



Jake Eager Nash

Post-doctoral Researcher in Climate Science



After studying science and maths at sixth form here, I left to do a Physics degree and PhD in astrophysics at the University of Exeter, going on to become a researcher in climate science at the University of Victoria.

It might be encouraging for current students to know, that during my second year at John Masefield Sixth Form where I studied Physics, Maths, Further Maths and Chemistry, I found the workload tough and considered dropping Chemistry (having already made the decision to drop Biology after my first year). I think that was partly related to losing some motivation after a rejection from Cambridge University. My teachers convinced me to keep going and I motivated myself because they believed in me. I'm glad I did! Keep going, it's honestly worth it; talk to your teachers if you're struggling with self-doubt and seek help with techniques. Oxbridge is definitely not the be all and end all as there are so many amazing Universities that are just as good and may suit your learning more. I picked these subjects because I always loved Science and the natural world and by the end of GCSEs, I knew I wanted to do a Physics degree and then go on to research theoretical physics.

I chose to study Physics at the University of Exeter on an integrated master's degree, mainly because I really liked the vibe there compared to others, even though at the time they were a lower ranking than some of the others I had been to. The Physics department at Exeter was very personable – they'd obviously read my personal statement and discussed it in detail with me to ensure I made the best choices on my course. This personal approach was maintained and meant I really loved the course, the University and especially the beautiful university grounds, plus of course the city's proximity to the beach!

At the University of Exeter, I had many opportunities to engage in research as an undergraduate, and did projects in metamaterials, synthetic biology and climate modelling. One of these was a group research project as part of an international [competition called iGEM](#), which included an amazing trip to Boston, USA where we presented our results and even won two awards, which was beyond our wildest dreams!

During my degree, I realised that I wanted to work in climate science, so I picked as many modules as I could that related to this (both as part of my degree and also sat in on others for no credit as I couldn't officially do all the ones I wanted to) and looked for people I could do my masters project with, and the closest I could find was someone working in **Astrophysics on exoplanet climates**, which are planets outside the Solar System. I ended up loving this project and my supervisor, so we wrote an application for a PhD.



My PhD was on modelling the climate of the early earth and exoplanets, and modelling the interaction between life and atmosphere (driven by atmospheric chemistry) for life similar to what is believed to be some of the first life forms on Earth – methane producing organisms. I loved this as it was such a multidisciplinary field and I had such an amazing group to interact with. Having a supportive group and especially supervisors is definitely one of the most important factors to enjoying a PhD, so it is really important to speak with the supervisor and other members of the group to make sure you are joining a good environment!

During a PhD, you learn so many skills, like writing scientific articles, making and delivering presentations at conferences, teaching and even supervising undergraduates. A PhD can be seen as just studying, but I have viewed it as being an apprenticeship to becoming a researcher and lecturer – you get paid to conduct research that is field leading, which is really important.

After successfully defending my PhD thesis (in a surprisingly quick four-hour discussion which was both fun and nerve-racking), I moved to the [University of Victoria](#) in Canada to start a post-doctoral research position there. I have been researching modern climate change and the impact this may have on forest fires and climate extremes. One of the amazing things about research is that you have the potential to travel to some amazing places for conferences, summer school and jobs. To begin with this can also be stressful as job contracts are fairly short and it's hard to get a permanent position, so you can end up moving around a lot. After a few years in Victoria, I hope to go back to the UK and either continue in university research or move into industry, such as at the Met Office.

I have really enjoyed my path to where I am now, although there were definitely challenges and bumps in the road along the way. If you are considering studying physics or doing a PhD I would be happy to chat with you and answer any questions you may have! Just reach out to [Miss Robinson](#) who can put you in touch with me.

