

Transcript – Full circle – The journey from undergraduate to PhD and beyond

Host: John McLuckie

Guest Speakers: Jordan Grigor

John McLuckie 0:16

This podcast has been brought to you by the University of the Highlands and Islands Careers and Employability Centre. In this episode we'll be talking to Dr Jordan Grigor, a marine ecology researcher at the Scottish Association for Marine Science, SAMS, about his journey from undergraduate study to PhD. My name is John McLuckie, and I'm joined today by Jordan Grigor. Jordan, welcome to the podcast.

Jordan Grigor 0:37

Hi John. It's great to be here, thanks for inviting me.

John McLuckie 0:41

Yeah, thanks for participating, that's great. Do you want to start by telling us about yourself and what your current role is?

Jordan Grigor 0:47

Yeah, cool. Sure. So firstly, I think we should refresh and say that we met each other 10 years ago, right, and at that time, I was an undergrad at SAMS and I was studying on the Bachelor's in Marine Science. And I had the opportunity in that Bachelor's to go to the Arctic and study Arctic research. That was something I continued throughout the rest of my career and now I'm an Arctic researcher, and I have been for the last 10 years. Specifically a marine biologist.

John McLuckie 1:12

That's fantastic. So, as a marine biologist and arctic researcher, do you have a particular specialism?

Jordan Grigor 1:19

Yeah, so I think there's different avenues in biology. The one that I pursue is ecology and ecology basically means how organisms interact with each other, and how they interact with their environment. So studying ecology is really important, because it allows us to understand where animals are, why they're there, and how, for example, climate change might affect their survival or their distribution or food webs in general. So, I specifically study the lower levels of the food chain. So the plankton and plankton are just organisms that drift with the ocean currents. That's all that means. It's not necessarily just tiny animals. It can be big ones too, but it means organisms that can't really swim. And I want to know how those animals will interact with their environment and with each other.

John McLuckie 2:09

That's fascinating stuff and you mentioned having been an undergraduate at SAMS around 10 years ago. Looking back now, what opportunities did that Marine Science course give you in terms of the impact on the direction of your career?

Jordan Grigor 2:22

Well, it was really important, because I was in the first cohort of students to go to UNIS which is a University Centre in Svalbard as part of the SAMS degree. And that meant that we went there we studied one semester, and in my case both semesters at UNIS, we came back, and we were able to add an Arctic dimension to the degree. So, I finally graduated with a BSc Honours Marine Science with Arctic Studies. And as I said, we were the first group to do that, that has been something that SAMS has continued since us, you know, so every single year students go there, to UNIS. But it allowed me to meet contacts in the Arctic, and then continue working with those contacts for the next decade. And I continue to work with Norwegians and also Canadians, and I did my PhD in Arctic Canada.

John McLuckie 3:12

Excellent and we'll maybe come back to talk more about your PhD a bit later. Thinking in terms of your decision to progress to a PhD, and then ultimately into what you're doing now in research, were there any specific moments, either at undergraduate or Master's level that particularly inspired you to continue down the research trajectory.

Jordan Grigor 3:32

Yeah, definitely John. The first thing I would say is that my Master's was at Heriot Watt. And it was in climate change impacts and mitigation. So, it was a taught Master's Course but it had a project component at the end of it. And in that project, I went to Svalbard again, and I continued to work with my colleagues. But that course was very important because it totally made it clear to me how climate change was affecting everything and was affecting all the ecosystems on the planet. And specifically what we could do about it, if anything, and there is a lot we can do about it. So that made climate change the top of my mind. And then the next thing was being able to publish papers on my favourite animals, which are arrow worms, and I've published since 2008 four first author papers on those animals.

John McLuckie 4:25

So since 2008, so you were publishing at undergraduate level then?

Jordan Grigor 4:30

Yeah, it wasn't in 2008 that I published it, but it was based on work we did then. And it was the dissertation for my bachelor thesis, I published it years later in 2014.

John McLuckie 4:40

That's great, though. You can look back on the research that you've done over a number of years and progress that into published format.

Jordan Grigor 4:47

Yeah, a lot of people doing Bachelor's dissertations do have the kind of material that can be published. It's just that they need to have the motivation to keep working on it even after they finish the Bachelor's, but they should, I would recommend that they do. Because it can definitely help you a lot and it will be hard sometimes to get into a PhD programme if you don't have publications already. So it's recommended, in my opinion to keep working on that and get it out there.

John McLuckie 5:12

That's great, really inspirational advice for current students listening to the podcast. Just looking back, you obviously graduated in summer 2010 from SAMS with your bachelor's degree and you're now back at SAMS having done an amazing range of exciting and inspiring things in the intervening years. Do want to say a little bit about the kind of work you've been involved in and where you're Bachelor's, Master's and PhD programmes have taken you?

Jordan Grigor 5:34

Yeah, the animal or the type of plankton that I've studied the most right is these arrow worms, which are also called Chaetognaths. It's a hard word to spell and a hard word to type into Google. But if you try it, you'll find that there isn't so much known about them. And that was especially the case for the arrow worms that live in the Arctic. And incidentally, these are cool worms that are also called glass worms and they just move up and down in the water. And they were known previously to feed on other animals. And they were thought that they were strict carnivores. I was able to show in my PhD, that certain species are omnivores. So they also feed on the plant material of the oceans which are called diatoms. And that is important and it opens up a lot of avenues for further study. Because you are what you eat. If anything affects the things that they eat, it affects them and then it will affect the things that eat them. So you need to consider that in all aspects of modelling for example, or field work, so I kind of worked on those. Actually, at the same time, after my PhD, I went to America to Nashville, and I taught High School kids marine biology for two years.

John McLuckie 6:41

That's amazing. How did you actually get into that role?

Jordan Grigor 6:44

It was something that I had always wanted to do. You know, a lot of us have had experience going into schools during the undergrad. Actually, SAMS was really good in terms of giving me loads of opportunities to go and speak to kids and speak to the general public about something that I'm passionate about. But that opportunity in Nashville was the first time when it was like a formalised role. Actually to tell you the truth, most of the opportunities that I've had in my career have been me going out and finding them. They weren't advertised, my PhD wasn't advertised and that postdoc position wasn't advertised. I just sent people emails. And I said, do you want someone with a passion to work for you? And they said, yes.

John McLuckie 7:23

I guess that's another area for students to consider when they're looking to progress whether it's to further study or to employment, in terms of speculative approaches to different people to make that progression. That's great.

Jordan Grigor 7:34

Honestly, John, after my Master's finished I had no idea what I'd end up doing, okay, so that summer must have sent hundreds and hundreds of emails to all different groups, organisations and also charities and foundations, trying to pitch a project. And that's actually how I got my PhD. Because I pitched a project on arrow worms, and it caught the attention of someone in Canada, who also had an interest in that animal. But there is a lot of luck involved and I recommend that you just try that, you know, reaching out this speculation at you describe it.

John McLuckie 8:04

When we spoke 10 years ago I asked you a question about what you saw yourself doing in five years' time and you said that getting a job and being in employment was one of your main considerations. How did that plan evolve into what you're doing now?

Jordan Grigor 8:16

That's really interesting. That's what I said. Right? That I wanted a job.

John McLuckie 9:24

Yeah, that's right. Yeah.

Jordan Grigor 8:20

Well, I guess we all just ideally want a job during the study period because we don't have a lot of money as a student, I always wanted it to be a job in marine biology and I guess that's what I have now. I've learned so much since the Bachelor's though about what science really involves, and specifically what research involves. There's so many ups and downs. There's been many times during

the writing of these papers, these manuscripts that I honestly wasn't even sure that it was going to work out or that it was the right direction for me. But I did have enough of an interest in the subject to push me through that. There's also time periods like at the end of my PhD, my funding expired, you know, and money's so important because it really controls what you can do. And I was in Canada at the time, but I managed to work it I actually started my postdoc position before actually finishing my PhD, so I was financially okay. But that was something that changed everything because then I was able to actually work in America and do that for two years. And that time period was so important in learning that I was interested in teaching, and that is going to be a big part of what I do in the future, I think because I'd like to be a lecturer.

John McLuckie 9:24

Wow, that's amazing. And thinking about your move into the world of the postdoctoral position after completing your PhD, what was that like?

Jordan Grigor 9:31

This is my second postdoc that I'm doing now. The first postdoc was the one in Nashville. Just to clarify when I say I was a high school teacher, I was specifically a postdoctoral instructor on a science programme for high school kids. So it wasn't their main school, these are kids that wanted to pursue science, mostly in college. So you could call this a pre collegiate programme and they went to their normal schools four days a week and came to our school one day per week. All the instructors were postdocs so that they could bring their expertise to the classroom and I was able to build all these aquariums and do all these cool marine biology things that I wouldn't have been able to do otherwise. This is my second postdoc that I'm doing now. I came back to research, I came back to Scotland and I came back to SAMS and I'm working specifically on an Arctic projects again now.

John McLuckie 10:14

That's great and I think you're a fantastic example of the full circle, if you like, from undergraduate level, studying at SAMS back to being at SAMS as a postdoc and still doing research. That's great. You've done all these really cool things in the meantime and I guess as a wider question. Why do you think research is so important? Why is it so important more generally and also particularly now?

Jordan Grigor 10:34

I can answer that in two ways because I was thinking about this question, right? Maybe what research means philosophically in general, right, that's the first thing I would say. And then I'll talk about how my research is important. But I think that doing research is much better than not doing research and that means that there's so much information just you can even call it like misinformation, floating about on the internet about everything these days. And people think that it's just as valid to say anything or to express their opinion without having tested it or found out what the opposite opinion could be or anything. Science doesn't work like that and that's a good thing because you need to check things you need to verify and you need to redo the experiment so many times, and then you need to come back to it and think about it later and review it in light of

new information that comes in, and definitely consider what's been done before, because clearly someone has started working on that subject before I came along. And that will be the same for almost every subject on the planet. So definitely don't be arrogant and think that you're the only one that matters because we're part of a much bigger system, which is the research environment. So that's why it is important, you know, to do research in order to further ideas and to push the field forward. Because otherwise, it will be left to a lack of information that really could hold it back. So that's why I'm doing it. But specifically, my research is really important because of climate change, because climate change is affecting animals and plants and fungus and everything all over the planet. A lot of the species that were previously living in temperate regions have now moved into the Arctic because the Arctic has warmed, it has become a temperature that's suitable for them. That could change everything. You see these killer whales, they're kind of scared of the ice but because the ice is melting, the killer whales are protruding further into the Arctic. And killer whales eat a bunch of animals, they're not going to care too much about whether the polar bear already exists up there, they could actually try to replace the polar bear as the top predator. I work on copepods and these copepods are doing the same thing. They're moving further into the Arctic and I need to know, are they going to survive when they get there? And what impacts are they going to have on the food web?

John McLuckie 12:41

I mean that's incredibly cutting edge and crucial research. And I guess there's the constraint of time as climate change progresses and arguably increases in pace as well. So great to know that people like yourselves are working in these areas and feeding into how the general population views climate change and the changes that are required I guess in a shortening timescale.

Jordan Grigor 12:58

I mean on land, there is quite a lot of information in the news about these changes in distribution of animals. You might have heard of the pizzly bear, which is a hybrid between the grizzly bear and the polar bear. And that's happening now and it didn't happen before, but it's happening because the two bears are crossing paths and different types of foxes are meeting each other too. So we're entering new territory here and these Arctic ecosystems have always been very fragile. Because they existed in a pristine or relatively pristine area of the planet. But the more we interfere with their habitats, the less pristine it becomes.

John McLuckie 13:33

That could be a separate podcast or even podcast series, continuing the discussion along the lines of what's happening in the Arctic. But that's been fascinating talking to you Jordan, many thanks for taking part in the podcast. Thank you very much.

Jordan Grigor 13:44

It's a pleasure, man. Thanks very much.

John McLuckie: 13:46

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