

Great jobs for bright people



10 Career Paths for PhDs

An ebook to help you explore options outside academia and identify your transferable skills

Introduction

Are you a PhD or early career researcher thinking ahead to a career move outside of academia?

Are you about to start a PhD and want to know the types of job opportunities open to researchers?

The good news is that for a variety of job roles and career routes the skills and expertise of a researcher are in demand. This e-book will help you to use your research skills and experience to stand out in the job market and to take steps to secure a job. Articles and case studies will bring to life how to make the transition from academia to alternative career paths.

10 career options will be explored to highlight the benefits and opportunities for researchers from a range of disciplines. The ebook ends with activities to focus on your personal situation and to help you develop a career strategy to secure the job you want and to build a successful career.

PhD routes and pathways – generating career ideas and options

PhD

Academic Career – Research and Teaching Options Using Professional Experience and skills Academic subject Professional researcher Specific PhD research Total change
Career unrelated to PhD
and/or academic background
Using generic
employability skills

Broadly speaking PhD and early career researchers build their career with a focus on one of the key routes illustrated in this PhD Career Paths diagram.

Increasingly researchers adopt a portfolio approach throughout their career, building up expertise and experience in all three strands at various stages in their working lives. Whilst the focus of this ebook is on this middle strand we encourage you to reflect on this broader context.

Clare Jones, Senior Careers Adviser at University of Nottingham uses this diagram as a way to broaden the horizons of the researchers she works with, helping them to reflect on where they fit and as a starting point to consider options outside of academia.

"Making decisions about your post PhD career is challenging and it can be tempting to focus your decision making on finding a job. This can mean that you miss opportunities to explore a greater range of possible career options. The graphic, "PhD Routes and Pathways" is intended to offer a number of "triggers" for a wider review of possible options, for example do you want to explore using a particular experience or skill, such as communicating your research, as the starting point, or could you also explore options using your generic research experience and skills? This ebook mainly focuses on the middle strand of the diagram but remember that you can also make a complete change and move into careers unrelated to your PhD or academic background. You can also explore options that could enable you to remain in academia but in roles other than research."

Clare Jones, Senior Careers Adviser Research Staff/Postgraduate Research Students



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This ebook builds on content from the popular jobs.ac.uk ebook

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Using research skills in jobs outside academia

So you enjoy research. But you are unsure if an academic career is right for you. How else can you use your research skills?

You may find a research post outside academia that uses the full range of your skills – perhaps in a biotech start-up or social policy 'think tank'. But these opportunities are rare, so do consider alternatives.

A good first step is to identify your strongest skills and those you most enjoy using.

So find or make a skills list – the headings here are just examples but a good place to start, you can add a couple of your own ideas at the end or of course write your own list. Give yourself a mark out of ten firstly for your strength (10 = strongest) in that skill and secondly for the enjoyment you derive when using it (10=most enjoyable).

Skill	Strength Score	Enjoyment Score
Literature reviewing – finding, reading & analysing complex documents		
Qualitative research - getting information from interviews and/or focus groups		
Quantitative research - finding patterns, correlations and causal relationships in data		
Developing an international perspective - working with overseas colleagues		
Writing - conference papers, progress reports, newsletter articles, the thesis itself		
Oral communications - to large audiences, to small-groups or just chatting about your work to non-specialists		

Most of us will have a pattern of stronger and weaker skills, and a separate pattern of those we enjoy more and those we enjoy less. With a bit of luck we can find a match. So think most about finding a career which values the skills you are strong in and that you enjoy using. Here are some examples.

Literature reviewing

Finding, reading & analysing complex documents

Very few jobs outside academia require the high-level literature reviewing skills developed during postgraduate study. But working in many areas of central or local government, or in those sectors – such as health or housing – that depend on government policies for their income, requires people to be able to 'read between the lines' of policy documents and to understand the thinking behind the development of such policies.

Qualitative research

Getting information from interviews and/or focus groups

Those who enjoy qualitative research – often finding information from interviewing people - have a huge range of job opportunities. Many jobs, such as sales, market research, and product development, will need people to find out information from customers – and not just 'Would you like fries with that?'. Those not in front-line roles will still have so-called 'internal customers' – people in other parts of the organization who depend on their work, and will help to define what is required.

Nowadays even in roles such as computing or finance, not previously associated with 'people skills', there is increasing awareness of the value of such skills.

Ouantitative research

Finding patterns, correlations and causal relationships in data

If your strengths and interests lie in working with data, think how your skills can be used in different sectors. Particle physicists are good at filtering large amounts of data to find small numbers of significant events, perhaps in searching for the Higgs boson. These skills could be useful in the analysis of seismic data for oil companies, financial data for banks, or patient data in the NHS, to spot patterns of successes and failures in patient care.

Similar data skills could be used in government to answer questions of economic and social policy, such as 'Do changes in housing benefit mainly affect poor tenants or wealthy landlords?'The answers are not easy to find – and those with the skills to find significant patterns in complex data are much needed in these areas.

Developing an international perspective

Working with overseas colleagues

Many researchers have the chance to work on international projects during their PhD or postdoctoral research. Such experience can be useful outside academia. Too many UK-based organisations have little awareness of the world outside the UK, and a graduate who can add information on how things are done in other countries can add value, making these employers more open to different ideas and more successful.

Writing

Conference papers, progress reports, newsletter articles, the thesis itself

Perhaps the most enjoyable part of your research is the writing? Very few jobs outside academia require thesis-length written work. But many will require proposals for new projects, bids for funding, and progress reports, so the ability to write clearly and concisely will be useful.

In many jobs there are also chances to write conference papers or journal articles. These may not be as formal or rigorously-referenced as academic papers, but they do help to make your reputation in the business sector. It is also useful to have a few publications on your CV in case you decide to return to academic life in the future



Oral communications

To large audiences, to small-groups or just chatting about your work to non-specialists

If you enjoy speaking more than writing, the good news is that jobs requiring the ability to talk confidently in front of colleagues and/or customers are widespread. Most large employers will also provide training in public speaking - do take advantage of such training if it is offered.

So if you want a change from academia, do think about your research skills, strengths and weaknesses, and your likes and dislikes. Bring these out in your job applications and interviews, and your research skills will find a suitable home.

Author: Nigel Peacock

When I am discussing career options with PhDs it can be surprising to find that they do not recognise the professional and generic skills they have acquired. They may not often describe themselves as problem solvers, analytical and critical thinkers yet they employ these skills as a fundamental part of their work and could continue to use them in a future career or job. To add to the problem opportunities using these skills may have many and varied job titles and not include the word "researcher". I would advise all PhDs to step back from the specific topic of their research and consider all the skills and experiences they use in their work. They can then use this knowledge in a job search and consider opportunities which will utilise these skills and experiences.

Clare Jones, Senior Careers Adviser Research Staff/ Postgraduate Research Students

Translating your skills from academia into business

Have you ever considered taking your academic and research skills into the world of business? You may be seeking a fresh challenge or simply want to enjoy a second income.

Academia and business may seem poles apart but you may be surprised at how portable your skills are.

Subject expertise

Well-trodden routes include:

Research for external bodies

This may be for privately owned foundations or for business organisations. Roles in industry are more numerous for scientists and engineers, but there are also many possibilities in quantitative subjects (in finance and consulting) and in social sciences (for example in thinktanks and market/ social research) as well as pockets of opportunity in the arts.

Consultancy

Opportunities in the commercial world vary depending on subject .You may be able to offer consulting services direct to organisations in your field or via commercial consultancies.

Other potential areas to apply subject knowledge are:

- Academic Publishing (including writing school and undergraduate textbooks)
- External Examination setting and Assessment (for professional bodies as well as academic boards)
- Journalism (both print and online)
- Private Tutoring for individuals and groups and Guest Lecturing.



Teaching skills

Teaching and public speaking skills can transfer into training and development roles in private business beyond your subject area. Your skillset may include:

- Designing, preparing and delivering lectures
- Designing e-learning modules
- Facilitating small group seminars
- Addressing peers at conferences
- One to one tuition and coaching
 Providing feedback and assessment.

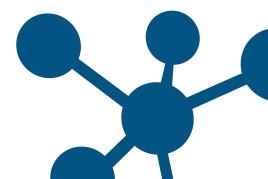
Roles in organisations and training consultancies may include;

- Delivering training and lectures
- Identifying training needs for individuals and groups Designing training interventions involving external suppliers.

Interpersonal skills

Along with the communications skills learnt in a teaching environment you may have developed:

- Influencing and negotiating skills (from writing funding bids, securing resources from within your department etc.)
- Creating and presenting ideas (in your teaching, or to draw in external funding)
- Team working
- Mentoring and coaching (of early career lecturers and PhDs/post docs).



Management skills

This may be an increasingly large part of your role involving:

- Project Management
- Line Management (hiring, developing, motivating and assessing performance)
- Financial and resource management
- Marketing (e.g. student recruitment).

These skills are in great demand in business in areas as diverse as sales, management consulting, human resources, public relations, facilities management, procurement and so on.

A quick search of the jobs.ac.uk jobs listings brought up:

- A health consultancy advertising for a medical writer
- A chain of private colleges recruiting an Education Liaison Executive for schools
- A food manufacturer needing a New Product Development Technologist
- A hedge fund with opportunities in scientific/financial research.

Refine your search by seeking 'Commercial Organisations' in 'Employer Type' and make sure you sign up for email alerts.

Author: Lisa Carr



Moving out of academia - Case study

Dr Lydia Harriss - Welcome Trust

Dr Lydia Harriss took up a post in a non-lab based role at the Wellcome Trust after completing her PhD at the Life Science Interface Doctoral Training Centre at the University of Oxford.

"I knew from my research and extracurricular activities, that there were certain skills I really enjoyed and wanted to continue using, such as writing, teaching, presenting and working with others. These factors directed me towards



'science communication' related jobs. As this is a very broad field in itself including areas such as journalism, broadcasting, publishing and museum curation, I knew that I would need to gain a better understanding of what these roles involved and what I would enjoy the most. I set about gaining experience whilst doing my PhD. This included volunteering at science festivals, helping at museums, tutoring and getting involved in running skills training workshops at my university."

Why change direction?

What we want from our career depends on our motivations, values and what is important to us. We are likely to seek out a new direction if our current situation is not completely aligned to what we want from our work life. Here are possible reasons for a change in direction:

- Are you drawn to gaining experience in a new sector?
- Are there are no suitable jobs in academia?
- Are there aspects of your research which you don't enjoy?

Whatever your reason for considering a change, it is important to gain clarity about what it is you do want from a job. Lydia for example realised that she wanted to use and develop the scientific knowledge that she had gained through her PhD.



Making a successful move

As we can see Lydia identified aspects of her work as a researcher which she enjoyed and she went on to research jobs in line with her preferences. She gained relevant work experience, of benefit both for her CV and to help her to understand the type of work she was best suited to.

Here are some further tips, based on insights shared by Lydia:

- Build up your network. Take the chance to meet and talk to new people. Tell people what you're interested in doing and they will also keep their eyes open for opportunities for you.
- When applying for jobs, be ready to 'repackage' your PhD. Think about it in terms of the transferable skills you've developed and experience you've gained. Don't expect people to already know what a PhD is and involves, be ready to tell them.
- If you have an extended job hunt, try to have something else running alongside (paid work / volunteering) so it's clear to employers that you're taking an active approach and are continually developing your skills.
- Make the most of your careers service. I found them very helpful for advice on CV layout, covering letter feedback and interview preparation. Tailor your CV for each industry or sector that you apply to. My academic CV was very different to my industry, science communication and publishing CVs.

Benefits of a move to a new sector

Gaining experience in a range of sectors is likely to provide you with a strong basis for developing a rewarding and successful career. It enables you to:

- build a portfolio of skills, achievements and experience
- demonstrate the ability to adapt to new environments
- engage with people working in different sectors
- take the opportunity to find out what interests you most in your work

"The Wellcome Trust is a diverse organisation providing me with a great way of getting experience across a range of different fields. I'm enjoying the much faster turn-around of work. It's refreshing to be able to complete an article in a few days or weeks, compared to the months that it can take to write an academic paper or book chapter."

Taking your PhD with you

The investment you have made to gain a PhD will not be lost with a move out of academia. On the contrary taking your PhD in to sectors outside academia can be of great benefit to you and the wider community.

"I've found that my PhD has been directly helpful with the articles that I'm writing at the Wellcome Trust, as well a general ability to understand scientific journal articles. I think that understanding how research works and what it's like to be an academic will also prove helpful in the future, as I come into contact with more researchers."

Many thanks to Dr Lydia Harriss for her contribution.

Author: Jayne Sharples



Moving out of academia - Case study

Dr Ruth Doherty - Academic Publisher

It's not easy to find a job that utilizes your specialist knowledge as a PhD holder yet also provides a progressive career path. Many are looking outside the academic world for a rewarding career.

Ruth Doherty, Deputy Editor at the Royal
Society of Chemistry in Cambridge, is one such
person. Having obtained her PhD in Organometallic
Chemistry at the University of Bristol in Professor Paul
Pringle's lab, Ruth entered the world of academic publishing.

"I wanted to work in a field I knew well and I loved carrying out research," Ruth explains regarding her move away from academic work. "Although I considered post-doctoral positions, I didnti ultimately see myself working in academia in the long term so I made the decision to look for other types of work early on."

On working as a Deputy Editor

Regarding her current role as a deputy editor in academic publishing, Ruth says that "it involves commissioning articles for and promoting three journals for the Royal Society of Chemistry. I would say it's a really varied role including developing strategies, some science writing and marketing."

Among other duties, being a deputy editor requires meeting and networking with academics and writers. It also demands promotional campaigns using social media such as Facebook, LinkedIn and Twitter etcetera. "At the same time", Ruth continues, "my job definitely uses my knowledge of chemistry, which academics and others involved in the journals respect. Science is like a language – it has its own vocabulary and it is important to know and understand that, especially when networking with people from the academic world at conferences, which is where my PhD is particularly useful."

On finding work outside of academia and job hunting

Some might be concerned that their specialist knowledge and skills as a PhD student could be squandered outside of academia. Ruth maintains that it is "definitely a challenging environment to work in. You have to be creative and innovative, especially when it comes to attracting new authors and dealing with academics."

"My job requires that I keep on top of developments in the scientific world, and my research skills are definitely put to good use," Ruth continues. "In fact, transferable skills are very important when it comes to job hunting." She is adamant that PhD students have skills that appeal to employers. "You get a lot of skills from doing a PhD – not least time management, and conducting experiments. My advice is to be aware of what you've got to offer. In cover letters and interviews, you should spell it out – don't be embarrassed!"

She also lists teamwork, creativity and problem solving, and use of initiative as vital skills that all PhD students should have.

A career path, of course, is not always clear from the beginning. "If you're not sure what you want to do, get some work experience." Speaking to someone who works in the job you are interested in is good." Where can you find such people? "The Careers Service at your university can put you in touch with alumni who are key source of useful information before you go ahead and make it your career. I would also recommend voluntary work – blog writing, or contributing to a newsletter."

Making the move from student to employee is a big one. Ruth says that "working in an office was quite different to the lab. I wasn't prepared for that." But when asked if she would consider working in academia, she replies, "Personally, no. I enjoy working in publishing."

As of February 2012, Ruth has been the Managing Editor of the British Dental Journal based at Nature Publishing Group in London

Industrial research and development

Research and Development (R&D) in industry merges scientific achievement with industrial goals. It is a mentally stimulating field that demands practical and profitable results. Many researchers and academics are drawn to R&D in industry by its financial rewards and challenging work.

Industrial R&D employers

Many young science and engineering graduates are trying to find work that makes use of their skills. R&D puts their knowledge to good use. Typically, employers can be found in the following industries:

Pharmaceuticals

Communications technology

Automobiles and Aerospace

Banking and Financial Services

Defence

Fastmoving consumer goods (FMCG) manufacturing

The ideal employee

Research and development jobs demand a high level of subjectspecific knowledge as well as a methodical approach to finding new knowledge. A university education is essential, with science and engineering degrees being obvious key subjects. For postgrads, a Master's degree with a research component may qualify you for this kind of work, but employers generally look for PhD qualified applicants above all else.

R&D job description

The job itself is guite varied. In general, the R&D department will be responsible for assessing the strengths and weaknesses of current products and creating new research plans to make improvements or discover new uses for a product. Data analysis is used to determine a products suitability and to make a plan for its development. Most research is handled by a team, with one member being responsible for a specific part of the research. Therefore, it is important to be able to communicate your findings clearly to your colleagues, and also to other departments in the company who will assess a new product's viability in the market.

Finding a job

R&D doesn't have specific hiring periods, unlike other types of work. Jobs in R&D are consistently advertised on jobs.ac.uk, however. Industryspecific publications and websites will also be of use in securing a job.

Networking can be vital when it comes to finding an industry based R&D position. Your research supervisor should be a useful connection both to employment opportunities and to people working in R&D who can help you further. Seminars and conferences are sometimes held to assist academics who are interested in entering R&D in industry. This can be a chance to connect to other academics who have made the move to industry.



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Pharmaceutical industry

The pharmaceutical industry is a scientific field involved with the development and manufacture of medicinal drugs. Prescription drugs bring in hundreds of billions of dollars worldwide every year, so it's not surprising that industry jobs can be very well remunerated. At the same time, the competition among the major companies is fierce, so industrial jobs are strenuous as product development and market analysis is a constantly shifting dynamic.

Major pharmaceutical employers

The major employers in the pharmaceutical world are household names – AstraZeneca, GlaxoSmithKline, Johnson and Johnson, and Procter and Gamble, to name but a few. In the UK alone the pharmaceutical industry employs more than 70,000 people.

Typical jobs

The pharmaceutical industry is an industry in transition. Some major companies are shifting their operations to developing countries to cut costs, while others are outsourcing their R&D programs to contractors.

At the same time, browsing the job vacancies in this field here at jobs. ac.uk shows that there are still many opportunities for academics with a background in pharmaceuticals here in the UK and in other countries. There are also opportunities to join graduate schemes, which are ideal for applications with no direct experience of working in the field.

Broadly speaking, the two categories of jobs are clinical research and medical affairs. Clinical research involves product development, research and medical trials. It also requires publishing one's research and attending conferences – duties not too dissimilar to an academic role.

Medical affairs positions have a stronger commercial focus, requiring interaction with the marketing and business development departments of a company. It also requires more external communication as customers and clinicians will be approached for their input.

Benefits of working in the industry

Academia offers a lot of research freedom and challenging work for scientists, so why move into industrial jobs? One very appealing point is the change that industry research can bring about. Developing a new drug can benefit millions of people all around the world. The results of one's research are tangible.

Industry work will also put you in direct contact with others – other researchers in your team or your company will be there both to help you and to seek your advice. Academics considering the move to industry should research the background and working environment of each pharmaceutical company in order to find a suitable employer. Unlike universities, for-profit companies tend to have a huge variance in their ethics and ambitions.

Industry work is all about profit. Product development has profit as its starting point. As a result, pharmaceutical jobs can be financially rewarding with the potential for salaries that put academic pay grades to shame.

You can browse the jobs in the science sector on jobs.ac.uk



3 Engineering industry

The UK engineering industry is a major part of the domestic economy with around 5.4 million employees spread across 542,440 engineering businesses. It involves the design and production of everything from chemicals to vehicles

Engineering is one of the most popular subjects of study for university students, so it is important to research job options in this industry.

Typical jobs

Jobs in the engineering industry for academics would include such roles as product developer, salesperson (which demands engineering expertise) and traditional engineer.

Engineering industry jobs demand technical skills and knowledge that can only be gained through years of study or practical experience. Academics who want to move from HE jobs to industry jobs should look at utilising their research experience to obtain a job. Ideally, a candidate will have a PhD in a relevant area of engineering, as well as an understanding of the industry and the market, and practical knowledge of engineering processes.

Although the variety of jobs in the engineering industry is too wide to cover in this one article, you can get an overview by browsing the engineering jobs on jobs.ac.uk. You should also look through industry specific magazines and circulars, such as Engineering Magazine.

There are numerous engineering institutes, such as The Institute of Engineering and Technology. Joining these organisations can help you find a job and build a useful network.

Major employers in the engineering industry

Some of the largest companies in the UK are engineering companies, from the automotive industry to electronics to telecoms. There are countless smaller enterprises in this field, too.

Companies in the more advanced fields include Boeing, BAE Systems, and engine construction companies such as JLR and Rolls Royce. Chemical companies such as BASF are also included in this sector. Engineering jobs can be found at technology companies like Sony and Wolfson. One of the great features of working in engineering is the option to work abroad. Engineering skills are universally relevant so you could expand your job search to the US market, for example.

You can become a chartered or incorporated engineer through The Engineering Council, the UK's regulatory organisation for the industry. This will help you in your job search, and will be useful even if you work abroad as it is a status that is highly-respected worldwide.

Benefits of working in engineering

Engineering is a demanding field, requiring an understanding of the latest trends and technologies in very particular areas. For someone with an academic background, moving into an industrial job can be very rewarding as the work has a practical nature and results can be seen immediately.

There is also a lot of room for career development. After becoming a chartered engineer, opportunities in team leadership, management and advanced engineering roles will open up. It is a huge sector with opportunities both abroad and in the UK.

Explore more engineering jobs here.





4

Central government

As opposed to local government, which provides regional services, central government is responsible for nationwide policy-making and implementation in almost all aspects of life. There are around 400,000 civil servants working in the various government departments.

Careers in central government

Central government spans a massive range of potential careers across the innumerable departments and Non-Departmental Public Bodies (NDPBs). The Civil Service jobs website lists vacancies from across the UK, including jobs with the Welsh and Scottish offices.

Of particular interest to graduates and PhD holders, though, is the Civil Service Fast Stream. The Fast stream nurtures the talent of recent graduates in order to take on greater responsibilities within central government. It involves taking on a number of positions within one department during an initial induction term. The Fast Stream is a very highly rated graduate employer.

The skills that most graduates possess that are valued by the Civil Service include:

- Analytical skills
- Ability to communicate research findings
- Ability to apply research to real-life situations
- In-depth knowledge of specific topics

Finding a job

Central Government has its own Civil Service jobs website which lists current vacancies. Registration is required in order to apply for jobs. The websites of specific departments and NDPBs should also be consulted when looking for a job.

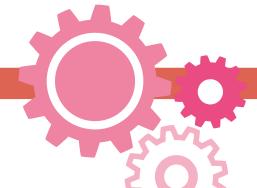
The Civil Service Fast Stream programme is also worth considering as an entry route. The Fast Stream website provides application information and is open to graduates from any discipline. Job advertisements within central government aimed at highly-qualified candidates and current academics can also be found on jobs.ac.uk.

Benefits of working for central government

As with most jobs in the public sector, central government work usually offers some excellent perks, such as 25 days leave in addition to the 10.5 public holidays a year. Flexi-time and part-time work is also common in this sector, as is childcare assistance, among other benefits.

Researchers are likely to enjoy the opportunity to apply their research and analytical skills to high level policy making situations.

Government departments are responsible for many aspects of life in the UK. Working in the Civil Service can be a means of improving society in general. Many employees in this sector say that job satisfaction is high. Read more about this in the article about benefits of working in public sector research. You may also be interested in the article outlining roles in Local Government.



S Research councils

Research councils are publicly-funded organisations that have the responsibility of providing support for postgraduate studies and to further increase knowledge in a variety of sectors, thereby contributing to the progress of public life. Research councils employ more than 12,000 people,of which 9,000 are researchers or technicians working in laboratories and facilities all over the UK and overseas. They are the main source of funding and grants for research students in the UK.

9 Research councils

The research councils have a partnership known as Research Council UK (RCUK). The members are:

Arts and Humanities Research Council (AHRC)

Biotechnology and Biological Sciences Research Council (BBSRC)

Economic and Social Research Council (ESRC)

Engineering and Physical Sciences Research Council (EPSRC)

Institute for Animal Health (IAH)

Medical Research Council (MRC)

Natural Environment Research Council (NERC)

RCUK Shared Services Centre Ltd (RCUK SSC Ltd)

Science and Technology Facilities Council (STFC)

You can find details of each one on our website. Each research council has its own subject-specific demands, such as the need for researchers in cancer related issues at the MRC. The entire network of councils is overseen by the RCUK Shared Services Centre. This centre covers administrative and management areas for the council, therefore it has a need for employees in various office-based roles.

Job types

As well as studentships, a variety of jobs can be found at UK research councils. These typically include roles in:

- Administration
- **■** Finance
- Science
- Technical roles

There are many opportunities for graduates in trainee roles that will provide experience in the field and training in personal development.

The ideal employee

- RCUK is looking for its employees to be:
- Passionate and professional at work
- Fun and enthusiastic.
- Understanding of the business needs of RCUK
- A sharer in the values of the organisation.

Its motto is "Professional people working together to deliver quality services for the benefit of the research community". Demonstrating how you display this as an employee will be to your advantage when applying for a job.

Finding a job

The RCUK has a bespoke recruitment website which lists jobs by type and location. Vacancies at research councils are also regularly advertised on jobs.ac.uk. As some of the jobs are involved with the most-advanced levels of research, industry magazines and academic publications also carry job adverts for research councils.

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Research roles within the NHS

Academics with a specialism in the field of medicine or biology may find employment outside of Higher Education in the NHS. The NHS employs over 1.3 million people in the UK in tota It can be a very rewarding field to work in, with many opportunities for career development and the chance to have a direct impact on healthcare in the community and across the nation.

Careers in the NHS

Those with research experience (PhD students) and a strong science or medicine background can find work in clinical research for the NHS, especially in the area of biochemistry and related fields. Healthcare Science in the NHS encompasses a variety of jobs that will likely appeal to academics who want to move away from work in Higher Education. Opportunities in every field of healthcare are available, and a strong science degree is essential if you are to apply.

The NHS operates a graduate training scheme in management. The requirements include a degree with second class honours, or a postgraduate qualification. Management in the NHS combines leadership skills with health care management techniques.

Typical jobs in the NHS for graduates include:

- Clinical research fellow
- Consultant
- Clinical academic
- Therapist and related roles.

Finding a job in the NHS

The NHS website offers a great deal of useful information for potential employees. You might also want to examine your prospects through the 'What Can I Do With My Degree?' website. The graduate scheme can be applied for directly.

Research positions are regularly advertised on jobs.ac.uk in the 'Health and Medical' section. You can also find out about jobs on the websites of individual hospitals (although most positions will also be advertised on the main NHS website, or external sites such as jobs.ac.uk).

Benefits of working for the NHS

Working in research and scientific roles in the NHS requires making use of the investigative and analytical skills that are gained from PhD study. Many people who have made the move from academia to the NHS cite the direct connection to patient care and the practical nature of the work as being positive factors. It can be rewarding to see theoretical study come to fruition in real terms.

NHS salary scales are relatively good; remuneration for a Biomedical Scientist, for example, £45,000 at senior levels, while consultants can expect a salary nearer the £100,000 mark.

Former academics and PhD/Postgraduate students have skills and experience that are prized in NHS roles such as:

- Research experience
- Analytical thinking
- Carrying out work independently
- Handling sensitive information
- Communication skills (writing, presenting findings etc.)



7 Careers in medical communications

This article focuses on careers in medical communications and describes the reasons why employers want to recruit individuals with research skills. Insights are included from the medical communications consultancy Oxford PharmaGenesis™ Ltd, one of many organisations which value the skills that PhD graduates bring to their business.

What is medical communications?

Medical communications agencies provide strategic consultancy services to help pharmaceutical companies educate physicians, patients and other stakeholders about new therapies and the conditions they treat. These communications activities are not confined to writing manuscript after manuscript, but instead use a variety of media to target a diverse range of audiences:

- Journal papers, conference presentations, product monographs and meeting planning are all directed at healthcare professionals
- Many publications are aimed at pharmaceutical company staff (e.g. training materials, publication strategy advice and information resources)
- Policy makers are an increasingly important audience, with value demonstration and health economics submissions playing a key role in patient access to medications.

Kim Allcott joined Oxford PharmaGenesis™ in 2011 as a trainee medical writer following completion of her PhD in cancer sciences and immunology from the University of Birmingham, and here she shares information about roles available in the field of medical communications: "While there is a wide range of roles within agencies, from account directors to team leaders, most PhD graduates will enter the industry as trainee writers or editors. At first, much of a trainee's time is spent developing technical skills and learning about new therapy areas, but writers will soon become involved with building client relationships and developing publication strategies, and editors will take on additional skills, such as coordination of print and digital media production."

What are the competencies employers are looking for?

To transition from your PhD research to a first role in science communication you will typically need to demonstrate the ability to perform at a high level in skill areas such as:

- Clear and accurate written and verbal communication
- Project management and organisation skills
- Subject expertise and ability to write evidence-based content
- Ability to work in teams.

During your PhD you will have developed many of these competencies and in your CV and at interview you will need to evidence and articulate your relevant strengths and expertise to employers.

Medical communications agencies often seek to recruit employees qualified to doctoral level as these candidates have typically developed valuable transferable skills. Oxford PhamaGenesis™ highlighted the following:

Research expertise – new employees are often required to work across several therapy areas, commonly in fields unrelated to their research background. The techniques developed through carrying out a research project and writing a thesis enable candidates to pick up new and complex concepts quickly.

Communication experience – PhD students have opportunities to present their research at conferences, in seminars and through written publications, all of which improve their ability to convey scientific information to a variety of audiences.

Understanding the publication process – publishing a paper can pose many challenges. Choosing the most appropriate target journal, understanding the type of content that will be of interest and learning how to respond to reviewers' comments are all skills that can be developed during a PhD.

Time management – balancing research with other commitments, such as teaching, writing and education, can be challenging. Successful PhD graduates often have excellent project management skills and strong organisational skills, both of which are vital when juggling several projects and deadlines

What steps can you take to get ahead in the medical communications job market?

Plan ahead – whilst you are doing your PhD, if you are seriously considering medical communications as an option, take every opportunity to develop relevant skills by speaking at conferences, getting published and finding opportunities to communicate your research to non-specialist audiences.

Gain experience or get a mentor in the sector – this will help you to find out whether you are suited to a job in medical communications and will also provide you with first-hand knowledge of the sector.

Find an organisation aligned to your values and motivations – employers will want to see that you have done your homework and that you are motivated to work for their organisation.

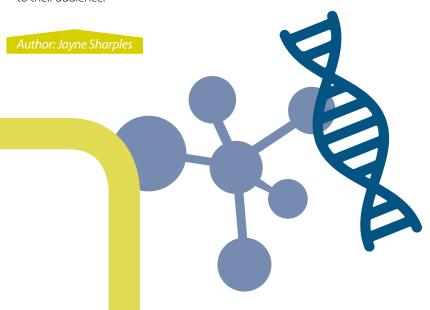
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Let's end with some further tips and advice from Kim at Oxford PharmaGenesis™:

- Get published! It may seem difficult, especially if your research is not as successful as you might hope, but there are plenty of other opportunities out there, such as writing for scientific magazines and websites. You could even start a blog
- Make the most of any training courses offered by your university. Many institutions provide writing courses to help with producing a thesis, or communications courses to aid effective presentations at conferences
- Hone your project management skills. Planning and executing your research will begin to develop these skills, but getting involved in different types of projects, such as organising a conference or running undergraduate projects
- Remember to tailor your CV for the role. Medical communications companies are not interested in an exhaustive list of laboratory techniques that you're now skilled in.

Look out for future articles which outline job roles and sectors which make good use of a researchers skilled ability to write, communicate and present to their audience.





8 Charity and voluntary sector

Over 180,000 registered charities exist in the UK alone, creating thousands of job opportunities, from the most generic area of administration, to specialised areas of research. For an academic considering a career move, or a post-graduate looking for some experience, the Charity sector is a tempting prospect.

What jobs are available?

Academics in the medical research area will already be well aware of the jobs available in the charity sector. The Association of Medical Research Charities has 123 members, who spend over £1.2 billion a year on research. Research positions are relatively easy to come by in this sector, but like academic work, project based work and fixed-term contracts are common.

Medicine isn't the only area in need of researchers. Environmental charities and wildlife conservation trusts employ researchers and PhD qualified applicants to carry out specialised projects.

In almost all areas of the charity sector, there are project management jobs and subject-specific roles that would appeal to someone of an academic background. Volunteering.org carries more information about jobs in the voluntary sector.

What jobs are available?

Charities Direct.com has a very useful list of the top 500 charities. Not surprisingly, some of the medical research charities rank highest in terms of income and expenditure. For non-scientific employers in the charity sector, The National Trust, The Arts Council and The British Council rank very highly.

Other major employers in this sector include such organisations as Oxfam, which was ranked one of the Top 100 graduate employers by The Times, as did Cancer Research UK. The Wellcome Trust employs researchers, doctors, artists and historians, and is one of the biggest organisations in the sector, funding thousands of researchers worldwide.

The ideal employee

More than one third of the employees in the voluntary sector have a degree or an equivalent qualification. However, there is still a need for people who specialise in law, funding and IT. You can also find graduate training programmes for newly qualified applicants.

For research roles, academic experience is vital. You should have a strong research background. Other key skills include:

- Excellent communication skills
- Ability to work independently (especially so for researchers)
- Strong organisation skills.

Finding a job

You can find listings of charity job vacancies here on jobs.ac.uk. You should also ask your university's careers service for additional information, especially when it comes to Graduate Training Schemes.

Charities normally advertise vacancies on their own websites. It's also important to attend careers fairs. Major charity sector employers attend these fairs and can provide extra information on how to apply, as well providing an opportunity to network and make contacts.



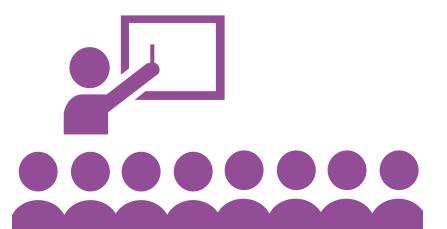
9 Careers in finance

This section highlights reasons why PhD graduates and early career researchers are in demand by recruiters in the financial sector. Insights are included from the Bank of America Merrill Lynch. The tips and insights will help you to think about steps you can take during your academic research to effectively prepare for a career change out of academia to the world of finance.

What are the competencies employers are looking for?

Financial organisations from global banks to investment banking specialists to private trading companies welcome applications from PhD graduates who can demonstrate relevant expertise and experience for roles requiring quantitative and research skills. Some of the larger organisations even have dedicated positions and internship schemes specifically for PhDs. In other cases PhDs will be applying alongside first degree candidates or experienced hire applicants, with the organisation not necessarily specifying that a PhD is required.

Employers will value PhD candidates with specialist quantitative and statistical training, and strong economic and numerical skills, typically recruiting researchers from mathematics, science or engineering fields, or economics or finance.



As well as the technical expertise, think more broadly about how your PhD can demonstrate your ability to:

- Solve complex problems and find creative solutions
- Analyse and synthesise large amounts of information and data
- Work under pressure and to deadlines
- Cope with unexpected results and find new ways to move ahead
- Communicate complex information to a range of audiences
- Work independently with minimal supervision and ability to make decisions.

What steps can you take to get ahead in the job market?

Articulate and evidence your key competences and experience in a well-written, concise CV or in an online application. Make sure that you tailor your application to the specific job role.

To stand out at the written application and interview stage ensure that you can demonstrate:

- An understanding and interest in financial markets and broader commercial awareness
- Examples of relevant work experience you have undertaken outside of academia, ideally in the financial sector
- Clarity about your career plans and a motivation to work in the organisation you are applying to
- Evidence of soft skills, such as managing others, working in teams and showing leadership.

Insights from by Lauren Saunders, Staffing Manager at Bank of America Merrill Lynch

"Bank of America Merrill Lynch's PhD programme enables doctoral students with high-level technical skills to put their intellect and ambition to work in a fast-paced, exciting environment that will challenge and reward a rigorous approach. Interns will be assigned across our Quantitative analytics and Algorithmic trading desks and the day to day responsibilities will vary accordingly.

Typically, as an intern you will:

- Grasp all opportunities to use high-level mathematical skills in a fastpaced, demanding business environment
- Apply research and quantitative analysis to real—world problems in several business areas
- Manage an intense level of interaction with colleagues and peers across all global markets functions.

To support candidates in their transition to our workplace we offer a bespoke development programme, unique to our quantitative hires, which runs throughout your internship including: Strategic overview of the company, focusing on the debt and equity businesses, sessions covering topics including how to add value in your role and communicating with impact. There are also several opportunities to interact and network with peers.

Candidates will need an advanced degree/PhD in a mathematical or financial discipline, along with a strong quantitative background and impressive problem–solving, analytical and communication skills. The ability to think creatively will be essential, as will familiarity with programming."

Author: Jayne Sharples

10 Careers in consulting

If you are interested to find out more about working as a consultant this section will provide you with tips and advice for using your skills and expertise as a researcher to stand out in a competitive environment.

What jobs are available?

The title consultant is used in a range of contexts and this article will consider the role in its broadest sense. Consultants typically provide expert, professional and independent advice to a client. The remit is usually to improve performance or manage a change situation and to implement business solutions. Most consultants work with multiple and changing clients on a project basis.

When we start to look at the day-to-day activities of a consultant we can see the parallels with the work of a researcher, such as:

- carrying out research and data collection
- conducting analysis and synthesis of information
- project management
- troubleshooting and problem solving
- making recommendations
- presenting clear and concise information

Transition from academic research to consultancy

So, the good news is that your academic research will provide you with some of the skills which employers of consultants are looking for. Added to this if you seek out opportunities where your subject specific knowledge and technical expertise is of value to the client, you increase your ability to attract work.

You also need to demonstrate knowledge of the commercial world and show an ability to adapt to non-academic environments.

Start to build experience and develop your skill set at every opportunity. The following are examples of skills required to succeed as a consultant:

- Critical business thinking skills
- Excellent influencing skills
- Resilience under pressure
- Ability to bring new perspectives and fresh ideas to a situation.

Take some time to add to this list by researching sectors relevant to your areas of interest.

Routes in to consultancy

Now you need a strategy:

- ► What type of environment are you suited to work in?
- Which sectors are employing consultants?
- Where do you see the future trends and areas of growth?

Employee in a consultancy organisation

A typical first step to developing a career as a consultant is to get a job in a large consultancy organisation. Here you would receive a high level of training and support to develop your skills. Opportunities exist across a whole range of industries and sectors, including financial services, healthcare, manufacturing, public sector, government, charities and education. For further information about working as a management consultant, go to the Prospects website.

In-house consultant

You can also look out for opportunities to apply to work as an in-house consultant, where an organisation would employ you as part of a permanent in-house team to provide expertise.

Self-employment

You may be more attracted to working as an independent, self-employed consultant taking on contracts on a project basis. Usually this route is an easier option once you have a track record and significant knowledge of the market place and industry. You need to be clear about your offer, and have excellent skills and knowledge to provide a professional service. Key to your success will be to deliver work of value, to build your credibility and your brand.

Dr. Darren Coleman shares with us how he has used his research knowledge and expertise to develop an offer to clients:

"My brand marketing PhD provides me with credibility when I approach clients. It also helps differentiate me in a crowded market as very few brand marketing consultants have a brand-related PhD. I use the knowledge I acquired during my PhD on a regular basis. This could be in the form of conducting research, analysing data or providing strategic brand marketing advice."

Ask yourself

- Which businesses will be interested in the knowledge gained from my research?
- ► How can I identify and research such businesses?
- How can I start to build experience?

Summary of practical steps

- Decide on the type of environment you would ideally like to work in
- Identify and contact companies who you are interested to work for
- Interview people like Dr. Darren Coleman to learn from their experience
- Be clear about how you add value
- Gain relevant work experience and build contacts
- Develop your skills and expertise
- Be proactive and strategic.

Author: Jayne Sharples

Activity: 5 tips to help you make the right move for you

Whether you are considering a move out of academia either by choice or necessity, these tips will help you to consider the potential benefits to you of working in sectors outside academia and to make the right move for you.

Tipno.1

Do your research - organisational culture

Moving to a sector outside of academia will provide experience in a different environment and culture. You will find organisations of all shapes and sizes, with differing organisational cultures and values.

Do your research, and seek out the jobs and organisations where you are likely to fit in. What is important to you? And how are your values and interests are aligned to those of the organisation? Look back through the ebook to help you reflect on what is important to you.

My options:

Tip no.2

Informational interview - alumni contacts

One of the most effective ways to find out about a potential career move and to ensure it is the right move for you is to interview someone from within an organisation of interest to you. Ask questions about the company, the individual's role and the culture of the organisation. This is often called informational interviewing.

Seek out an alum from your University who is doing a job which you are interested in. Ask them if they would meet up or speak on the phone so you can find out more about their career journey.

My notes:

Tip no.3

Use your skills and strengths

It is important to find a job where you can use your skills, strengths and expertise in the role. Even if you lack the direct experience an employer is looking for, consider how your expertise and skills gained in academia can transfer across.

"I believe academics have far more to offer the commercial world than either may be aware. Higher Education requires a depth and richness of thinking, a propensity to consider both sides of an argument, the ability to focus on the matter in hand, a reasoned and logical approach to problem solving, knowing the difference between the symptoms and a root cause, the ability to consider the bigger picture as well as the detail – to name but a few, and these are exactly the skills commercial enterprises need but often lack".

This is a quote from Doreen Yarnold, who has held senior positions in the automotive industry, and now has her own training and consultancy business.

Reflect on the skills listed in this quote and start a list of transferable skills and expertise you could offer in job roles outside academic research. Ask others for their opinion - often we don't see our own unique strengths and skill set. Remember also to factor in what you enjoy doing, as well as what you are good at. Go back to the Using your research skills in jobs outside academia article to help you complete this section.

My notes:

Tip no.4

What are the benefits?

Depending on the size of the organisation you decide to join, there is likely to be scope to progress your career in a number of ways including promotion, sideways and retraining opportunities. Commercial organisations tend to invest in the learning and development of employees who show potential, for example leadership training for high flyers and technical training aligned to the direction of the business.

Consider what you will gain from a move in to a sector outside academia?

The way we manage our careers is changing and it is increasingly the norm for individuals to change organisation and even profession multiple times in their career. You can move away from the traditional linear career progression, and still develop a successful career. In fact, gaining experience in a range of sectors is likely to stand you in a strong position with the dynamic nature of the jobs market. Longer term taking your new commercial skills back in to the academic environment could help you to stand out and develop a successful academic career.

My skills and expertise:



Tip no.5

Focus on moving towards

Try to focus your career move on what you are moving towards. The more that you can base your decision on what you are moving towards; the more likely you are to succeed and be satisfied. Employers want to see at interview that you have researched their company and are enthused and motivated to work for their organisation. You need to be clear about your motivations and what you can offer the employer in terms of your strengths and skills. This is particularly important in a competitive job market.

My actions:



Activity: Using your research skills to succeed in the job market

Complete this five step process to take you from goal setting to success in the job market. It will help you to tap in to your ability as a researcher so that you can approach your job search in a skilled and organised way.

Step 1: Scoping out and planning

Approach your job search in the same structured way you would any project. Establish your starting point and consider your objectives.

Ask yourself:

- What am I looking to achieve? By when?
- What are the milestones of my plan?
- What are the benefits of investing time and resources in this project?

My skills and expertise:

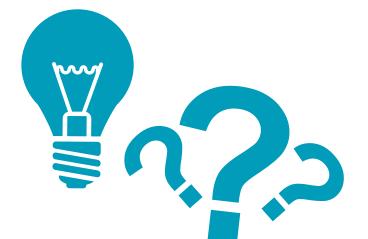
Step 2 – Identifying and analysing options

This step is particularly important if you do not know exactly what type of job you want. It is much like the stage of a PhD, where you explore options before deciding on your focus. Think laterally and consider all the options.

Ask yourself:

- What types of career paths do I want to know more about?
- What are my skills, strengths and interests? Which jobs would suit me?
- ► What trends and opportunities does the job market offer

My notes:



Step 3 – Developing a focus

Start developing a focus and clarify your thinking. What options do I find most appealing? What further research to a need to do to help me make a decision?

Note down the questions you want answered. For example:

- How do most people enter the profession?
- Is there a dedicated route in for PhD candidates?
- Is the field growing enough to accommodate someone with my skills?
- Are there opportunities for self-employment or consultancy in the field?
- What are the monetary rewards?
- How can I build my CV to succeed in getting a job in this field?

To help your research in steps 2 and 3:

- Use websites including employers' and specialist websites for PhDs
- Use press, business magazines and other specialist publications
- Speak to careers guidance professionals and experts in your chosen field
- Network with prospective employers and alumni
- Make the most of work experience, including teaching opportunities alongside your research
- Set up profiles on networking sites like LinkedIn

My focus:

Step 4 - Organisation, structure and discipline

Particularly if you are starting your job search whilst still working on your PhD, you need to be efficient. Set up systems to capture information and help you stay on track. Use an Excel spreadsheet, for example, to record contacts, job application dates and interview notes. In today's job market, unless you are lucky enough to get a job early on in your search, you need to have a system and build resilience to ensure success. Refer to the Jobs.ac.uk Career Planning e-book to get further tips on structuring your job search: http://www.jobs.ac.uk/careersadvice/resources/ebooks-and-toolkits/career-planning-ebook

My notes:



Step 5 – Presenting with impact

The final step involves creating opportunities and presenting yourself effectively. Parallels can be drawn with presenting and publishing your research with impact. If you have invested time in steps one to four, this final stage will be easier.

You should now know enough to confidently communicate:

- your skills, strengths and career goals
- the value you offer an organisation
- what interests you about the job in question

You will need to present this information in a number of contexts, including your CV, online application forms, online profiles such as LinkedIn, interviews and less formal networking face-to-face situations. Always remember to tailor to the reader and the situation.

Ensure you explore all routes to getting a job. As well as networking and replying to adverts, sign up to specialist agencies and make speculative applications.

My presentation with impact:

Finally, reflect on your ability to work analytically and effectively and with structure - in itself a skill set employers value.

Applying for Jobs - A Summary of the key points

If you are applying for jobs in sectors outside academia ensure that you are in a strong position to succeed by preparing well for the application process and marketing yourself effectively.

Plan ahead

Even if your aim is to develop a career in academia it is worth having a plan B to give you alternative options to fall back on in case you don't succeed in the competitive jobs market for a permanent post in academia.

Write a list of sectors you'd be interested to work in, identify organisations which are advertising jobs and do some research to understand the recruitment cycle and process. For example, does the organisation have graduate schemes with closing dates each year? Does the business specifically advertise opportunities for PhDs? For most jobs it can take about three months to go through the recruitment cycle, so if you want a job lined up for when you have completed your PhD you need to get started early.

What are employers looking for?

Recruiters are typically looking for employees who are motivated and demonstrate potential. You therefore need to be able to clearly articulate why you want the job, what attracts you to the organisation and your career aspirations.

Explore job opportunities and understand what employers are looking for by gaining relevant industrial or commercial experience or get a mentor in your chosen field. Also, take advantage of opportunities to meet prospective employers who come on your University campus, get advice from a careers adviser and use alumni contacts to research specific career paths and to make useful contacts.



Ensuring your application stands out

You've done the research and found the job you want to go for, now make sure that you market yourself effectively. The first hurdle is to make sure that your CV gets you through the initial stage of the recruitment process. Ensure that your CV is concise and tailored to the role you are applying for. Recruiters will want to see at a glance evidence of your skills and experience in line with the job description, so prioritise what to include and take out irrelevant content.

Increasingly application processes are online, so select from your CV relevant and impactful information to go in to the online application. Think creatively also about linking to further information in a well-written LinkedIn profile or website.

In addition to the CV prepare for other stages of the application process, which may include telephone interviews, online psychometric tests and assessment days before you get to interview. You are likely to find that small to medium sized companies have less formal recruitment processes, so in all cases do your research beforehand and adapt your preparation accordingly.

Networking and speculative applications

As well as applying for advertised jobs you may find it beneficial to send off speculative applications to organisations you are interested to work for. Be clear about what you can offer to the business, for example what problems could your research or research skills solve? It helps if you send the speculative application to a named contact in the organisation, so do some research to find out the best person to send the information to. Or better still, find opportunities to network and build up a contact list of influential people in the business and industry sector you are interested to work in. Let people know what your career aspirations are and the type of opportunities you are looking for. In the job market it is often down to who you know as well as what you know.

These articles on the jobs.ac.uk website will provide additional advice:

Career Mentoring for PhDs

Researchers: YOU are responsible for your career but who else can help?

Your PhD - Starting With The End In Mind

Non-Academic Career Options After your PhD

From PhD to Business Start-Up

About the Editor & Co-Author

Jayne Sharples is a freelance coach and consultant, specialising in career development, career change and design and writing of online career coaching resources. She combines her JS-Coaching freelance work with a part time role as Postgraduate Careers Consultant in higher education. Previously, she has worked in a variety of business development and project management roles within the corporate and higher education sectors.





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