

SCIENCE AND TECHNICAL CONSULTING CAREERS PANEL



MEET THE PANEL



RICHARD SIMON
SENIOR CONSULTANT, ELEMENT ENERGY

Natural Sciences, University of Cambridge

BACKGROUND & PRIOR EXPERIENCE: I studied Natural Sciences at Cambridge between 2014 and 2018, focusing in the end on Chemistry – my Master’s research project was on studying particulate air pollution. I looked around for what I wanted to do in the low carbon energy/emissions space, and decided Consulting was a good fit – I’d done something similar through the iTeams programme here – and looked around at the work of organisations in the space, joining Element after a couple of interviews.

WHAT MOTIVATED YOU TO MOVE INTO A CAREER IN SCIENCE & TECHNICAL CONSULTING:

The job involves a wide range of things – from technical modelling and modelling the uptake of low carbon technologies, to literature reviews, to reporting, presentation and client facing skills. We focus on novel technologies and the ‘different’ work – very much not the ‘turn the handle’ kind of projects. It’s a wide range - I’ve modelled how to decarbonise UK industry for the UK government and the CCC, looked at the use of alternative fuels in Glass manufacturing, evaluated the impact emerging, ‘buzzword’, technologies will have on Carbon Capture and Storage, and am currently looking at what the future role of different greenhouse gas removal technologies for the UK government.

YOUR ADVICE FOR CURRENT STUDENTS: The work is fast paced and exciting within a very supportive environment, and your work will have a very real impact on developing the future low-carbon energy system. You’ll need to have good technical skills, be confident at learning quickly about new areas and subjects, and be able to clearly communicate key findings of the detailed technical work we to clients who might be non-technical. If you think you fit the bill definitely consider consulting (and Element specifically!) – pursue the consulting-like opportunities at university, understand the subject and type of work you are most interested in.

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HEATHER JAMESON

SENIOR ENGINEER, SPRINGBOARD

Mechanical Engineering, University of Cambridge

BACKGROUND & PRIOR EXPERIENCE: I studied Mechanical Engineering at Cambridge University and then stayed at Cambridge to complete a PhD in Aerospace engineering at the Whittle Laboratory. I started working at Springboard in January 2020, after finishing my PhD.

WHAT MOTIVATED YOU TO MOVE INTO A CAREER IN SCIENCE & TECHNICAL CONSULTING: I knew that a life-long academic career was not for me, so during my PhD I thought a lot about which aspects of PhD life I enjoyed the most and felt most suited to, to find a career that focussed on those skills. I enjoyed the everyday problem-solving tasks – tinkering with a bit of code in the experimental rig control software, diagnosing an issue with a measurement, etc. I also really enjoyed the technical communication side to the role: presenting my research findings and supervising undergraduate students. When I discovered technical consulting, it seemed like the perfect fit. Good communications skills are important when presenting your work to clients, who may not always have a technical background, as well as sharing your ideas with internal team members with different knowledge and experience. I also enjoy the variety of the role; I might spend the morning at my desk and then spend a few hours testing in the lab.

I learnt a lot about technical consulting through the Cambridge careers service, including attending a very similar panel. I saw an advert about Springboard on the careers service. I sent an email to the contact address with an enquiry and I received an invite to visit the Springboard office one day after work, to see the environment and learn more about working there. If you are interested in a company, I would recommend reaching out to see if they would be willing to have an informal chat about what working there is like. I did this quite early in my PhD and Springboard kept in contact with me over the remaining years.

YOUR ADVICE FOR CURRENT STUDENTS: Be proactive in your research – reach out to companies to see if they would be willing to have an informal chat. The most important attributes for technical consulting are good technical skills and good communication skills. You need a “can-do” attitude, as you may often be asked to work on something completely new to you. In the interview process, be sure to demonstrate your willingness and confidence to present your ideas.

The biggest difference I have found between day-to-day life in a PhD verses in a technical consultancy are the time scales. As a PhD student, I never felt that my time was a highly valued resource, but as a technical consultant I always need to ensure that I make the most efficient use of my time on every task. If you enjoy really immersing yourself in a topic and spending weeks reading papers to understand the subtleties, you may find the time constraints of consultancy frustrating. But if you are excited to learn about lots of different technologies – then consultancy will deliver!

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MICHAEL ALLAN

CONSULTANT, THE TECHNOLOGY PARTNERSHIP

Electronic & Information Engineering, University of Cambridge

BACKGROUND & PRIOR EXPERIENCE: I studied Electronic and Information Engineering in the Engineering Department, focussing on circuit-level electronic design and signal processing. I was also part of the Full Blue Racing Formula Student Team, where I gained valuable practical experience.

WHAT MOTIVATED YOU TO MOVE INTO A CAREER IN SCIENCE & TECHNICAL CONSULTING:

During my degree, I did two internships at a large multinational engineering company. This showed me that the big corporate world could be a bit stifling, so after my third year I went looking for somewhere smaller. I spent a summer working at CME, a small electronics consultancy in Linton, where I really enjoyed the project-based work and variety of problems, but I wanted bigger opportunities. This led me to apply to TTP, Cambridge Consultants, and Sagentia. In the end I took up a role with TTP, because I felt a smaller company would be a better fit and I got on well with the people that interviewed me. I think (though you can never be sure!) that the practical skills I had developed in my internships and extra-curriculars were a significant factor in why I was hired. My day-to-day work has evolved over the years I have been at TTP. As a graduate, I spent almost all my time working on exciting and complex technical challenges – mostly in electronics and software, but that spanned everything from high frequency analogue sensors to programming robots on a production line. Nowadays, I spend more of my time leading teams to deliver projects, doing review and mentoring alongside design work, and working closely with clients to design and manage development programmes and make sure we are delivering what they need.

YOUR ADVICE FOR CURRENT STUDENTS: Consultants need to be flexible and adaptable. The variety of projects in this job is both a blessing and a curse. There is never a dull moment but you rarely get to do the same thing twice, so you are always learning. You will need both academic and practical skills to thrive and get to the fundamental heart of problems. Especially in a company like TTP, the opportunities for growth are not handed to you ready formed. You must be motivated to seek them out for yourself, be that by getting involved with interesting projects around you or by helping to build business in a new market, but you cannot be selfish, as everything we do, we do in a team.

To develop these attributes, you need to do more than just what your degree requires you to do, so get involved with student societies and extra-curricular engineering projects, learn how to work together with people for a common goal, and get the practical experience to balance your academic excellence. I joined TTP because I wanted to work on a variety of engineering problems. I think what surprised me most about TTP was how much I enjoyed the other aspects of the role – interacting with clients, planning projects, leading teams – and that I was given the opportunities to do these things right from the start.

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CARYS LLOYD

TECHNOLOGY & INNOVATION CONSULTANT, PA CONSULTING

Natural Sciences, University of Cambridge



BACKGROUND & PRIOR EXPERIENCE I came up to Cambridge in 1999 to study Natural Sciences and specialised in Physics. I went on to do a PhD with the Surfaces, Microstructure and Fracture Group at the Cavendish Laboratory. I investigated the dynamic response of piezoelectric sensors under shock loading. My research was sponsored by an industrial research organisation and my findings helped to refine their hydrodynamic diagnostic tools.

WHAT MOTIVATED YOU TO MOVE INTO A CAREER IN SCIENCE & TECHNICAL CONSULTING:

Having an industrial sponsor for my PhD helped me get into consulting. I met frequently with my sponsors to learn more about the problems they were trying to solve and to present my research to multidisciplinary teams. The arrangement provided a shape and direction to my work which I greatly enjoyed. Looking back, it had many similarities which technical consulting, with my sponsors taking on a client-like role. I found out about PA Consulting through a Careers in Technical Consultancy event at Cambridge. I got talking to a recent PA recruit and was impressed by their enthusiasm for the company and the scientific flavour of their work. I sent a speculative application a few months before I was due to finish my PhD and was offered a Consultant Analyst position. They were happy for me to defer my start date, allowing me to concentrate on writing up my thesis before starting work.

As a Principal Consultant at PA, I de-risk new technologies for clients in Consumer Products and Healthcare sectors. I typically get involved in the early stages of the new product development process, where the client is interested in exploring the science of the possible. Sometimes this means analysing new market opportunities for an emerging technology and identifying strategies to maximise the impact of a disruptive technology. Other times it might be developing a science-based concept which could be scaled up for commercial launch. My clients range from large multinational companies and to start-ups. My work has ranged from helping people who live with diabetes to better manage their condition by developing a higher precision blood glucose test strip, to limiting the amount of waste packaging going to landfill by developing a roadmap towards fully recyclable packaging. As well as my external-facing work with clients, I have a few internal-facing roles including being a Line Manager and mentor. Some years ago, I founded the Summer Internship programme at PA. It is now in its eighth year and regularly attracts hundreds of applications from all over the UK and the world.

YOUR ADVICE FOR CURRENT STUDENTS: Be curious about the world around you and seek out opportunities to enhance your learning and understanding of things which impact an area you wish to pursue. What really adds extra value to your knowledge and skills is an awareness of how a range of factors could influence your field. The most impressive consultants I have come across are very good listeners. They listen to what clients tell them (and don't tell them), and they ask pertinent questions. They have a wonderful skill to get to the bottom of a tricky issue by responding well to all sort of cues.

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Candidates who listen well in an interview and ask appropriate follow-up questions make a great impression.

The biggest surprise for me when I started at PA was the accelerated pace at which new product development can happen. Some of my shortest projects have been only two to three weeks – the learning curve on such projects are almost vertical! I've learnt that huge progress can be made over such short periods of time if you have an experienced multidisciplinary team working together and supporting each other. This is why PA's clients keep coming back to us with more and more challenging problems to solve! In my area, project timescales can be short and so it's normal to work with several different teams in quick succession. I regularly work with human factors experts, mechanical engineers, electrical engineers, biochemists, injection molding specialists, workshop technicians – the list goes on. I find that our complementary skills and synergy really sparks innovation. The happy consequence of working with so many different people in a short space of time is that my network really is turbo-charged.

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LILY DIXON

INNOVATION CONSULTANT, INNOVIA TECHNOLOGY

Chemistry, University of Cambridge

BACKGROUND & PRIOR EXPERIENCE: I started working at Innovia after finishing a PhD in synthetic inorganic chemistry. Before working at Innovia most of my work experience centred around academia and research. I was involved in teaching during my PhD and worked as a research assistant and lab technician in Australia after finishing my

undergraduate degree.

WHAT MOTIVATED YOU TO MOVE INTO A CAREER IN SCIENCE & TECHNICAL CONSULTING: I

found out about science and technology consulting in the final year of my PhD. I was attracted to it because it sounded like a great way to learn about how science is used in different industries and because it would give me the opportunity to work with people from a wide range of academic backgrounds. To find out more about this area of consultancy I spoke to people at careers fairs, attended information evenings, signed up for panel events and read case studies on company websites. These information gathering activities were useful both for determining if sci tech consultancy was a career that I was interested in and for preparing for applications.

I've been at Innovia for about three and a half years now. In this time I've worked in many industries including food and beverage, energy, coatings, medical devices and cosmetics. At any time I'm likely to be on 2–4 projects, as well as being involved in business development activities and carrying out internal tasks to help the company run. What “working on a project” looks like varies a lot depending on the type of project and my role on it, but some activities are: conducting literature research using academic journals and patents, conducting simple benchtop experiments, attending/running team meetings to discuss progress and brainstorm new ideas, creating reports and presentations to update the client, discussing possible future projects that could help clients with other challenges.

YOUR ADVICE FOR CURRENT STUDENTS: There are many types of science and technology consulting. I'd recommend that aspiring consultants learn about as many of them as possible then decide which sounds most interesting and which they'd be most suited to. Once you get to the stage of applying and interviewing, try to highlight the skills that you have that are most relevant. A few that we explicitly look for at Innovia are: problem solving ability, team-working skills, written and verbal communication skills, and a strong grasp of your subject area.
