



Gradline aims to inform and entertain members in the early stages of their career in microbiology. If you have any news or stories, or would like to see any topics featured, contact **Jane Westwell** (e j.westwell@sgm.ac.uk).

Working in the commercial sector

If you are planning your next career move after PhD, you might be weighing up the options of working for a commercial organization. There are many small- to medium-sized biotechnology companies throughout the UK who offer opportunities for graduate and PhD microbiologists. Scientists tend to be recruited to roles that match their previous research and their responsibilities will depend on their level of experience. A more

experienced postdoctoral recruit is more likely to be leading a small research team than a recent PhD. New recruits to the commercial sector will notice some key differences to academic life. Research is much more aimed at obtaining results which can be commercialized as rapidly as possible. The research focus can also be fast-changing and influenced by business rather than scientific reasons.



it can be challenging to adapt to a foreign culture and working practices, and to live thousands of miles from family and friends.

Q *Why did you make the move away from university-based research?*

For several reasons. First, I was keen to acquire additional skills to those I had developed in the academic sector, whether technical, e.g. high-throughput screening, or commercial, e.g. managing intellectual property. Second, I wished to gain experience and insight into working in the biotechnology sector. Third, I was intrigued how an understanding of bacterial cell biology could be applied to creating platform technologies and product development. Finally, I was attracted by the size of the organization and the scope offered for influencing its future direction.

Q *How easy was the transition to research in the commercial sector?*

The transition was relatively easy. On a day-to-day basis my workload is comparable to that of a postdoc in academia. The more challenging transition comes in adjusting to the differences in the focus between the two sectors. In academia, one is constantly aiming to advance knowledge by asking questions, devising hypotheses then designing and conducting research to test them. In industry the focus is more on conducting research that will develop new tools and progress a project to a product as quickly as possible. There is also a much greater emphasis on teamwork and collaboration with partner organizations.

Q *Can you describe a typical working day?*

Most of my time is spent in the laboratory, which may involve evaluating new compounds for their activity, cloning and expressing a gene of interest, or developing new assays. Results need to be documented properly in notebooks and datasheets. There are internal team and company meetings to attend, as well as discussions with external collaborators. I may also have to draft a report or presentation or help prepare a manuscript. Finally, I am responsible for managing a graduate, which involves providing training and guidance.

Q *What is rewarding about your job?*

The biggest rewards come from the results of my experimental work. As in any research position, it is exhilarating to generate a piece of outstanding data that significantly advances a project or answers a key question about it. Also, it is exciting to develop and validate a new experimental technique or assay that is then used by other scientists. Finally, it is satisfying to see the other research projects within the company progress successfully through the various stages of development and to observe and contribute to the growth of the company as a whole.

Q *How do you see your future?*

In the short-term I am keen to learn more R&D skills and enhance my understanding of the product development process. Over time, I aim to gain more responsibility for managing and leading projects, larger research teams and collaborations. My long-term goal is to advance to a position where I would have more input into the strategic development and management of research programmes.

Q *What advice can you offer people planning a research career within an SME?*

Competition for jobs in industry is strong, but new companies are continually being set up. There is a host of spin-out and established biotechnology companies of different sizes and working in different sectors; pick one in a field that you enjoy and for which you have a relevant background. As with any career move, it is important to consider very carefully how the post will influence subsequent employment prospects. Take a role that will offer the most opportunities for career enhancement and for developing skills and experience that may not be gained elsewhere. Make the most of every opportunity to acquire these extra skills. Select the right time in your career to make the switch and don't assume that the transition from the academic sector is irreversible. If possible, try to experience industrial research as early as possible. This may be achieved as an undergraduate through a sandwich-year placement or vacation internship, or as a postgraduate by choosing a PhD that is sponsored by an industrial partner.

A job in ... Commercial sector research

Name Neil Stokes
Age 31

Present occupation Principal Scientist, Prolysis Limited
Previous employment Postdoctoral Fellow, University of Maryland School of Medicine (2001–2002)

Education University of London (Wye College), BSc Biology; University of Aberdeen, PhD Microbiology

Q *What attracted you to microbiology research?*

During the final year of my undergraduate degree I completed an honours project in microbiology, investigating the properties of an enzyme of a psychrophilic bacterium isolated from Antarctica. This sparked my interest in the physiological processes of bacteria adapting to changes in their environment, a theme I continued for my doctoral research.

Q *How did you go about finding your postdoc in America?*

I identified groups active in the field of research that interested me by reading their publications and websites. Next, I sent my CV to the Principal Investigators of these groups and was invited to visit some and meet the researchers. From these visits I selected one group to join.

Q *Would you recommend working abroad?*

Absolutely – there are some great laboratories in other countries. In the US the profile and resources dedicated to scientific research are greater than in the UK. A secondary benefit of working abroad is the excellent opportunity to explore new cultures and geographical locations and, depending on the country, learn a new language. However,