



## The ALBA Diversity Podcast

### Season 1- Episode 6

#### Dr Noelia Castillo Fernandez - Pushing the limits

##### Speaker Key:

SM Shruti Muralidhar (Podcast host)

NC Noèlia Fernández Castillo (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.

NC I am Dr Noèlia Fernández-Castillo and I work at the University of Barcelona as a researcher. I finished my PhD ten years ago and I've been working basically on understanding the genetic basis of psychiatric disorders and especially focused on addiction, ADHD, aggressive behaviour, and also autism.

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I use different methods and techniques and animal models and so on to go through the genes to understand what's going on.

SM It's always really fascinating to see when people start thinking about the brain. When was the first time you started thinking about the brain and neurons and neuroscience in general?

NC I'm pretty sure I was very, very little. What I have been told many times is that since I was maybe four years old or something like that, I used to ask many questions to adults.

And many questions that they were annoyed because I couldn't even... I really think that my parents and my family understood that I really liked and enjoyed science. They gave me a microscope toy that yes, I used it a lot.

SM That's a perfect gift.

NC And I used to draw a lot of what I saw. And there were some cartoons in the TV



and it explains how the human body worked. Each episode was one system or organ or whatever, and I really loved the one focused on the brain. And also the one that focused on how chromosomes and the DNA worked and so on as well.

And so, yes, I remember thinking about how does memory work? How is it that I can speak or that I can control with my brain, my hands? Where is it located, how it works?

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Also, I think that another thing that made me interested on neuroscience was to know about Ramón y Cajal, which, yes, I think that maybe in Spain, kids are more into neurosciences because of that.

We are told about who he was, like, he won the Nobel Prize and so on and he made such a great contribution that since he's from our country, I think that it's like a model or something that makes you to understand that it's also possible for you.

SM Do you have somebody who you consider to be a mentor or somebody who you feel has guided you, maybe not just careerwise?

NC Well, when I was a little girl, I think that my parents and also my grandma, especially, were models for me in some things that are important for me during my whole life and also to do research.

My parents were motivating me a lot to pursue science. They just thought I could and I could do what I wanted, so they made me believe that I should follow what I wanted. So I think that that's really important at the end, to have the support of the people you love.

There were some teachers that really motivated me and told me that I could do that. When I started to do research, of course, there were well, my supervisors and so on, also helped me a lot.

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When I started to collaborate with other research groups and joining some European projects, well, one of the things that I really think that are very important, is that your [unclear] have some mentorship programme and that really helped me.

Regarding becoming a PI, I really think that these mentors I mentioned from the European projects have helped me a lot. Especially because, well, I really thought I was not good at all and not able to pursue that. And I think that they gave me a lot of feedback, all of them, that I needed and so believe a bit more in myself, let's say.

SM That's what mentors are supposed to do, so...

NC Yes.

SM I'm really glad you go the right [unclear] at the right time, and it made all the difference. Do you consider yourself to be a part of a minority group and have there been any times where you've faced discrimination because of this?



NC I'm handicapped and I have physical disabilities, well, I have rheumatoid arthritis. So regarding diversity, well, not only diversity but if I'm part of a minority or have some sort of problems with discrimination, this is one of them, and, of course, being a woman.

Since I was very little I have a chronic disease, which is rheumatoid arthritis and so, well, I went through a lot of pain, it was really difficult for me to walk until I was seven years old. This is something that I really felt different from other kids because they could play and I couldn't, and well, a lot of things.

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This has been something that has been important in my whole life, because although then I could start walking and then I could do other things, and also my parents forced me to do other things kids did, such as swimming and riding a bike and so on. I think that my parents, especially my father, was very aware that if I didn't move, it would be even worse.

So the way that he found for me to start moving was swimming, so he took me to the swimming pool and I was like five or six years old. It was hurting and it was painful but as you move, it gets better somehow. And well, I started to manage to walk and so on because, yes.

And then, well, my father just had no limit in this sense, and I think that this is one of the most important things that he has taught me. Not to think that you have limits and to try to push. At the end, you cannot, it's just because it's really impossible, but not to have a grievous conception of what you can or you cannot do.

SM That's a great attitude to have, yes.

NC Yes, but in this case, for me it's strange because I could barely move and he was like, crazy, thinking that I could ride a bike. Other people were like... But he was very persistent on that and, you have to ride a bike like the other kids, and I was like, I don't think I can manage. He pushed and pushed, and I was [overtalking].

SM He saw something in you, I mean, he saw something in you that you did not see in yourself.

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NC And then, yes, that really improved a lot, my life, the fact that I was moving and doing some exercises. So when I was about nine years old, I think, I started to dance, even dance, and well, although I was still having pain, then I had more mobility and could do more things and I could have more a normal life like the other kids.

SM Have you found that having rheumatoid arthritis stops you from doing some things, like now, say possibly, as a scientist in the lab, do you feel like rheumatoid arthritis limits you?

NC Well, I think it's that, yes, since I was a teenager and then in the university, everything went well and I almost had no physical problems. Well, I had them but not dramatically. And then I started to do my PhD and I had no problems at all, but by the end of my PhD, I started to have some mobility problems and a lot of pain.



And then, at that time, it was the moment that I had to decide where to go for a postdoc and so on, and it was a [unclear] let's say, because I could barely move and, yes, I really thought it was more important to focus on my health rather than going abroad.

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Which, at the end, in my country, it's very important because you cannot continue in academia if you do not go abroad. And this is something that they take into consideration for the positions and so on.

But by that time, I was lucky because in my research group they had a contract which is not very common here in Spain for a postdoc and well, the PI offered me this position, this contract and I said yes, of course.

This was a great opportunity to continue in science. And then I went through some surgical interventions but I managed to, before the interventions, doing a lot of experiments and just kept the data to analyse everything when I was on the health leave. And then also managed to switch to more biomathematical analysis and so on that I could work at home, and that was quite productive.

Work kept me distracted from other stuff, so it was motivating also, to have something to do.

SM Congratulations, first of all, for getting that position, like you said, it must not be very common.

NC No, no.

SM And I'm very glad you got it and I'm glad it gave you the chance to still continue working.

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NC But still I have to gain a stable position in the university. But meanwhile, I have this contract. And I really think that throughout this year, especially regarding physical problems, I mean, I'm very persistent and I always try to put more weight in the balance of the good things rather than the bad things. Because, well, at the end I was dealing with pain, I was so...

SM Yes, it changes you as a person, for sure.

NC Yes. And well, being persistent and putting more weight in the balance of positive things than negative things, I really think they are super-important for doing science.

SM For sure. For sure.

NC Frustration is something that we have to deal with and...

SM But as a woman, have you faced anything specific, has that made you pause and go, hey, is this happening because I was a woman in neuroscience?

NC I have gone through discrimination for being a woman like just all the other women, but the thing is that I think that this is quite more subtle and we're not aware of that and this is one of the main problems.



So I just started to think about that maybe six years ago when I started to know about feminism and also in conferences, some conferences on women in science, for talking about these issues and so on were really helpful.

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And then I started to pay attention at those things, like, usually when I propose something, it's like not convincing another person but if the same idea comes from a man or the same idea just is supported by a man, then it turns out that it's a super-great idea and it's like, I said that before. What's happening?

SM It's one of the most common things we face as women, it's true. And there are ways around it, but it takes time. It takes time to...

NC Yes.

SM Like, in the beginning when I was a student, I would never understand why even though it was my idea and I said it first, and people would never listen to me. But the exact same thing, just in a set of different words, that if another man says it, somehow it's awesome and somehow it's amazing.

NC Yes.

SM It's hard to understand, I feel, especially when you're coming to the understanding yourself and nobody is pointing it out to you.

NC Yes, that's true. You've been dealing with that all your life, so it's unconscious at the end. You are just saying something and you are getting that reply that you expected because it's...

SM Exactly, and you learn from it, yes, you learn from the reply.

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NC Yes.

SM And you're like, yes, I know what they're going to say. It helps if somebody points it out to you and says, hey, this is your idea, they're just saying it again, other than you sitting in multiple meetings and going, I don't know what is wrong with me, like.

NC Yes, that's true.

SM Yes, self-doubt is a very, very strong thing.

NC Yes.

SM It's really hard to get over.

NC At the end, it's very important that we believe that we can do something. I think that at least most of the women I know that have been doing a PhD and maybe a postdoc, they don't feel they can be a critical investigator.

And even myself, at some point, I still have doubts, but very little. That's because I understand that these doubts comes from gender bias and gender roles. And this is something that we have to fight.



We feel more insecure of leading a role and coordinating a role even though we are at least as capable as men if not more, in some cases, of course.

SM I 100% agree. It's also not just a personal sort of thing to overcome, but it's also the fact that you've lived in a society that constantly doesn't give you positive feedback about...

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NC Yes.

SM Who you are and your capabilities, the things that you can do. Even if you haven't directly experienced it, I feel like you feel it. One thing is, on good days, on positive days, it gives me the confidence to say, hey, I can be better than that. But on bad days, you're like, but if the system is like this, what am I fighting against?

So I feel like it's both personal and it's also social, cultural. I feel like it's an everyday fight, like you have to wake up in the morning and tell yourself, I know I can be a PI.

NC More or less and sort of. But, well, I really think we can change [overtalking].

SM Yes.

NC But each of us have to, I mean, at least in our lives, be aware of discrimination, whatever it is, and fight against that. And if we do that in our close environment, in the workplace, with our friends, with other people, we are already making a change. If one in ten people did that, probably there would be a huge change.

SM That is very true. That is a great way of looking at it and it's a very positive way of looking at it. Diversity has become an overwhelming catchphrase recently. What does diversity mean to you and do you have an event that happened in your life or your career where being inclusive of diverse viewpoints played an important role?

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NC Since I was very little, I was aware of diversity just because I was pretty different from other kids. So I couldn't walk and the others could walk and play and whatever. But I was also aware that I had some skills and some capabilities that others didn't, and the other way around.

So, I mean, it was not only physical, it was more mental skills that I have and others have that I didn't, so I was quite aware of how different we are, we were at that moment at least, my schoolmates and so on.

That helped in the sense that I didn't have in mind that something was wrong with me in the sense that I had some things that were good, and I had some capabilities that others didn't and the other way around. So that made a difference, thinking about diversity in this sense, I think, more than thinking of what you cannot do.

Of course, there's things that you cannot do, you can work on them and try to improve them, yes, at the end it's important to keep in mind that we need each other, especially because we are diverse.



SM That's it, we're on the last questions. Academia is usually notorious for not having any work-life balance, so how do you spend your time when you're not thinking about science and when you're not doing science?

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NC Well, the thing is that I do not watch TV at all, I do not watch series, so yes, my spare time, I use it in other things, meeting friends, talking to them or also doing other activities. I play some music but I'm no good at that, but I don't [overtalking].

SM You don't have to be good at it.

NC Yes, exactly, I'm not giving a concert, so I just do it because I like it.

SM What do you play?

NC The ukulele. I spend a lot of time working with other people for changing the world a bit and I'm a social activist.

SM Can you tell us a little more about that? Do you work with an organisation?

NC Well, I started doing this, so fight for the rights of young scientists and at that moment, when I was doing my PhD, we got contracts and work rights, so that was cool and I spent like eight years doing that, at that moment and yes, during my PhD and afterwards, was I...

SM Does the group have a name?

NC Yes, it was called the Federación de Jóvenes Investigadores/Precarios, which is the Spanish Federation of Young Researchers. It was quite famous at that moment. It was quite important because it changed a lot and the situation for young researchers.

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From social activism I have learnt and applied a lot of things to work, it's like a feedback from work. I can apply some things to social activism, but the other way around, especially the way to organise the work, to manage very different people, so work in team, lead something that has to be done with the important timing, so prioritise things also. Because, well, when you're working on a research project or when you're working in whatever you are doing, it's important to have a balance.

SM Yes, no, project management skills will apply across domains. It's not just science-related, it's not just activism-related. It's true, there's so much to learn.

NC Yes, I really enjoy the interview...

SM Yes, thank you so much.

NC Yes, a lot. It was just like chatting with a friend [unclear].

SM Thank 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](http://alba.network).

You can also register as a member for free and take full advantage of the network's



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