

Bridging the Gap Between Academia and Industry: Applications Scientist and Technical Sales

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Starting a career in scientific research as a post-doc, I never thought I'd be an applications scientist and technical salesperson (ASTS). You may be reading this thinking, "what's an applications scientist and technical salesperson anyway?" As an ASTS, my role is to provide academia and industry with solutions, both knowledge and equipment-based, to move them forward in their own research challenges. Essentially, it's a role in industry where you are out in the field, helping customers advance their own research and work collaboratively on front line, lab-based science projects. As an ASTS, we don't just sell equipment; we supply knowledge and solutions.

If you're reading this as a PhD student, it may be difficult to envisage your career pathway. Not everyone is lucky enough to jump into a post-doc or even a lecturer position. I bet you're thinking "so how did I get here?" Truthfully, at the end of three successful post-doc positions in biophysics, I applied to over 100 more



across the globe, receiving one, unsuccessful interview. I started to think, "is this for me? Am I an imposter?"

After discussions with my previous supervisors I started to understand that not everyone's career is a straight line, even if theirs was. With years of attending numerous conferences, meeting many of the leading industry experts in my field, it started to become clear that academia wasn't the only way forward.

I then thought, "if my skills aren't being utilised in the academic sector, what can I offer industry?" I knew I loved meeting new people, discussing current research trends and how to overcome difficult research challenges. All the knowledge and skills I'd built up in my PhD and post-docs enabled me to readily transfer to the role of an ASTS. I also loved to teach and train new students, targeting the training to meet their research needs. The role seemed perfect as it was these aspects of my PhD and post-doc work that I took most joy in.

It can be difficult in academia to expand your skills base if you focus on one technique, as I did - particularly if that technique is used on a restricted specimen cohort. The company I now work for, CN Technical Services, Ltd, UK has a wide range of microscopy analysis techniques, from optical profilers and scanning electron microscopes to fluorescence and atomic force. Also, 3D bioprinters and ellipsometers - not to mention all the accessories that go along with them, including tensile testing stages, in-situ nano-indenters and elemental analysis. Examples of specimens I have worked on so far include semiconductors, nanoparticles, algal colonies, muscle tissue, decellularised plant tissues, DNA origami, honey-based tissue scaffolds, damaged engine parts and much more!

I continue to write publications from my previous work, have been developing applications notes and further co-writing papers with academic

collaborators. All of this is enabled by the huge range of techniques we have in our demo lab. It's quite a unique position having access to a broad range of techniques, previously inaccessible. Using my academic experience, I can easily deliver publishable results, providing pilot data for grant funding, and ultimately getting those high-end techniques into academic institutions. It doesn't end there; developed collaborations are also leading to my name on more high impact publications from results I've generated.

The challenges that come with this role [ASTS] have also enabled me to develop new skills such as negotiation, self-confidence, dependability and responsibility. These key interpersonal skills have empowered me in the goal of progressing my career forward in industry - even if, one day, I decide to return to academia.

If I could project one key message from all of this, it would be: "Find what motivates you". What motivates me is expanding my knowledge and technique base, developing new relationships with academic and industrial partners, and pushing forward impactful scientific research. Whether it be aiding researchers with advancements on techniques or training them to meet their needs. And remember, like most scientists, if it is research that motivates you, academia isn't the only way forward.

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