



The ALBA Diversity Podcast

Season 1- Episode 7

Dr Andre Mecawi - The importance of representation in STEM

Speaker Key:

SM Shruti Muralidhar (Podcast host)

AM Andre Mecawi (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.

AM My name is Andre Mecawi. I work at the Federal University of São Paulo at the São Paulo state, Brazil. I am a [unclear] turned a doctor so I got that first degree in that. But I was always into do some science. So, since my undergrad I looked labs to do Scientific Initiation. That's a programme we have it here in Brazil and it's really successful. It's based in bringing undergrad students into science along their undergrad course. So, I have this amazing experience as of that work in a neurophysiology lab.

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After that, I decide that the best way was going to do Master's and PhD. So, I chose physiology again and neurophysiology, a bit of neurotechnology, that's integration of these two main [unclear] systems that we have. So, I was doing Master's and PhD at the University of São Paulo. After that, I moved to Bristol and spent about six months there doing postdoc training with Dr David Murphy. Then, I come back to Brazil, got my first position in my university in Rio, worked there for four years.

And then, three years ago, I moved to São Paulo because it's not that hot here, so it's more comfortable.

SM That's a good reason. So, that's really interesting. So, you've grown up in Brazil, and then you went to Bristol for a postdoc, and then you came back to Brazil.

AM It's a very common way to do science in here. So, in general, people get good



opportunity outside and as things in Brazil are not so well-developed, the life quality, as a developing country is not as we wish it would be. So, many people go to do PhD or postdocs outside in other countries. And of course, they enjoy the life there, so it's not common to have that brains back home. So, there was in the past this movement to bring in and keep the Brazilian brains inside Brazil or bring them back home.

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I was in that wave that the government was pushing us to go outside, learn some techniques, do some good science but always come back to your country.

My PhD supervisor he used to say that the science doesn't have a nation, but the scientist has a nation. So, it's somehow the scientist's obligation to help others from his country. To also do great science, teach some students, always to train any students better than you. Get these good opportunities in foreign countries and bring it back home to try to improve our science here.

SM Can you tell us a little about what you do? What your lab does and what your questions are right now?

AM My laboratory at the Federal University of São Paulo is they came to study how neurons and hormones interact to each other to control body water and salt balance. So, evolutionary, we have many selected and conserved neuroendocrine systems. Virtually all vertebrae species have these conserved behaviours that we call thirsty, that is specific appetite for water and sodium appetite, that is the specific appetite for salt.

So, we are interested in understanding how the central nervous system works with the help of the neuroendocrine interface to protect us from dying out, from drying out. And allow us to live in the dry environment in the land.

SM It's not something that people usually study so this is very fascinating.

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AM Thanks to a collaboration with Dr David Murphy we are being able to go deep on the genes and try to understand how genes network works to ensure that we will be hydrated in the dry environments.

SM When was the first time you started thinking about brains and neurons?

AM So, when I was in the Basic School, let's say about ten, 11 years old, I have this amazing biology teacher and he used to draw cells and neurons in the blackboard in a very fashioned way. So, he draw neurons talking to each other and he lives in molecules through synapsis. At that time, I don't really have a clue about how important it is for the neuroscience but of course that colours and that enthusiastic way to teach first brings my attention to the central nervous system. But later, when I was in the grad school, I met my Professor, Dr Luiz Carlos Hayes.

He's a very passionate neurophysiologist and he used to teach in a very scientifically accurate and historically contextualised way. So, he always tell the history about how things were at [unclear]. But that knowledge that are in the book nowadays, they were first in the papers. So, he used to tell the histories about how



the science was done beside that knowledge, how it brings some Nobel Prize. And it actually, aroused my interest and attention to neuroscience and to research. So, after this Scientific Initiation with Dr Hayes, I start to become a young scientist, I think.

SM It's always a good teacher who does it. I'm always happy when I hear it's a teacher because it tells you the value of good teachers, right?

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AM This is a common sense that having good teachers will make kids learn more and will make a better adult. But unfortunately, as the teaching career for Basics or for the High School are not so well recognised, I think it's the same everywhere, the best brains go to other areas like tech knowledge or health. And unfortunately, we miss some of great teachers. So, we need to step further and start to recognise more teachers and their roles in encourage young minds to follow science.

SM I 100% agree. I feel, especially in places like Brazil and India, it needs to be encouraged because there are so many children with so much potential and all the curiosity in the world.

Speaking of teachers, do you have a mentor in your life that you like, that you respect? But it doesn't have to be somebody from science. It can be anybody who guides you in your life. Is there somebody like that?

AM Sure. As I write today, I have my undergrad supervisor, Dr Hayes from the Federal University of Rio, he's a very passionate guy and the way that he's really in love with his career, with his laboratory, with the science that he does. Without much money, it's more behavioural but the way that he looks to it and talk about that, it's fascinating. So, I always wish to have that level of passion for science. And secondly, my PhD supervisor. I would really like to have good examples very close to me.

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When I met my PhD supervisor, Dr Sherzan Tony Rodriguez, he was already about his 80s and he's still very active and very motivating, always working to get his students excited about science, about life. And he's 87 now and he's still teaching during pandemics on video calls. So, it's fascinating how people really take their professional in science and teacher really serious and how they love it. So, that's two examples, are the ones that I wish to follow.

SM That's really nice. I mean, it's so inspiring to see somebody who, if you're 87 you can just be like, I'm done, I have other things to do, I don't need to do science. But you're right, it's so inspiring but it's also, it's amazing. This energy. To have it and to translate it into good things for your community and for the students. It's really fantastic.

Okay, so let's switch gears a little bit. Do you think you're part of a minority group? And do you think it comes with some discrimination, some segregation? And have you felt something like this professionally and personally or maybe even as you were growing up?



AM So, I was born in Brazil but I'm actually mixed-race, African-Brazilian since my father is Egyptian and he's come to Brazil on the 60s where he met my mother, a Brazilian lady. And in that way, I think I am part of a minority group here in Brazil. In Brazil, the things are not so strict about minorities as numbers because we have more than 50% of our population that have somehow African background. And we also have ascendants from many countries and cultures as Portuguese, Spanish, and from many other countries.

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So, what's really important here is the history of slavery that we have. As a consequence of a very late slavery abolishment in Brazil, we have segregation of black colour and white colour. So, I think that I am part of a minority that's actually not... There is smaller number of people around. Unfortunately, Brazil still being a racist country. But I think that's the same everywhere, all around the world. If we look for the academia in general, we don't see many black people holding these high positions like professors or in any other well-recognised position.

The same thing happens in Brazil. I believe that it's not particular to our country, but Brazil has done a amazing advance on this issue on the past decades. So, we have this actual law now that reserves 50% of undergrad positions in the public university to people from African backgrounds. So, it was working for the past 20 years, that law. So, nowadays, it's the first time in our history that we have 50% of the population that got African background represented as undergrad students in the public university.

Especially the Federal University of São Paulo is a excellent example of a environment that encourage diversity. In the recent years, my university has been among the inclusive ones in the Latin America.

SM 50% undergrads of African background is mind-blowing for me. That's already amazing.

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AM But it's still hard when we look after their undergrad or when we look for Master's, PhD, postdoc, and professors, we still have very few black people and women on that higher level in education.

SM But this is not, like you said, the problem that's unique to Brazil. It's a problem every country is facing, right? Because at every level, you need to be more inclusive.

AM We are very proud of that 50% now...

SM You should be. It's pretty amazing.

AM 50% of black people. And we are trying to work on that number and try to apply it to other levels. I'm not entirely sure that have quotas is the best way to do that but it is working. So, if it's working, maybe we should apply it for other levels.

SM Everybody talks about... I know we just did. Everybody speaks about diversity. But what does it mean to you? And do you think there's been a time in your life where you've sat and thought and gone, oh, you know what? This would've been solved



if we actually had more diverse people or diverse opinions?

AM If we're talking about diversity and including people, for me diversity means, make people feel represented in all spaces, jobs, and classes. So, if you look for the position of places where you want to be in future, you need to look to that and find someone that represents you. So, you feel that at some point you can reach that position. If you never saw your colour, gender at university in such position, in a position that you wish to be in the future, that positive feedback loop will never become true.

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So, if you don't see you represented, you will not feel that you can be there at some point. We need to make the first small steps to getting higher and higher inclusive and promote diversity everywhere. Mainly in the academia, I think we need to do that, very urgent.

SM I've always wondered, and I speak to you as somebody who's not from the Global North. Because in US, in Europe they are the people who now, for better or worse let's say, they dominate science. But do you feel like... People like you, who work in the Global South, in Latin America or people who are from other developing countries, I sometimes feel like our voices are not very well represented. Maybe in neuroscience but also maybe in the whole of STEM academia. How do you feel about that?

AM Sure. I fully agree with you. So, we now have the World Health Organisation, for instance, that's from Africa. But that's not common. I think people are really paying attention to the necessity to represent all classes, gender, ethnicity in all place and it's really active attitude. So, things will not change if the bigger organisations like the World Health Organisation and many others don't play a active role. When we look for any global organisation or congress, for example, you sometimes see few Africans, Asians, Latin American attending to conference, for example. But you don't see many of them giving the speech.

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SM It's not that people don't exist. It's not that people don't do neuroscience in Latin America, but...

AM Of course, the language is also very important issue. So, as English is the world scientific language, countries that doesn't have money put in the basic education to teach their kids a second language like English, will have less opportunities in science. So, we expect that, and that's something that comes back to the teachers again. So, we need to have good teachers and we need to teach English, at least the basic for our students.

When I first was in Bristol, I speak virtually no English. So, I take my luggage and I travel there, and I say, okay, so, let's learn it doing. And in months I was able to learn but it's not something that much people have the courage to do and we should not expect someone to travel around the world without talk their main language. So, we need to really start from the very beginning with our kids. This kind of programme that ALBA is doing, it's really important because we don't often used to take time to think about that questions about how inclusive we are being.



I actually start to think how inclusive I am being in my own lab. So, I look around to my students and I look around other undergrad students and try to see if I'm doing my part. Try to discuss that questions that you arise me on my mind. It's really great to have that kind of opportunity.

We need to at least talk about be more inclusive, have more people represented in academia. So, thanks for bringing that to my attention.

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SM Thank you for talking with me.

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.

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