



Profiles	Pharmaceutical research
Name	Craig Johnstone
Age	33
Job	Discovery project leader

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Career path and qualifications so far

I graduated from the University of Strathclyde with a degree in Pure and Applied Chemistry. Although my undergraduate industrial placement involved physical chemistry, in the final year of my degree I began to steer my career choice towards the pharmaceutical industry by selecting course options that gave me greater practical experience in synthetic organic chemistry and more exposure to bio-organic and medicinal chemistry lectures. I stayed at Strathclyde to do my PhD in organometallic reagents applied to organic synthesis, and from there I joined a major pharmaceutical company as an associate team leader in oncology (cancer related) research. After two years I was promoted to team leader and to broaden my experience I was moved to a different therapy area. During the following five years through a combination of on-the-job experience, formal training and reading, I learned a tremendous amount about medicinal chemistry and the pharmaceutical industry, and I was given the opportunity to lead a discovery project in 2001.

Has anything you've done been especially useful in your career?

Working in a large, complex organisation isn't for everyone. During my industrial placement I was placed in a large and sometimes bureaucratic chemical company. My experiences there made me feel comfortable about the prospects of entering industry rather than academia. Back at school, I took part in the Duke of Edinburgh's Award Scheme. Some of the activities I completed then probably began to sow and cultivate the seeds of leadership skills, which I now see as very important in my job. It certainly gave me lots of extra-curricular experiences to discuss when I was being interviewed for jobs.

What is a discovery project leader?

A discovery or research project in the pharmaceutical industry is a multi-disciplinary activity aimed at discovering new medicines to treat human diseases. These projects involve the work of experts in synthetic and medicinal chemistry, biology, pharmacology, drug metabolism, drug safety, patents, and sometimes other scientists depending on the specific needs of the project. As the project leader (who may have a scientific background in any one of those disciplines), my role is to co-ordinate and blend all the different contributions into a cohesive and effective mix that gives the compound the best chance of getting through development and becoming a medicine.

Day to day activities

My daily activities are very diverse and involve everything from simply keeping up to date with all the results coming through and planning the next round of activities, through to chairing meetings, writing minutes, and presenting regular project updates to senior managers. I also manage a team of medicinal chemists so I still enjoy the opportunity to talk about specific compound design, organic synthesis and mechanisms.

Further qualifications

Since joining the pharmaceutical industry I have not had any further formal education or gained any additional formal qualifications. However, extensive on-the-job training and learning have developed my knowledge and skills.

Why drug discovery?

Working in drug discovery projects is stimulating, challenging, and technically demanding. As many research projects fail to reach the final stages of development into a marketable medicine, sometimes drug discovery can also be disappointing and frustrating. However, there is never a day you could describe as dull or boring.

What do you most enjoy about your job?

Almost everyone I work with on a project is highly motivated and committed to their work, and they are striving to solve problems all the time. It's a great working environment, and when we get it right and take another small step towards creating a new medicine, the sense of achievement is fantastic.

What other skills do you need?

In addition to technical skills, knowledge and experience, good oral communication and presentation skills are essential – there are lots of presentations to give! The ability to motivate, influence and convince others, sometimes from different nations and cultures, is also very important.

Why is it useful to study a science subject at university?

Drug discovery is founded on the basic principles of chemistry, biology and pharmacology so it is essential to have a science-based degree. In addition, an education and training in scientific rigour and interpretation of scientific data are very important skills to acquire to enable the production and correct interpretation of quality results, without which projects could go off in the wrong direction.

Further information/contacts

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