep deprivation can have on not only your brain but the rest of your body that is connected to your brain.

So I think you should make a rational decision to hold back from that ultimately socio-economic ambition because we're very naturally curious beings, but that curiosity only takes us so far. Anything beyond that is often just perceived as material things.

It can have a negative effect, so being very wary of that and making that smart decision and say hey, you know what, this is starting to work to my detriment and work against my health. I think that that's what's helped me sort of make that [inaudible], thinking about it rationally.

SM Yes, that's wonderful. This is such a healthy way of thinking about work-life balance as you head into [inaudible] and I think, hopefully it bodes really well for you.

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 ALBA Net Brain on Facebook.

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