Swathi: Hey, Samantha.

Samantha: Hey, Swathi.

Swathi: All right. Just a quick question. What did you have for your breakfast today?

Samantha: Uh, I had this salad and a muesli with fruits kind of thing.

Swathi: And when you choose what you're going to have for breakfast, do you ever consider the environmental impact or, you know, maybe cost, flavour, nutrition?

Samantha: I guess I try to take it into consideration. I am aware that we should be striving towards buying seasonal fruit and veg, but there's a lot of fruit and veg I also want to purchase and a lot of it is imported. Yeah, I try to take it into consideration, but I feel like there's limited things I can do.

Swathi: Interesting. So let's see if today's episode gives you some food for thought.

Samantha: Welcome to the Beyond Boundaries podcast from the University of Aberdeen.

Swathi: As you've probably guessed, this episode is all about food. And we have not one, but two academics joining us. We have Professor Jennie Macdiarmid.

Jennie: My research interests are combining nutrition, climate change and food systems.

Samantha: And Professor Alexandra Johnstone.

Alexandra: I'm based within the medical School at the Rowett Institute, and I'm interested in diet and health and particularly thinking about fairer, healthier, culturally acceptable, sustainable diets for all.

Swathi: This episode will give you a sneak peek into what studying at Aberdeen looks like.

Samantha: And we'll hear how a subject such as food connects to all different disciplines and approaches at the University.

Alexandra: So I'm really lucky to be in a research environment. So some of the topics that I'm working on right now are thinking about addressing dietary and health inequalities, because we know that the diet that we consume as a population, I'm particularly thinking about Scotland here, is contributing towards obesity and other, uh, diseases like cardiovascular disease, Type 2 Diabetes, but that is much more apparent in certain areas across Scotland where life expectancy is less and health years are less. So how can we balance out those dietary and health inequalities by having policies, by having a food environment that is fairer for all?

Jennie: Okay, so the things that I focus on are things like global food security, which is a massive, massive issue that we need to address. As Alex has said, we've got poor diets across the population, both over consumption, under consumption, and we've got a huge issue around climate change, and food brings these two things together. And it's absolutely critical we start looking at these two things together, because if we only look at nutrition, we'll maybe make some errors around climate change, if we only look at climate change, we may end up with some unintended consequences around nutrition. So what really excites me here is working with people across the university who, come at this have different knowledge to me. I'm, my background is in nutrition, but I work with people who work in climate change. I work with people who work in agriculture. I work with people who work in psychology. And what really excites me is bringing these groups of people together and having these conversations about how do we tackle some of these major global issues that are affecting us, and we need to do something urgently about. We're aware of the climate's impact. Food contributes about a third of greenhouse gas emissions globally. So we really need to sort of make sure these different areas are brought together.

Alexandra: So Jennie, that was really interesting touching on sort of the issue of food security. And I wonder if we can maybe explore a little bit more the role of plant-based eating. We know that one of the contributors towards greenhouse gas emissions is the food system. And as individuals, perhaps we could consider about our contribution to reducing the impact of food on climate change by changing our diet.

And that might be that we introduce more plant-based sources in our diet, and eat less meat-based protein.

Jennie: You've touched on plant-based diets. We quite often call them sustainable diets and there's lots of definitions of this, but when we talk about sustainable diets, we're not talking about eating no meat. We're talking about eating less meat. So as Alex has said, meat production, livestock has the biggest contribution to greenhouse gas emissions in the food system. So we are looking at how do we reduce our consumption of meat. But it's really important to look at what do we eat instead? Because what we don't want to do is end up with a unhealthy diet where we replace it with foods that aren't going to provide us with all the nutrients that we need for a healthy diet.

So plant-based doesn't necessarily mean it has to be vegetarian. It doesn't mean it has to be vegan, but we need to be having more plant-based foods. than meat than we currently have. And when we talk about plant based, we're talking about slightly less processed plant based foods, because there's a lot of meat replacements on the market at the moment.

And some of these aren't particularly healthy. They can be high in fat. So we need to sort of think, what would we replace them with to make sure that we are getting a healthy diet?

Swathi: So I think personally as a vegan, I kind of feel happy hearing about that, not promoting anything, but just, just putting, sliding that in.

Samantha: Okay. I'm really curious now, what kind of skills would I need or need to develop?

Alexandra: I enjoy my work and having passion about your science and enjoying working with people are incredibly important. So being organised helps having really first class communication skills, which you'll learn as you, as you experience working as part of a team, you'll get support in that, and that takes practice.

And I think you can communicate science in different formats, it doesn't have to be through oral communication. Some people are amazing at writing short pieces like blogs or academic papers. I think there's amazing opportunities now to express communication through social media, for example.

Swathi: And Jennie says there are lots of opportunities to learn from across disciplines at the University of Aberdeen.

Jennie: So we're trying to look to see if you're studying this, is the sort of, what, what is the benefit from talking to somebody else? So for example, if it's around

communication, we've got schools in the university where they do, um, language, they do literature, they do visual culture. All these things, and actually working with that expertise across schools, you produce something that is potentially more powerful because you've drawn on different expertise, but what you can do as a student, you can come in in one area. But you can learn and get involved in some of these other things and this is something within the university, we're looking at doing more interdisciplinary research, which is different disciplines coming together. And this is something we want to encourage in teaching as well, so if you're studying one course, you can pick up skills. in other courses. And this is where I get excited. I get really excited about learning about food security from lots of different perspectives. So I work in climate change. I'm not an expert, but I work with people who are, and I can learn from that, and I find that really exciting, be able to talk to people and learn something new, even having worked in this field for many, many years. I teach a MSc course around sustainable diets and global food systems, and the feedback I get from students who were predominantly nutrition students, health students, is it was really interesting to not just think about food in terms of nutrition. I now realize I've got to think about climate change. I now realize I've got to think about behaviour because you're not going to make the difference in these big challenge areas if you just look at it through a single discipline. And that's where you'll get the opportunities to look at these things from different perspectives.

Samantha: I think it's cool that they're like kind of merging and like encouraging other sectors of the university like to come together onto what at first seems just like one domain, but it's actually, it branches out into like so many different, um, sectors, I guess, and involves so many people. I really like that.

Swathi: It's really interesting because I've never thought about anything this intense, uh, when I buy a food. It's about embracing the complexities of different disciplines, isn't it? Alex also wants to understand food and diets not just as a list of ingredients or number of calories, but as an experience that we live and feel.

Alexandra: We are all experts in food because we all eat , and we usually do it, you know, a few times a day. So that process of, you know, eating is a form of behaviour and there are many influences in our choices of what we're going to consume, and some of the research I'm doing just now is bringing in that lived experience. So it's working with people who are experiencing living with obesity or living with food insecurity, where they have a fear of not having enough food to feed the family. So that is another important concept there is

that as academics, or as an academic, I don't have the answers to these questions, but I'm willing to go and speak to people who have that lived experience so I can integrate their life experience in my research.

Samantha: Okay, so we're back with Alex and Jennie, and here we're talking about the future of food.

Alexandra: The future of food is going to be amazing, I mean, if we think about the way that technology has developed and the use of AI, we can, you know, we can think about how our home might be and how our eating experience might be that, you know, we could go home of an evening and our fridge can speak to us and tell us, "Alex, you are nearly out of your favourite coffee.

Would you like me to order that for you?" And it appear in your shopping basket. So that whole retail experience of merging sort of online shopping to in-store shopping, I think, is going is going to change. But I hope also in my blue skies thoughts that young people who are going to be joining research and academia and education and training at different levels are going to, To influence the future of food in terms of new products, in terms of treating people who are suffering from diseases, and that might be through medical or surgical approaches. So really think about making sure that we have a food system that protects individual but also protects our planet as well.

Jennie: Looking at this from, I guess, a global perspective, our future foods will differ, but we need to really make sure that our future food will benefit everybody across the world. There's huge inequalities across the world at the moment, and we can advance in technology, but we've got that challenge of what's happening globally. In terms of what food we can produce because of global warming and our future food really has to make sure that we take everybody along with us, because we don't want to increase sort of the gulf between those who have the access to food and those who don't have the access to food, so we need to look at this at multiple different scales from the individual, but going out globally, what is our food system going to look like? We really need to make sure that the nutrition speaks to the agriculture, speaks to the climate, because there's no point in just saying this will grow really well in a different climate, if it's going to result in negative, um, nutrition consequences.

So , we've seen historically where the focus has only been on increasing yield of crops. We just need to produce more. We need to produce more energy, but we need to talk about what what's described as nutrition security. Which means we

need to make sure what's grown is going to be nutritionally adequate, because if we only focus on calories, we could potentially end up with some serious nutrition efficiencies going forward.

So, for example, if we look at just purely climate change, and we don't think about anything other than what crops should we produce to get the lowest environmental Impact in terms of greenhouse gas emissions. Then sugar has a very low environmental impact, has low greenhouse gas emissions compared to other foods in the food system.

So if a climate scientist didn't talk to a nutritionist, they could come to the conclusion, this is the best crop to produce and we'll produce lots of sugar. Now, Alex and I would be up in horror if you came to me and said, the future diet is just gonna be sugar. So this is. keeps coming back to this. We need to talk to different disciplines.

We need to make sure that we don't end up with these consequences because we haven't done this work together. And that's where a lot of the research I do both within the university and externally is absolutely key. Getting all these people around the table, developing a research project so that I can come in as somebody slightly irritating and say, have you not thought about the nutrition aspect of that, and somebody can push back on me and sort of say, well, that's all very well, but look at the climate implications for that. And that's what's really important to make sure that conversation is going on.

Samantha: I was kind of surprised at how, yeah, you can't just, um, have one domain working on one thing because they could pretty much get it wrong. Like one perspective on something. can be seen as correct from their point of view, but you do need like a second source or if not multiple to make sure that, well, other people have their say and also to make sure that it's healthy for everybody.

So it's great that it is a interdisciplinary sort of approach.

Swathi: If you just focus on maybe the sugar aspect, like there's no winning as in there's no getting anywhere without incorporating different disciplines. So it's really important. that you embrace different disciplines. That's what I get from that.

I mean, if you hear the other podcasts also, like it is so important to embrace the complexities of different disciplines to have a really,

Samantha: ...like a well rounded kind of idea...

Swathi: Definitely. Yes. That's what I mean.

Okay. So we have talked about the future of food, how that may be shaped by AI, new technologies and climate change.

Samantha: But what about the future approaches to tackling obesity?

Alexandra: One of the messages that I always share, because I work with people living with overweight and obesity, is that we shouldn't blame the individual. It is not the individual's fault. We need to think about changing the food system to support that individual to make choices around eating healthier and more environmentally sustainable within budget and it is culturally acceptable. Then the onus is on thinking about working with policy. So as an academic, one of my remit there is to produce evidence to share with policy, but also to think about up and coming policy initiatives to provide evidence for what works and what does not work.

We've had so many policies that have purported to reduce obesity. So I think that that is an incredibly difficult challenge looking ahead about how we can change the food system to have a healthier population. We are making steps as a, as a nation with the Good Food Nation Consultation Scotland. We can see that there are legislation around high fat, sugar and salt in England and that will be coming through in Scotland likely as well.

So, so we can see policies coming into place that will favourably change our food environment. It's just that that will take time to impact on the health parameters. So we need to be thinking about what are some of the short term changes that we, that we can introduce perhaps at a local level or even a community level.

So, because my science and the research that we do will not always have an instant impact on policy. So from a day to day basis, then that's why much more manageable and achievable impact activities, working with communities, working with schools, working with young people, are incredibly important as well, because you can make small changes.

I don't want to give the impression that I, I only think that if we, if we make a policy impact, that that's meaningful. I think for, for me and my, my science, then actually, you know, there's a range of activities that we can do that are impactful.

Swathi: It sounds difficult but that also means there's a lot to be done.

Alexandra: So there are an incredible amount of challenges and it means that there's going to be amazing opportunities for young people to contribute towards changing our food system, looking at evidence that's already been obtained and building on that in, in future.

Jennie: Uh, well, I guess the positive, if we can get there, would be that, and the idealistic, is that people across the world all have access to the right sort of food, which will be healthy. Also desirable because we can produce lots of healthy food, but we need to make it something that people want to eat. And this comes to a balanced diet, so it's not saying that we can't eat some things like chocolate and crisps, but it's all about a balance. So I think in the future, that's what we want to aim for. But we need to do that at the same time as saying, have we had a impact here on reducing global warming? Because this is absolutely critical.

We're seeing in different countries, populations really suffering. because of climate change, their food sort of security becoming sort of very, very poor and in the outlook. So I think looking forward, if we can get some of these things right, if we can get some changes made, then we, we can sort of to try and sort of be positive, although it's, it's difficult with the current situation and the way things happen, then that's what we should be aiming for.

And I think what I hope for is people coming in, younger people coming in and having some disruptive thinking. So bringing something that's different, it's very easy to just do more and more of the same. We see this in policy, we'll put out another report, we'll say we need to do this, which perhaps is going down without reflecting and say, well, that didn't work last time.

So I think there's a huge opportunity for people to come in and talk about doing something different, throwing something in and saying, have you ever thought of this? Look at it from this perspective. And I think That's what I really hope this sort of, we can move forward with science and, you know, people come, you know, younger generations coming in and saying, what can I do and be disruptive, be a troublemaker, because actually throwing these questions in makes people who are maybe doing the same policies and things like this, just in slightly different ways, which we've seen for decades, may actually be what needs to be shaken up.

Swathi: It's kind of like an alarm to be more mindful about food for me. What do you think about it, Samantha?

Samantha: Well, I just didn't realize that something so like, well, you would think it's quite a basic fundamental thing to the human life, but then it's got so many different layers and, um, to provide a healthy, good quality food for people, but also taking to in consideration the environment as well.

It's, I didn't realize how many layers upon layers there are, um, when it comes to something such a seemingly basic topic.

Swathi: Both Jennie and Alex say that food is more than a pile of ingredients on a plate. Well, I guess you can imagine the difference in turning up at a child's birthday party with balls of flour, sugar, and butter versus with a delicious birthday cake.

Samantha: Yeah, food combines more than that. It combines emotion, nutrition, health, culture, agriculture and climate.

Alexandra: I mean, we all have a favourite recipe, don't we, that we like to share. And usually that recipe isn't so much about what the food is, it's the emotions that go with that recipe or food. So we have memories of You know, our school food that we hated and we'll never touch again.

But we also have those very positive memories of meals shared with loved ones. That's perhaps, you know, a recipe that's handed down generation to generation. So it's that, it's those emotions and positive feelings that come from eating.

Jennie: Well, I would agree with Alex. If you're looking to sort of have a diet that would be more sustainable, so we'll be healthier and have a reduced impact on the environment, then eating less meat will make a difference and replacing it with unprocessed plant based foods.

Um, so that, that would be the big thing. Um, fruit and vegetables and things like that. But making sure that it fits around your lifestyle coming in and being a student is very different from living at home. And, uh, you know, you need to look at how can you fit that in because you're going to with new friends and wanting to cook together. So you can sort of bring that in. And I think sort of reducing the meat consumption, um, have eating more sort of vegetables and fruit, um, fit it around your lifestyle, but have that at the centre, and I think that might need a bit of thinking about how to incorporate it, but it's absolutely vital that, you know, you do think about that in terms of health and if you're passionate about the climate.

Swathi: Well, I'm going to play this episode to my boyfriend. He's a big meat eater.

Samantha: Yeah, well, for me personally, I don't know. I came in thinking that food is mostly kind of just associated with like the climate aspect and mostly just consuming it for survival, not fully enjoying it. But you know, there's a lot more attachments that I guess people do have to food that it's

part of a community as well. And as Alex and Jennie mentioned, the emotions that kind of are handed down kind of with recipes even and stuff like that, it can be an intimate thing that can create quite interesting attachments, I suppose.

Swathi: Yeah. So maybe the message here is not about eating no meat, maybe incorporating more of plant based meals. What do you think?

Samantha: Yeah, for sure. I think many people, or many students at least do that anyway, when they're doing their food shops. And I've heard a lot of my friends kind of They're scared that they haven't cooked the meat properly or it hasn't been cooked enough, so they kind of avoid buying meat anyway.

Swathi: So you mean it's safer to have plant based meals?

Samantha: Kind of, almost, yeah.

Swathi: Thanks to Professor Jenny McDermott and Professor Alexandra Johnston for talking to us about their research.

Samantha: So if you want to join the Boundary Breakers, you can come to one of our open days and see our beautiful ancient campus and the state of the art facilities.

You can also download our digital prospectus at www.abdn.ac.uk.

Swathi: And to hear more from us and about what you can learn here, check out the rest of the podcast. Each episode discusses the groundbreaking research from one of Aberdeen's academics.