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Russ Betney Hello and welcome to the University of Aberdeen podcast from the Rowett Institute. Today, I'm very happy to introduce Professor Lora Heisler. Professor Heisler investigates the circuitry in the brain to try and identify new targets for type two diabetes medication. For her work, Lora was awarded the Outstanding Scientific Achievement Award for both the Obesity Society and the American Diabetes Association. Professor Heisler, welcome.

Professor Lora Heisler Thank you. How are you doing?

Russ Betney Can you tell us when why you first became interested in science?

Professor Lora Heisler I've actually always been interested in science. What I love about it is just the aspect of discovery, and it's just something that's always interested me.

Russ Betney So looking back, what and where did you study, what made you choose the courses you chose?

Professor Lora Heisler I was always interested in the brain and behaviour, so what makes us do the things that we do? And this sort of prompted me to start with psychology and studying the brain, as I said, the brain and behaviour. And as I started with psychology, I became more and more interested in studying more of the brain circuitry, so it sort of led me down the neuroscience track and so that's what I ended up studying after that. I got some really fantastic advice from my mentor or adviser when I was at university, and I said to him that I was a little intimidated by the number of years required in the United States for a PhD, and so in the United States, a PhD degree is typically five years, and then you tend to do four years of post-doctoral training after that. So, it's close to a decade, and I was a little intimidated by that kind of time investment. And my adviser said to me, you're better off doing what you love regardless of the amount of time investment, because that's your career for the rest of your life. And that's the advice that I would pass on again, is really just do what you love because, you know, your career is something that you put a lot of time into for the rest of your life. So, do what you love.

Russ Betney Sounds like very good advice. So, what type of scientist are you now and how did that bring you to work at the institute?

Professor Lora Heisler As I mentioned, I study the brain and behaviour. And when I was doing my postdoc, I thought about what kind of behaviour am I really interested in? And at that time, I was noticing in the United States that obesity was becoming more and more of a problem, and that got me interested in studying appetite. So, you know how does the brain control appetite? And it might be a little bit of a surprise to think that the brain is what is controlling appetite as opposed to the stomach. But what happens is that the stomach talks to the brain and it's the brain that ends up deciding when we're hungry and when we're full. And so that kind of put me on that path of trying to define the different regions of the brain and within those regions, the main players that are controlling hunger and appetite. And then that sort of led me on to glycemic control and parameters associated with diabetes.

Russ Betney That's really interesting that the brain is obviously the main control of everything that goes on, including appetite.

Professor Lora Heisler Yeah, it is.

Russ Betney So what are your current research interests and what might the future hold for you?

Professor Lora Heisler Well, actually, this is a really exciting time in neuroscience. There are a lot of new techniques and new technology that's been developed really recently, and it's allowed us for the first time to sort of drill down and understand what specific subsets of cells within the brain are doing, what is their function. And so, I mean, this is a fantastic time to get into neuroscience because these tools are now available. And you can be the first person to define what certain neurones do. And that's what we're you know, that's what we're doing right now. We're looking at what do neurones in this particular brain region do? What do neurones in that particular brain region do? And it's just been really, really exciting.

Russ Betney So moving away from your research for a moment, what else do you do in your role? Are you involved in teaching or running seminars at all?

Professor Lora Heisler Yeah. So, one of the fun things about science is that every day is different. And so, if you love doing different things, then this is a great career for you. So, some days I do teaching and mentoring and other days I'm doing experimental design and analysis, of course, I love the analysis. I love actually getting the results from an experiment. And then other times we're presenting our results within our own institution or university, but also internationally. We're writing things up for publication or might be reading other people's research and public engagement activities. There's just so much that we're that we're doing, it's just really, really exciting and lots of fun. And another fantastic thing about science is that you really get to decide what interests you. So, you think, what's the question that I want to answer? And then you can develop your day and month and year, years around answering that question. So, it's a really, really fun job.

Russ Betney What have been your major career milestones or highlights, do you think, have there been any obstacles that you've had to overcome?

Professor Lora Heisler I would say that the things the real highlights for me have been when we've made discoveries that are really big discoveries and so that's been those have been highlights. So, understanding specifically how certain medications work to produce their therapeutic effect, that's been really exciting. That was some of the work that we got the Scientific Achievement Award from the Obesity Society for and then also understanding a new way, a new potential way to treat type two diabetes. That was another highlight. But other highlights have been seeing people who work in my lab get acknowledgement or funding for their research and to see them develop and become their own researchers with their own labs. That's been a major highlight for me as well. And, you know, it's just so being able to train the next generation of scientists has been a lot of fun and a real highlight. And yeah. And just, you know, all the other highlights have just been organising conferences with colleagues to bring together people from all over the world to talk about the things that we're interested in, like the brain control of appetite and glycemic control. Those have been other highlights. It's just a really, really fun job. I know I keep saying that, but it's true.

Russ Betney You mentioned you enjoy watching members of your lab grow into their own researchers. So, do you have any advice that you might give to women who are interested in a career in science or research in academia?

Professor Lora Heisler Yeah, I would say, you know, like my advisor said to me, don't be intimidated by the amount of time that is involved in training. There's a lot of flexibility in a scientific career. And that's another real advantage as well. If you can. You have the in general, you can arrange your schedule more around your own personal circumstances. And that's a benefit of being in the academic environment. And, yeah, I mean, I would just say, you know, it's such a fantastic career and go for it.

Russ Betney Thank you. It's quite clear that you're very passionate about your your research and your work. That's the end of our interview and our podcast. So, it just remains for me to say. Thank you very much, Professor Lora Heisler.

Professor Lora Heisler Well, thank you so much for taking the time to talk to me today. I really enjoyed it. And all the best. Thank you.

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