

: This is the Best of the WWEST: Inspiring women with real stories. Hosted by Westcoast Women in Engineering, Science and Technology.

Hello and welcome to Best of the WWEST. I'm your host, Danniele, and today I'm speaking with Ania Kwiatkowski, who is a research scientist at TRIUMF and adjunct faculty at the University of Victoria in the Department of Physics and Astronomy. Ania focuses on understanding the ground-state of ^{207}Pb and ^{209}Bi .
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you know? Like, that it's a math proof! You can actually write it out and it's a thing! Being able to apply those numbers to real things around you is so cool.

It's kind of magical that you have nature and you can write it down in these beautiful, short, elegant, little equations that somehow translate into everything we're seeing around us. It's just really, really cool and incredible to me.

Absolutely. Alright, Ania, do you want to tell us about what our journey was like through your undergraduate and ya, do ye and y iodouo ys ousani w586,)42(w586 f260e276 6nbn0..7 12.97 120..7DC -13.0.1.7

[Danniele laughs]

It was really great. And then I went out to Michigan State, total change in culture, climate, ambience, but it was also another really cool experience, because it's probably the best hybrid of national lab and university. And it was absolutely great, it was such a little, like, a little petri dish just designed to grow graduate students in nuclear physics, and it was absolutely fantastic. I found out that this field of ion trapping is kind of like the weird cousin of nuclear physics. You're part of it, but you're kind of on the fringe, and sometimes you're not always as welcomed as other parts.

[Danniele laughs]

But it's cool, you're definitely part of it. I tried going to an AMO, Atomic Molecular Optical, conference, and I was, like, "This is definitely not my home."

[Danniele laughs]

Back to the nuclear physics, this is where I'm going to belong. I don't look back.

Awesome, thank you so much for sharing. Do you ever get to use your French since now you're, you know, in Canada and do you have collaborators that are French or anything like that?

So, what I love about...So, first of all, noiaxa

afternoon, it was exhausting, and it was...It was...A pretty long summer to get through that. So, that was something I don't wish on anyone. Please, if you can avoid it, don't do it, it's awful.

[Danniele laughs]

So, that was one of the big challenges was preparing for that, getting through the stress of it, and then the magical celebration when those braces came off after the surgery. My officemates celebrating with me by getting me a giant plate of caramel, it was magnificent.

[Danniele laughs]

I love caramel. So, that was a magnificent moment in life.

Alright, let's -

- Go to something more positive -

- Clear the air. [Laughs] Tell me what is your favourite thing about your field?

Being in physics is obviously the learning. Every day's...You get that opportunity to learn and do something cool and fun and exciting. The thing I love most about nuclear physics is the community I do it in. I would say it's the friendliest competition I've seen in physics, because the way that it works with these radioactive beam facilities, there's only a couple places where you can do your experiment. And every facility has a specialty. TRIUMF is better than anyone else for certain radioactive beams, but NSCL where I did my PhD is better in other ones. So, you're planning your experiments. So what that means is we have just enough overlap that we can be competitive, and we can validate each other and verify that, you know, you did your job correctly and I did my job correctly, but you also have those little niches where, yeah, I could have tried to that, but let's be honest, I can't really be competitive with you, so why would I bother? And that means that you have your corners, and it's that really friendly competitiveness that I really love, and it's a big enough community to be international, but somehow weirdly...The more I think about it, weirdly friendly, and we're really reaching across oceans to help each other out, and it's...I love that aspect of it. You might be my competitor, like ISOLTRAP over in CERN is probably our biggest competitors to Titan, but at the same time, we're reaching out and we can set up exchanges between students, or things like that, and learn from each other, chat, share technical information, but then some things get really weirdly guarded, like, "No. Can't let you know what I'm working on or my data analysis."

[Danniele laughs]

It sounds nice that you get to play with the boundaries of how friendly you are, how competitive you are, and don't have to stick to one thing.

Exactly. I didn't want something cutthroat where we're constantly putting people down. Somehow I need some of that teamwork sense in my life.

Yeah. How do you see your research field kind of evolving in the future and where do you think it's going to head?

That's a really tough one. I think nuclear physics is in an interesting place, because a lot of

I think for me it's really open minded, just keep looking around and then you see these opportunities that present themselves.

Mm-hm.

So, I would say I'm not doing hardcore planning. It's a lot more just about looking at those opportunities that come up. My husband is an accelerator physicist so now I'm learning more about accelerator physics, seeing those opportunities and things I never would have ever considered, and his labs that he gets excited to talk about are not the labs that I'm used to thinking about. Now that's again one of those opportunities to branch out and reconsider. So, I always thought that electron beam ion traps, we have one at Titan, are really more just charge readers, and then I realized, "Oh my gosh, most of the world uses them" [laughs] "for atomic decay spectroscopy, so what the heck is atomic decay spectroscopy? Oh, that's kind of cool." And then there's that attach - going back into, "Where are the stars?" If I try to push myself along a narrow track, I think I'm also losing sight of opportunities that come up. So, I really don't know. I'm not putting too much effort into, "Will I definitely be at TRIUMF taking care of Titan in 10 years?" As much as I want to say, "Will I be doing awesome physics and science with awesome and amazing people?" Because I am working with an amazing crew, both at Titan and at TRIUMF, and that's what I really want to pursue 5, 10 years from now is having this fun and enjoyment in life.

Yeah, would you say that that's how you define success in your career?

Absolutely. I feel extremely lucky to feel this level of I would call it success or fulfillment. I get to

And then people just don't know how to spell Ania, and they only see my legal name, so usually I get the North American pronunciation of "Anna," and that's not who I am. Or, they'll hear "Ania," but then they'll see "Anna," so then I get "Anna"ed again, and I'm like, "That's also not my name."

[Danniele laughs]

So my name has been a lot of trouble, but please, I go by Ania, even if it's not legal, but write the cheques for Anna.

[Danniele laughs]

Good story. Okay, very, very important: How much coffee do you drink in a day?

None. I am a tea drinker.

Common answer. People are, like, all or nothing.

[Both laugh]

Alright, you have survived the lightning round. Well done.

Thank you!

As we finish up the interview, do you want to tell us what advice you'd have for the next generation of STEM professionals?

I think the most obvious thing is don't try to go do it alone. That sums up a lot. [Laughs] Because it's...Make your study groups, have a support network, and a support network is pretty critical, because you end up in work problems where you might not be able to talk to the person in your group because it's a problem about your group. You might not be able to talk with another faculty member, because it's a problem with your PhD supervisor. So, you want to build that support network, and it can include counselors, I, for example, was super stressed out in grad school and I needed to make a pivotal decision about how I was going to work through my future, and I wasn't confident, I wasn't handling

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