

www.rsb.org.uk

Biochemistry Careers Resource Guide

www.rsb.org.uk/careers





This reference guide highlights the careers support provided by the **Royal Society of Biology** and **Biochemical Society**.

- Clickable URL links appear as www.domain.com

You can find out more about the **Royal Society of Biology** at www.rsb.org.uk





We would like to thank the **Biochemical Society** for their generous support for this project, which has allowed us to produce this Initial Teacher Education resource.

This is part of a collection of new careers resources which help teachers highlight to their students future careers and the opportunities of studying bioscience subjects beyond school, such as biochemistry.



Careers

Biochemists study the chemical processes that happen in living organisms.

Job titles you might see for biochemists:

- Biotechnologist
- Cosmetic scientist
- Food technologist
- Government adviser
- Clinical biochemist
- Lawyer
- Pharmacologist
- Publisher
- University researcher
- Sales representative



What biochemists might have studied:

- Biochemistry
- Biomedical science
- Biotechnology
- Cell biology
- Genetics
- Immunology
- Molecular biology
- Neurobiology
- Pathology
- Pharmacology




What skills biochemists might have developed:

- Analytical skills
- Creative thinking
- Experience of writing reports
- IT skills
- Leadership
- Numeracy and maths
- Observational skills
- Planning
- Presentation skills
- Problem solving
- Scientific techniques
- Self-motivation
- Team working
- Time management



Make a Difference

Posters and a website highlighting career paths biologists can take:



Make a difference
with a career in biology

Medicine
When we are ill the correct diagnosis is vital in planning the medical treatment needed to cure us.

Clinical biologists work in hospitals helping to find out what is wrong. They:

- analyse blood, DNA, tissue or bodily fluids
- interpret test results
- diagnose diseases
- advise on treatments

Research biologists also play a vital role in medicine. They study how our bodies work and what happens when things go wrong. Understanding what causes diseases allows them to develop new treatments and diagnostic techniques.

Follow a career in biology and you can make a difference.

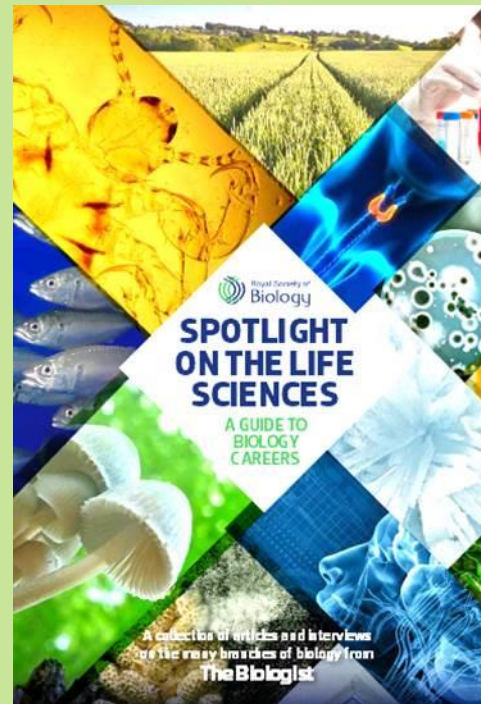
You could play a key part in diagnosing, treating and curing diseases.

www.societyofbiology.org/careers

www.rsb.org.uk/make-a-difference

Spotlight on the Life Sciences

A guide to biology careers which includes interviews with biologists:

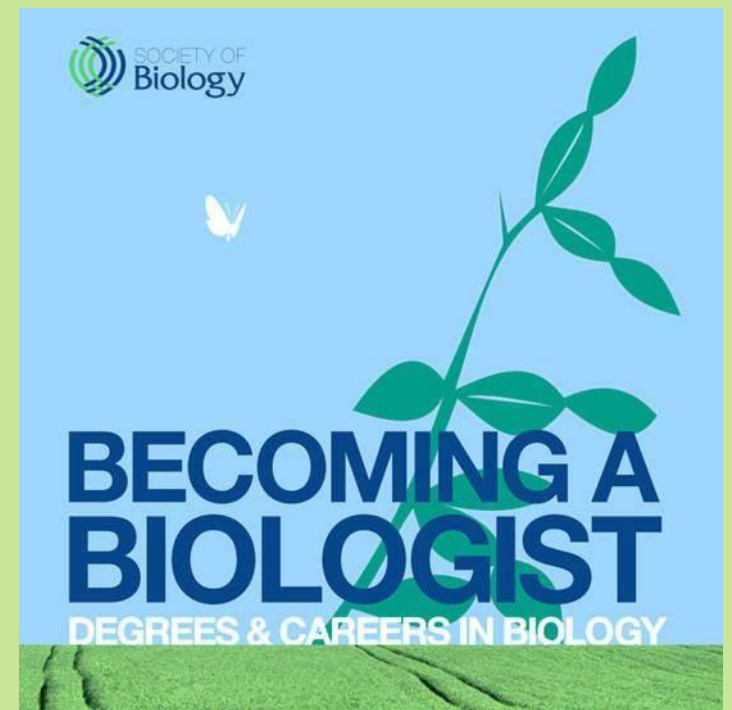


www.rsb.org.uk/spotlight

Becoming a Biologist

Includes information on:

- Biology degrees and alternatives
- Applying to university
- Getting work experience

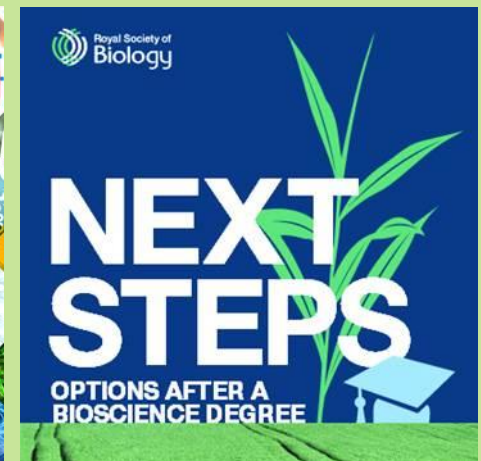
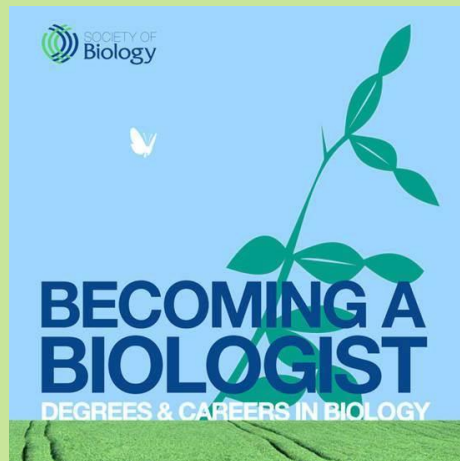


www.rsb.org.uk/becoming-a-biologist

Further support from the Royal Society of Biology

Careers information and guidance resources all available online via:

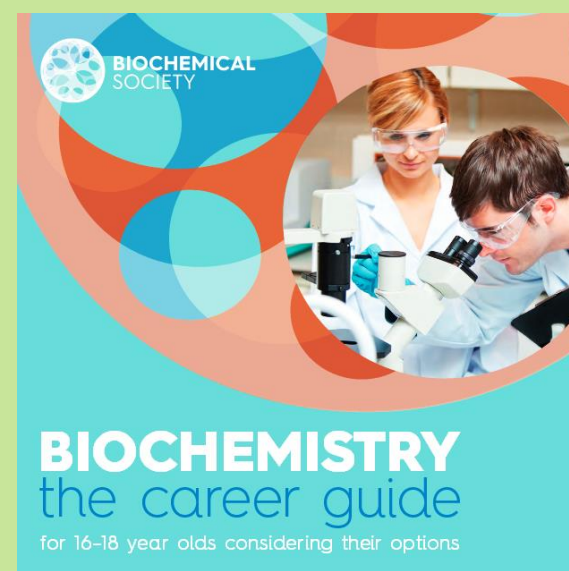
www.rsb.org.uk/careers



Biochemistry: the career guide

Includes information on:

- Biochemistry courses and their content
- Careers options
- Biochemist careers profiles



www.biochemistry.org/Portals/0/Education/Docs/Biochem_Booklet_web%20NEW.pdf

Careers profiles



Royal Society of
Biology

Profiles of people
working in a variety of
biochemistry-related
jobs:

CAREER PROFILES



FIONA RUSSELL
Postdoctoral
Research Fellow

What did you study at university?
I was interested in biological sciences, and biochemistry offered a wide range of topics, so I decided to study for a four year integrated Masters degree in Molecular and Cellular Biochemistry at Oxford. In my final year, I had the opportunity to carry out a three month research project. I was particularly interested in disease based research, so I chose to study how diseases affect what happens to the cells in our bodies. The project allowed me to gain valuable hands on practical experience and gave me an insight into what a research-based career in a lab might be like.

What did you enjoy most about your degree?
It was whilst carrying out my research project at university that I really fell in love with scientific research. The practical experiments that were carried out in the classroom in the first three years of university weren't always a true reflection of what it was like working in a real lab, so I'm glad I got this experience during my course. This was when I decided I wanted to carry on with research after my degree, and stay at university to do a postgraduate qualification.

What did you do after university?
I did a PhD in Pharmacology at King's College London, specialising in inflammatory pain (when swelling occurs after injury). I was sponsored by Pfizer, a large pharmaceutical company which produces drugs for use as medicines, so I was lucky enough to carry out some of my studying with them. It also allowed me to get a taste of what it was like working as part of a large scientific company. After completing my PhD, I was keen to continue with scientific research but also wanted the experience of being in another country, so I looked around for scientific labs that I would like to work in. I found a lab in Calgary, Canada, that worked on joint pain and arthritis, and that specialised in using many new techniques for research. I met the head of the lab at a conference and together we arranged a job for me in the lab, where I still work now.

What are the main duties of your current role?
My main duty as a research scientist is to undertake novel research. Most of my time is spent carrying out experiments in the lab. I record the number of action potentials (or signals) being from joint nerve fibres in

PHD:
a qualification taken after your first degree that can be gained in numerous subjects. It is the highest level of degree, and normally takes 3-4 years to obtain. Once you gain a PhD, you are called a Doctor of your chosen subject.

Pharmacology:
the study of how drugs affect the human body

response to different drugs. I then analyse my data and interpret the results. Alongside my practical work, I regularly present my research at seminars and conferences, and I teach university students in smaller groups. I also write reports about my research for publication in scientific journals and spend time reading other scientific literature to keep up to date with progress in my field.

Why was your degree useful to you?
My undergraduate degree gave me a strong background in all areas of biology of science, which has helped me during my PhD and my current job. Science research often involves working with lots of different teams of people from different labs, so it is useful to have a basic understanding of all the possible techniques used for research. This also helps when publishing research, as you need many different types of background evidence to back up your work.

What are the best bits about your job?
I love that as a research scientist I can work pretty much anywhere in the world, as scientific research happens on an international level. Traveling to scientific conferences is another huge bonus which has allowed me to make friends in many different countries.

And the worst bits?
Contracts for jobs after a PhD are usually fairly short (up to 5 years), which means you need to apply for a new job every few years. However, this does give you an opportunity to move around, see new places and meet new people. Also, experimental work is

the lab can be quite repetitive at times, but it is definitely worth it when you get a breakthrough in your results. Plus there are so many other aspects of the job (writing, making presentations etc), so you never spend all your time at the lab bench.

FURTHER INFORMATION

Information about PhD's (Prospects)
www.prospects.ac.uk/postgraduate/CareerIdeas/Prospects
www.prospects.ac.uk/options_biology_career_areas.htm
Biochemistry careers information
www.biochemistry.org/careers
General science careers information
www.futuremorph.org

WHAT IS BIOCHEMISTRY ?

Biochemistry is the branch of science that explores the chemical processes that take place inside all living things, from bacteria to plants and animals. It is a laboratory-based science that brings together biology and chemistry, by using chemical knowledge and techniques to help understand and solve biological problems.

For more information visit
www.biochemistry.org/careers

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www.biochemistry.org/Education/Schoolsandcolleges/Careerprofiles.aspx



**BIOCHEMICAL
SOCIETY**

BioPathways

A website of short video interviews of people who have studied bioscience degrees:



www.youtube.com/user/BioPathways



Biochemistry: The Molecules of Life

A free online course
which introduces
biochemistry, including
career opportunities:



www.futurelearn.com/courses/biochemistry

Further support from the Biochemical Society

Careers information and guidance resources all available online via:

www.biochemistry.org/education/schoolsandcolleges.aspx

