FUTURUM
PODCAST

Dr Lucille Chapuis

Dr Lucille Chapuis is a marine bioacoustician from **La Trobe University** in Australia. She is using groundbreaking and innovative techniques to study the hearing systems of fish and to understand how they are affected by human-made noise in the ocean.

In this conversation, Lucille speaks about how she uses humour to get herself through challenges, her love of fieldwork and the importance of friendship when moving to a new place.

Break the podcast down:

01:00: Hi Lucille, welcome to the Futurum Careers podcast. How are you today?
Hi, Joe. Thank you, it's nice to be here. I'm good, thank you very much.

It's nice to have you. I'm going to start with three quickfire questions, that I didn't tell you about in the email, just to get to know you a bit better as a person and to warm us up a little bit. So, the first question is: if you were doing karaoke, what song would you choose?
That's a hard one because I am so bad at karaoke! So, to make it easy, there is that song called Alors On Danse, which in French means 'we're dancing now', from Stromae. He's a French rapper. And so that means it's easy in karaoke because you don't actually have to sing. You can just say the words.

Cool. And the next question is: what's the best way to make you smile?
Just tell me a funny story. I'm very big on humour, and it's actually quite easy to make me laugh and therefore smile. So, if you tell me a funny story, I will smile straight away.

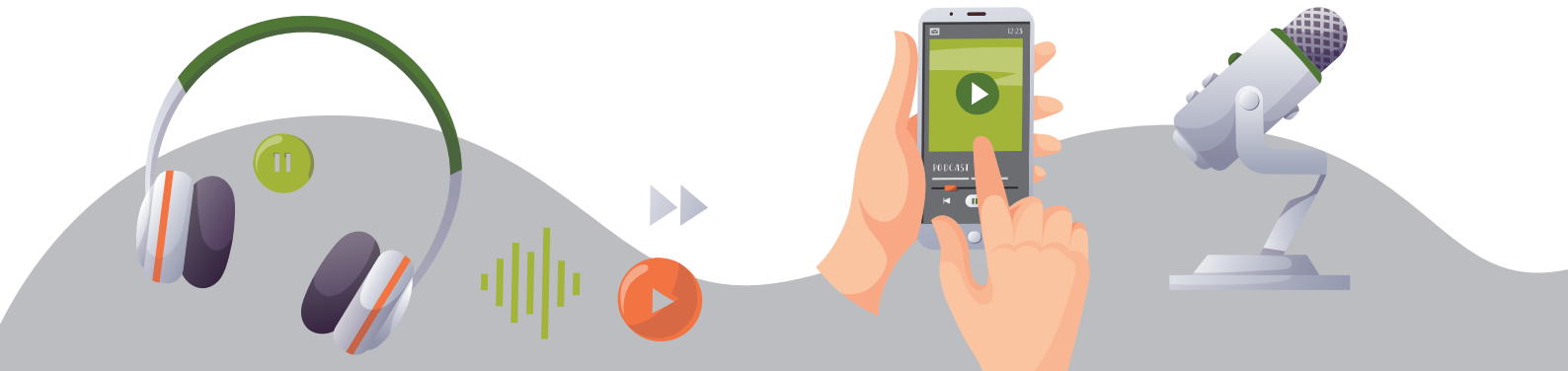
And the last one is: if you could be any animal, what animal would you be, and why?
I would be an elephant. They're super smart, they've got all these social structures that are amazing, they're vegetarian. And they've got a big matriarchy, so, the females are leading the pack. And so, that would be my choice, yeah.

02:45: Great. So, you're a marine bioacoustician, so can you explain to our listeners what that means and give us a brief overview of the kind of research that you're working on?
Yeah, so 'marine bioacoustician' comes from first marine science, which is the study of everything that is happening in the ocean. And then bioacoustician comes both from bio, which is life, and acoustics, which is the world of sound. So, a marine bioacoustician studies the sounds that are in the ocean, especially coming from animals. So, my work focuses on especially fish and fish sounds, and what the fish are hearing down there.

Great. And so, what inspired you to get into this research in the first place, from when you were at school and then what inspired you to make that first step?
Yeah, it's been a journey. You know, it was not something I was aware of. Like a lot of people, I didn't even realize that there was a whole world of sound under water and how much it was important, actually, for these organisms. So, I really wanted to be a marine biologist first. And then I did my PhD on the hearing system of sharks. And that got me into the field, really.

That's when I discovered that actually, yes, all fish, they've got ears. We cannot see them. It's not like us; they don't have these flappy things on the head, but they do have ears inside the head. And they listen and they listen to a lot of interesting stuff, actually, a lot of sounds that are happening under water. That is what got me into underwater bioacoustics. And a few people, of course, did a few studies on it. But that just opened the field with more questions. So, I thought maybe I can answer a couple of them.

04:55: Great. So, throughout your career and as you've been working on this stuff, are there any challenges that you've had to overcome, to do with your research or just in general?
There is always challenges, and the journey teaches you so much along the way. So, about science: when you engage in science, you have to be ready for the setbacks. You know, experiments fail, equipment breaks, the animals



usually don't behave the way you expect or you want. So, I have learned definitely to be patient and resilient. And I think the approach you have to take is... I try to be always curious. If it fails, there is a reason, so you go and troubleshoot rather than being frustrated, and sometimes you just have to take a break and come back to it.

It's also... of course, as anything, there is a lot of collaboration and sometimes you have to engage with a lot of people. So, there is a lot of these interpersonal skills that are also involved and that can be challenging. But again, you learn every day.

Great. And you said in the Futurum brochure that a sense of humour has helped you get through some of the less glamorous parts - and you already mentioned earlier that you're easy to smile and to laugh - so how does that come into things?
Yeah, I think it's good to have a bit of some humour about yourself, to take a step back and say, yeah, well, you know, you're just human after all. And so, to laugh about myself, firstly, that usually decreases the tension in the room and allows you to engage the problem in another way and find a solution, especially if there is a conflict, or even when you're by yourself. If you take a step back and say, it's actually not that bad, having another perception of things. I find that humour is one of the key things for me to break one perception and go into another one.

Yeah, so, don't take yourself too seriously all the time. And I guess it helps to break you out - if you're like stuck thinking about one thing and getting frustrated - it can then move you to a different kind of headspace.
Absolutely. Yeah, that's exactly it.

07:24: Great. And does that come into play when you're doing fieldwork? What are the challenges involved in fieldwork? And how does that kind of help with that?
Yes. So, fieldwork: it's usually long hours. It's usually out of your comfort zone. Sometimes it's very cold. Sometimes it's very hot. Long days. It could be long days at sea. It could be long days in a remote location. You are stuck usually with the same people for not only hours, but days, if not weeks or months. Or it could be also hours of analysis in front of your computer. And taking a step back and, you know... I like to, again, change perceptions of things.

Fieldwork is one of the things I love the most. So, it's good to say, actually, I'm quite grateful and lucky to be here in this special place with these special organisms, usually. So, I should be very grateful for it and stop complaining, or again, change perceptions about it. And maybe the day after, I'll feel better. And again, not taking things too seriously either. And laughing a bit with your colleagues about the situation makes everybody feel better. So, yeah, fieldwork can be intense, but it's usually very rewarding.

Yeah. So, you said that it's one of the parts of the work that you love the most. So, what is it about it that really makes you love it so much?
When you're there in nature, [you're] kind of in sync with what you want to study, right? So that's where you can be fully immersed into it and observe. And to me, the observation, that's the basis of what I do. I observe the nature to understand it better. And so, being in the field also gives you this humility. I'm just eyes, or ears in my case, and I just want to understand better how everything works. And yeah, again, it puts you back in your place usually. And it's just beautiful. So, yeah, it takes you to unique places around the world. And I'm so lucky to be able to do that as a job.

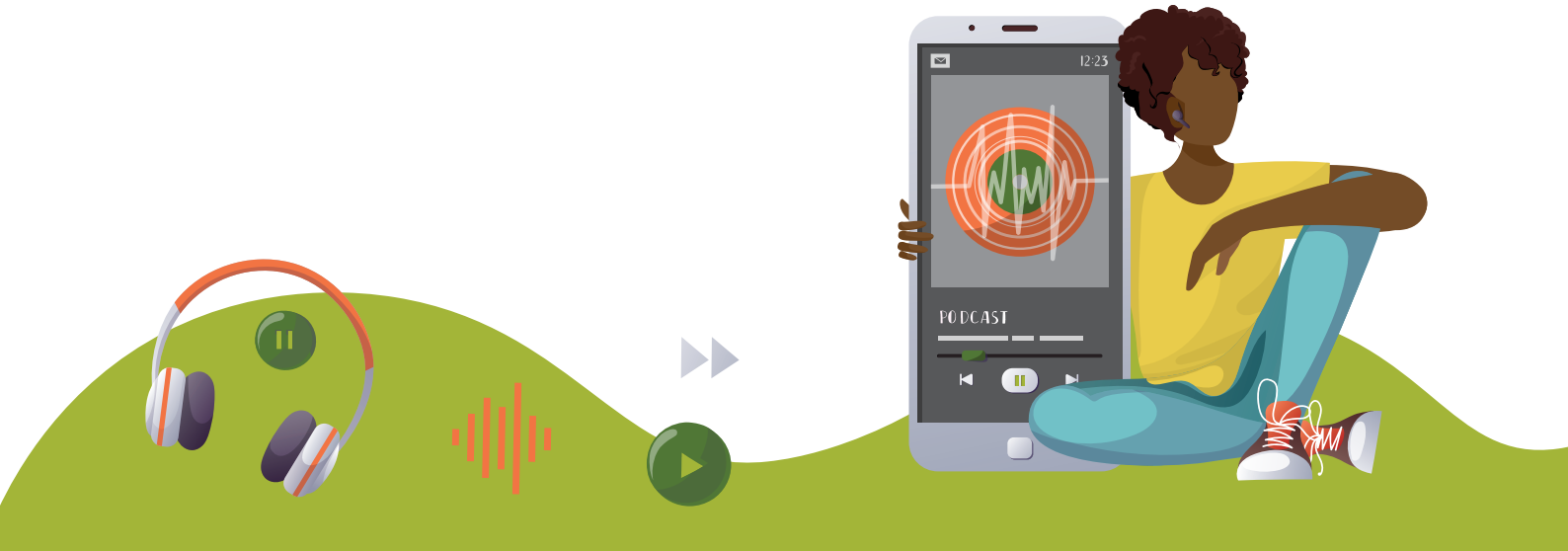
10:06: Yeah, because your career and your research has let you travel quite a lot. You've worked all over the place. So, what have you learned from those experiences about yourself and about the world around you?
Yeah, I've been incredibly lucky to be able to travel for fieldwork, but also to actually have jobs in different countries. That allows you to be very... you have to be quite flexible and adaptable, I think, because you encounter different cultures, and you have to open up because of course, you settle in a place, you have to make new friends, kind of build your own little family in each place.

So, I think that makes you a better human because you have to adapt to the others around you and be really open minded about life in general, and about people. And it usually enriches you so much because you take so much from these differences of culture and it opens up your world in a way that is quite extraordinary.

So, I think, again, it's putting you out of comfort zone because it's quite an effort to move to another place and reconstruct your home really, your space, there in a new country. Sometimes it can be a new language, but it teaches you a lot of lessons.

Yeah. And you've mentioned friendship a couple of times now. Is that something that you find - when you move to a new place- is that scary? Do you find that easy? What is that like?
No, it is scary. Of course, nowadays we are lucky. We've got the internet so we can keep in touch with family and friends around the world. But still, you have to have a local network around you, I think, to keep healthy and sane. As humans, we are very social. So, we need that network also physically, not only on the web.

So, yeah, you learn to be a bit more open and get out there, meet people. You know, usually in a university, people come from all over the world. So, we're used to this atmosphere, which is very open. Therefore, people are not too closed. And it's fairly easy to make new friends. But it's also good to make friends outside of



work, of course, which is sometimes a bit harder. But again, with an effort, you manage.

13:00: Yeah, because a few people who might be listening to this might be at the end-of-high-school kind of age and are about to move away to university or college potentially, or go into jobs. So, that can be quite a big jump and you have to meet lots of new people. And that can be quite an experience.
Yeah, absolutely. And look, it's very scary. I remember when I did all my undergraduate, and even masters, in Switzerland, which is my home country. And I had to leave to go to Australia to do my PhD. It was a big move, very scary. But these moments often lead to the most exciting paths and opportunities. And yeah, I've met people during my PhD on the other side of the world that are now lifelong friends. So, it's worth the effort, usually.

So, do you have any other advice for young people who are maybe starting off in a career in science? Any advice for how to go about that?
Yeah, look, I think we've talked a lot about the pieces of advice I would give already. I would not panic if you don't have it figured out. When I finished high school, I kind of knew broadly my interests, but I had no idea even that the field I am in existed. So again, the opportunities will come up if you allow them to come up. I would strongly advise to follow the curiosity. That's a good value to have, curiosity about things.

And again, be open to opportunities, even if they scare you. Whether it's applying for a new programme or going to a workshop, a conference or reaching out to someone whose work inspires you. Yeah, I grew up very far from the ocean, so it was really not a given for me to be a marine biologist. But somehow, I managed to meet the right people who could help me out in this journey. Yeah, and also trying to get hands-on experience. I did a lot of volunteering in marine labs. Join field courses, get involved in citizen science and start exploring these interests a bit deeper.

Great. Yeah, I think that's all really good advice. There's a lot there that I think students will be able to take away. Amazing. Well, this has been really good.
Awesome!

Thank you so much for coming on and chatting to me.
No, thank you very much for having me. It was lovely.

Read Lucille's article and download her activity sheet at futurumcareers.com/ocean-soundscapes-how-do-fish-hear