Industry Overview
The UK bioscience sector is large and vibrant, second only to the US in terms of size. One in five of the world’s top medicines were discovered and developed in the UK. There are opportunities for careers in both scientific and non-scientific roles, as well as a diverse range of therapeutic areas and working environments from which to choose, from large pharmaceutical companies employing thousands of employees to small biotech firms with a handful of research scientists.

The Pharmaceutical Industry
The pharmaceutical industry is truly global, dominated by the USA, UK and the rest of Europe. The largest firms have research and development sites in numerous companies and operate within a global market for medicines. In the UK the pharmaceutical sector employers over 73,000 people and has a strong R&D presence with approximately half of these employees working in R&D roles. As well as being at the heart of scientific development and innovation, pharmaceuticals are a major global business sector and as such offer opportunities to work in a range of non-technical roles from marketing and sales to regulatory affairs, quality assurance and licensing.

Find out more about Pharma
The Association of the British Pharmaceutical Industry
http://careers.abpi.org.uk/Pages/default.aspx
Represents the pharmaceutical sector within the UK and has a comprehensive careers website

1 in 5 of the world’s leading medicines were discovered or developed in Britain.

The Biotechnology Industry
Biotechnology essentially involves the modification or processing of living organisms to create useful new products. The oldest forms of biotechnology include brewing beer or the processing of dairy products, but in recent years, biotechnology has become a multi-million pound global industry at the cutting edge of many medical, renewable energy and agricultural developments. According to the Department for Business, Innovation & Skills, the definition of a bioscience company is ‘emerging companies which have as their foundation a novel approach to the discovery and/or development of new human therapeutics, including new therapeutics which are either biologics or New Chemical Entities (NCEs), which are not large pharmaceutical companies.’

In 2003, there were approximately 450 biotechnology companies in the UK employing about 22,000 people. Many of these are small companies, often starting out as university research projects which then attract funding to become ‘spin out’ companies (for example, Proximagen, a company originating from research done at King’s College London: www.proximagen.com).

Routes in
Many of the research roles require a high level of knowledge and skill and are often filled by people with a PhD, so if you are interested in pursuing a career in research it is worth considering further study in your chosen field. However, there are some openings for first degree graduates, particularly in the more commercial aspects of the industry, such as project management, marketing, sales or investment and finance, and it is sometimes possible to get a graduate level research position within some of the larger biotech companies.

Find out more about Biotech
The BioIndustry Association
www.bioindustry.org
Lots of valuable industry insight and information in its ‘Media Guide’.

One Nucleus (formerly the London Biotechnology Network)
www.onenucleus.com
Includes lists of companies in the London area and arranges regular careers events:

Challenges in Bioscience
One of the biggest challenges facing the sector over the next few years is attracting sufficient finance to continue with novel therapeutic discovery work. Biotech companies rely on external funding from investors (venture capitalists or ‘business angels’) to fund the development work of a novel product before going to market and gaining any return on the investment. It can take 10-15 years for a novel product to make it to market – a long time in investment terms – and so the classic funding model has been to secure several injections of funding over the development period before raising more money through the issuing of shares. However, the recent economic climate has made it even harder for start-up companies to find sources of investment. The BioIndustry Association has produced an introduction to bioscience financing as part of their media guide which outlines the main channels and processes involved.

Roles within Bioscience
Roles within the pharmaceutical and biotechnology industries are loosely divided into research and development roles, and commercial or support functions. Opportunities to work in drug discovery exist in both sectors and it is possible to continue as a bench-scientist throughout your career, or to move into management roles. Within the large pharmaceutical companies, there are entry points for school leavers through to post doctoral candidates, and some offer opportunities to study for higher level qualifications alongside practical work. Top tip: job titles can vary across companies so widen your search and look for content rather than title

Research and Development roles
Many graduates who are interested in staying in active research go on to work in research and development (R&D) roles. Modern drug discovery involves numerous discovery
and development stages with specialists from a range of backgrounds working together at every stage. There are opportunities to specialise in particular therapeutic areas or to develop technical expertise in specific laboratory techniques.

**Clinical Research Associates**

Clinical Research Associates (CRAs) are responsible for coordinating clinical research trials of new drug treatments before and after they are released as medicines. This is a professional role for graduates with a life science or healthcare background, and involves working with a range of different people to coordinate the trials and negotiate applications for regulatory authority approval. CRAs can work for pharmaceutical companies or for independent Contract Research Organisations (CROs), and more experienced professionals can go freelance. Training is on the job, with opportunities for progression to more senior positions through CPD activities.

**Commercial/Support Functions**

This area of the industry covers a wide range of roles, including sales, marketing, public relations, personnel and management services. It is not usually necessary to have a life sciences background to do many of these jobs, although knowledge of the biosciences and the drug development process would be an advantage. Each role will look for graduates with a different set of skills and so it is important to research the full range of roles carefully to identify jobs that might suit. The ABPI careers website has a bank of job profiles within the pharmaceutical industry.

**Regulatory Affairs**

Regulatory Affairs covers all aspects of the legislative safety of pharmaceutical products, from keeping up to date with new legislative requirements, to preparing documentation for the licensing of a new product.

The Organisation for Professionals in Regulatory Affairs

[www.topra.org](http://www.topra.org)

The professional body which provides information on the career roles and opportunities within the area of regulatory affairs.

**Getting relevant experience**

Having relevant experience is a significant boost to any application, and many roles will only be open to people with some previous experience. This can be found through a variety of means. For laboratory experience, it is a good idea to consider a summer placement with a company or university research group. The handout on ‘getting laboratory experience’ provides some ideas and starting points. For other roles, it is sometimes possible to find summer internship schemes with larger companies. Alternatively you should explore setting up your own experience through contacting relevant companies directly.

The Association of the British Pharmaceutical Industry

[www.abpi.org.uk](http://www.abpi.org.uk)

The ABPI provides a list of bioscience companies who offer work experience and placements on its careers website.

**Research and networking**

It is important to spend some time researching the sector to identify all the possible opportunities that might be open to you and to decide in which environment you might like to work. Recruitment into research roles is often through word of

**Advertised vacancies and recruitment agencies**

Jobs will typically be advertised in scientific publications or online sites such as New Scientist or Nature. Some of the larger pharma companies will also post vacancies on their own website or have specific sections of the site devoted to graduate career opportunities. Some specific roles are recruited for by specialist recruitment agencies so it is worthwhile finding out who carries out recruitment in your field. It is also a good idea to contact larger companies to find out whether they tend to use specific agencies so that you can target your job search appropriately. The handout in this series ‘Recruitment Agencies and Job Sites’ will give you a list of starting points for your job search.

**Speculative approaches**

It is still the case that the majority of roles in this sector are not advertised and so you should be prepared to contact companies speculatively: researching potential organisations and targeting them with your CV. Sites like the ABPI (www.abpi.org.uk) and the BioIndustry Association (www.bioindustry.org) provide online databases of companies from which you can compile your shortlist.

**Further Resources**

**King’s CareerConnect**

[www.kcl.ac.uk/careerconnect](http://www.kcl.ac.uk/careerconnect)

King’s CareerConnect is our exclusive online career portal enabling students and recent alumni to engage with our services. Once logged in, you can access our vacancy board and search hundreds of part-time roles, placements, internships and graduate-level opportunities, book one-to-one careers or application guidance appointments, apply for exclusive King’s Internships and view our full events calendar to book attendance at our many events throughout the year.

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