**PhD Horizons Conference 2018**

**Panel 3B: Non-academic science II**

Dr Tania Bakhos, Machine Learning Scientist, Amazon  
Dr Georgios Xenakis, Research Scientist, Forestry Commission  
Dr Neil Hodgkinson, Software Developer, TPP  
Dr Claudine Cognat, Product Scientist, Diageo

**Dr Tania Bakhos, Machine Learning Scientist, Amazon**

*Tania gained a PhD from the Institute for Computational and Mathematical Engineering at Stanford University in 2015. She then worked as a Postdoctoral Fellow at the Basque Centre for Applied Mathematics in Spain from 2016-2017. In May 2017 she took up her current role as a Machine Learning Scientist with Amazon in Edinburgh.*

**What do you do in your current role?**
As part of a team of eight (3 scientists and 4 software developers) she develops models and puts them into operation. After working alone a lot during her postdoc she enjoys this opportunity to work closely with people from different backgrounds. Working as part of a team is one of the things she enjoys most about this role. Also enjoys the faster pace, where she is dealing with high-impact problems and seeing the results of her work being put into production and used by real people. One of the projects she’s currently working on is algorithms to help Amazon employees find their next job within the company.

**How did you decide to pursue your current career path?**
Tania chose her PhD as she wanted something more applied, after her undergraduate degree in maths and history. During her postdoc she enjoyed not only the mentoring and teaching elements but also the cross-discipline work and decided to move into industry, joining Amazon.

**What advice would you give to current students?**
You can - as she does – find ways of continuing to engage with elements of academic life, for example she tutors on a machine learning course at the University, and is part of club at work which reads recent academic papers and presents on them.

**Dr Georgios Xenakis, Research Scientist, Forestry Commission**

*Georgios gained his PhD in Forest Ecophysiology from the University of Edinburgh in 2007. He worked as a Research Scientist for the Forestry Commission until 2010, before undertaking a five-month project as a Research Consultant for the University of Aberdeen. He then worked as a Postdoctoral Researcher with the University of Edinburgh for three years before returning to the Forestry Commission where he has held a variety of research roles.*

**What do you do in your current role?**
In his role as climate change scientist with Forest Research (the research agency of the Forestry
Commission) Georgios informs and supports the contribution forestry makes to the development and delivery of policies (and practicalities) for the UK government. This includes providing R&D and monitoring services relevant to UK forestry interests, and transferring knowledge to different bodies. His work involves lots of emails, project meetings, management meetings, experiments, peer reviewing publications, producing technical and policy guidance, giving guest lectures and supervising PhD students. Aspects which satisfy him most? Solving problems rather than blue-sky thinking. Also being able to retain some academic contact/content.

**How has your PhD influenced your career?**
It developed in him the ability to learn constantly, to think critically, to search for and retrieve information. He developed management skills (managing his time, his project and his supervisor!) and became independent, able to work with minimum supervision or as part of a group.

**What advice would you give to current students?**
While it can be a challenge to interpret your PhD academic to skills to fit a non-academic job, you will have developed – in addition to your technical skills – the ability to manage resources (human, time and money). You’ll be good at science interpretation, evidence-based decision making, and educating others to think critically.

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Dr Neil Hodgkinson, Software Developer, TPP

*Neil received his PhD in Theoretical Particle Physics from the University of Manchester in 2008. Following that, he spent one year as a postdoctoral researcher at KEK, the National High Energy Physics laboratory in Japan, on a JSPS (Japan Society for the Promotion of Science) fellowship. From 2009 to 2011 he was a postdoctoral researcher at the Universitat de Valencia in Spain. When that contract ended, he decided to leave academia and he joined TPP at the start of 2012.*

**What do you do in your current role?**
Working in this small healthcare technology company means he gets to see the whole development cycle. There’s a flat hierarchy with everyone involved in decision making. Problem-solving happens quickly, with quick informal meetings for input, and a team of bright, enthusiastic and dedicated people. Really enjoys seeing the work that he does being put to immediate use. And improving patient care feels worthwhile.

**How did you decide to pursue your current career path?**
Neil had been heading for a career in academia, but was put off by the layers of bureaucracy. He considered moving in to finance or insurance, then looked at software. TPP is a company which doesn’t require previous software experience. It looks instead for interest and ability, as the coding element is something that can be taught (and a lot of the programmes are in-house anyway, so you wouldn’t have previous experience of them).

**How has your PhD influenced your career?**
PhD study developed in him the ability to look at a problem and discard the irrelevant parts. Also to communicate his ideas quickly and clearly.

**What advice would you give to current students?**
Don’t be afraid to be brave and take a new direction.
Dr Claudine Cognat, Product Scientist, Diageo

Claudine did a joint PhD in Biological Sciences (Food Science) with the James Hutton Institute and Aberystwyth University, completing in 2014. She then worked as a Research and Development Technologist with Macphie of Glenbervie, a food ingredients manufacturer. She joined Diageo, a leading drinks company, in February 2018 as a Project Scientist.

What do you do in your current role?
Claudine is in the liquid commercialisation team, developing new alcoholic beverages from concept to factory, and needs to consider everything from sensory analysis (tasting products) to shelf-life to compliance. She very much enjoys the fast pace and the constant different challenges.

How did you decide to pursue your current career path?
Working as a KTP (Knowledge Transfer Partnership) associate with Nairn’s Oatcakes gave her experience of industry before her PhD. She learned a lot there about business and about teamwork. At the James Hutton Institute she continued her links with Nairns and other partners too, investigating chemical compounds in oats while working on her PhD, and knew she would prefer to work in industry/business rather than academia after her PhD.

What advice would you give to current students?
Although it helps to have a clear idea where you want to go (try to picture yourself in 5 years’ time!) remember you will learn something from every role you do.