Careers for Scientists

Penny Longman Careers Consultant 16 Jan 2020



Forthcoming events



Careers workshops (12.45-13.40 except where stated):

How to choose a career - now Thurs 23 Jan in LG 81

LinkedIn: why use it and how to get the most from it – Tues 28 Jan in LG2 (but check on Moodle in case that changes)

Student Seminars (12.45-13.40):

Public Health professionals working in Latin America – Fri 17 Jan in LG81 Next Seminar – Fri 24 Jan in LG81

Visa talk (12.45-13.45):

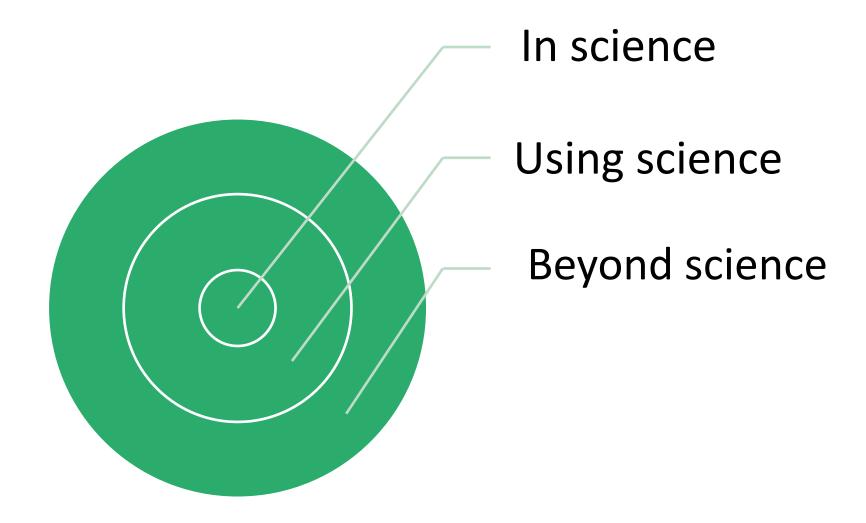
Working in the UK: visa options – Thurs 30 Jan in John Snow

Save the date

Global and Public Health Careers panel discussion – Tues 3 Mar (17.30)

How much science?





Examples



In science	Using science	Beyond science
 Industrial R&D eg pharma R&D Clinical trials Scientist training programme Public Health England Civil Service jobs Academia Lab work experience 	 Other roles within industry, particularly pharma/clinical trials Management consultancy Medical/science comms Health governance/ regulatory affairs Intellectual property Civil Service science and engineering stream Public Health England NICE Local Authority Public Health departments Teaching 	 Other roles within industry Management consultancy Public Health England Local Authority PH depts See Careers in Public Health in the UK session Something completely different

This session will cover

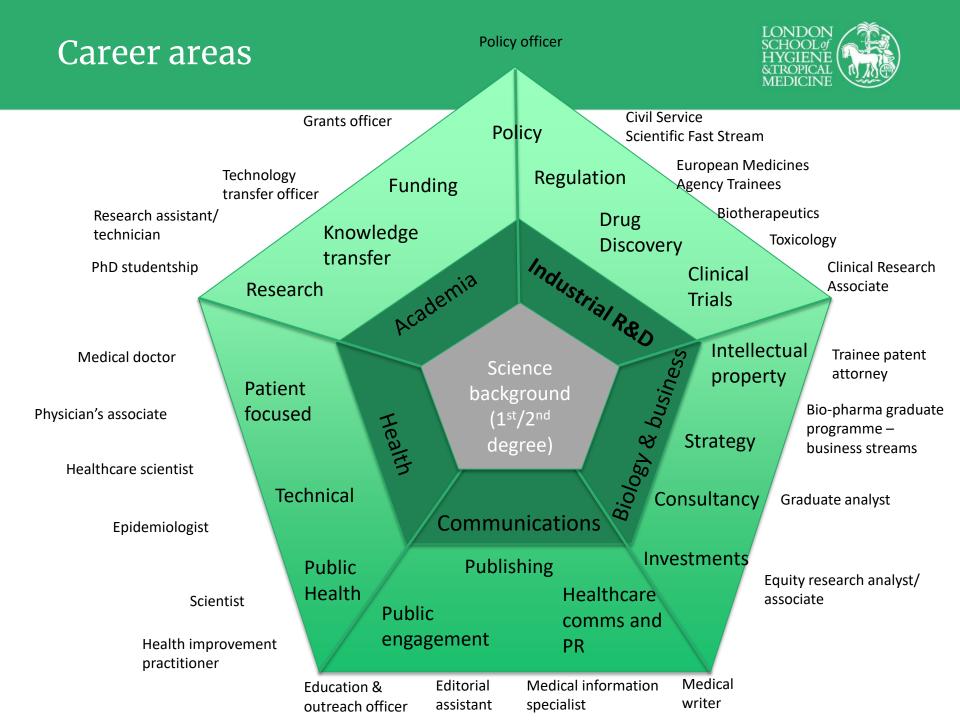


Career areas and types of organisations

- In science
 - PhD?
 - Steps towards science jobs
- Using science
- Beyond science

Resources

Questions



In science



Industrial R&D



Big pharma R&D

- -Graduate programmes eg GSK Future Leaders
- Experienced professionals

Contract research organisations (CROs) eg IQVIA, Covance

Association of British Pharmaceutical Industries: http://careers.abpi.org.uk

Pharma R&D jobs in many parts of the world

Research and development



Clinical programming

As a Clinical Programmer, you will get hands on experience in the analysis and reporting of clinical trials and play an important role in defining and implementing strategies to modernise data delivery for clinical development.



Drug design and selection

Contribute to the discovery of new medicines through the identification of targets and selection of molecules for future drug development.



Product development and supply

Help the vital work of moving new drugs forward from discovery through clinical trials and registration to the factory and beyond.





Regulatory affairs

Join the team that collects, collates and evaluates the scientific data which confirms the quality, safety and efficacy of our medicines.



Research and development (Consumer Healthcare)

You'll make consumers' lives easier through our targeted science efforts across the globe.



Research and development (Vaccines)

Work with the world's leading vaccine experts on new medicines to meet global public health needs.

Experienced professionals



Direct entry for those with experience eg: https://www.gsk.com/en-gb/careers/experienced-professionals/

Example: Scientist

Requirements:

- •Demonstrate experience across a range of cell isolation and transduction techniques using viral and non-viral approaches (including application of analysis techniques such as flow cytometry).
- •Demonstration of a range of orthogonal biological techniques associated with the development, engineering and the *in vitro* and *in vivo* testing of Cell and Gene Therapy medicines.
- •An understanding of the drug discovery process preferably in the area of cell and gene therapy and/or biopharmaceuticals
- •Basic and proven understanding of intellectual property and data integrity to support asset progression through pre-clinical research/development.

GSK Computational Biologist



Requires:

- •PhD and experience in computational biology, bioinformatics, computational sciences, machine learning or biomedical/biological sciences.
- •Expertise in a programming language (such as R or Python) and a good working knowledge of common bioinformatics databases, resources and tools.
- •Strong verbal and written communication skills to communicate complex concepts and computational analyses clearly to influence diverse audiences.
- •Sound understanding of statistics and biological concepts, coupled with data science skills to collect, integrate, mine and analyse complex biological data and translate them into testable hypotheses.
- •Demonstrated experience working within or leading collaborative multidisciplinary teams.

<u>Job listing (https://jobs.gsk.com/en-gb/jobs/227790?lang=en-us&previousLocale=en-GB)</u>

Clinical trials



Clinical Research Associates run clinical trials to test drugs for their effectiveness, risks and benefits

Involved in all stages: Set up of trial site, monitoring & evaluation, close.

Train site staff

Work closely with medical practitioners & regulators

Write trial protocols & case report forms, final reports / manuscripts for publications

Work for Pharma or **CROs**

Degree or PG degree in life or medical sciences needed

Considerable competition

Some companies may value relevant PhD

If no previous relevant experience try

Clinical Data Coordinator or Clinical Trials Administrator

Example CRO





Trainee – Start up specialist (France)

https://www.syneoshealth.com/

Join a growing international group that will allow you to evolve in a stimulating professional environment within a pleasant and dynamic team.

For this internship, you will join our CRO based in Porte d'Orléans.

Responsibilities

The missions will be to assist the Start-up department in the multiple tasks which make it possible to initiate studies in the centers, from the identification of the centers to the establishment:

- Preparation, collection and quality check of the essential documents of the sites participating in the clinical trial in order to authorize the establishment of the center and the release of treatments (CV, PCB certificates, FDF, FDA 1572 etc...).
- Translation and translation review of key regulatory documents
 Etc etc

CRO - IQVIA



Website https://www.iqvia.com/

Very big emphasis on data and analytics

"IQVIA™ is the leading human data science company focused on helping healthcare clients find unparalleled insights and better solutions for patients. Formed through the merger of IMS Health and Quintiles, IQVIA offers a broad range of solutions that harness the power of healthcare data, domain expertise, transformative technology, and advanced analytics to drive healthcare forward."

Roles such as Clinical Research Associate, Trainee Clinical Research Associate, also data scientist, medical statistician, epidemiologist (more on IQVIA under 'using science')

Some of the big names related to pharma



Company	Operational areas	
Covance	Clinical Trials	
GSK	Biology & others, including Business & Regulatory affairs	
MSD	Diverse, inc Clinical Research & Healthcare services	
Pfizer UK	Research & Development & Business	
Proctor & Gamble (P&G)	Diverse inc R&D and supply	
Lonza	BioResearch, Pharma. & Biotech, Water, Consumer Health	
Astrazeneca	Early drug discovery	
Novartis	Innovative Medicines Division	
Unilever	Consumer healthcare products and market research	



Home

Industry information

Working in the industry

Getting into the industry

Pharmaceutical Industry Career information from the ABPI

http://careers.abpi.org.uk/

PM Society careers event – careers in the pharmaceutical industry
Wed 12 February at the Royal Society of

Medicine. More info here

(https://pmsociety.org.uk/event/career-opportunities-in-the-pharmaceutical-industry)

→ Pharmaceutical Recruiters

- Virgo Health
- ▶ UCB
- TranScrip Partners
- ▶ Takeda UK
- ▶ Sunovion
- STAR Medical
- Shire Pharmaceuticals
- ▶ Shionogi
- Shield Therapeutics
- Servier Laboratories
- Sequani Limited
- ▶ Santen
- ▶ Sanofi
- Roche
- Randox Laboratories
- ▶ Quotient
- ▶ Quintiles
- ▶ PrimeVigilance
- Pierre Fabre
- ▶ Pharmaphorum
- Pharma Mar
- ▶ Pfizer
- PAREXEL
- Packer Forbes Communications
- Otsuka Pharmaceuticals Europe
- Orion Pharma
- Orion Clinical
- nspm UK
- Novo Nordisk
- Novartis Pharmaceuticals UK
- ▶ Norgine
- Napp Pharmaceuticals
- Mitsubishi Pharma

Small to medium sized enterprises 'SMEs'



Most life science companies are SMEs

 E.g. Medical Biotech, 98% have less than 250 staff, 53% have less than 5 employees

Genesis Conference December 2013:

 8 companies surveyed: cultivating networks cited as key in terms of finding job opportunities; LinkedIn as specific tool to do this, industry events

'We would strongly welcome direct approaches from potential recruits' – quote from medtech start-up on speculative applications

Recording of talk about Biotech by Molly Martell (alumna), Apr 2018:

https://panopto.lshtm.ac.uk/Panopto/Pages/Viewer.aspx?id=8e8f1f96-c093-45a9-8d74-c93e7bc9c6f7

Speculative approaches to companies



UCL BBSRC PhD Placements Programme Manager

Primarily uses LinkedIn but not all companies may have a profile

You will usually need to contact a 'CEO' or at least a 'manager' in the company, don't go through recruitment

Your initial message could give them a BRIEF overview of your skill set and why for example 'drug discovery' is of interest. They will really appreciate your ideas and input into the field of work and will be impressed with any knowledge you can demonstrate

'CEO' of a clinical trials company (a 'CRO') working in oncology

I respond more to direct emails or emails through the website (we get a lot of applicants sending CVs speculatively through it).

When I get a speculative type of email, there needs to be something in the **first paragraph** to grab my interest – things like **degree in XX**, **interest in oncology** and why they believe **they can be an asset** to our company.

The ones who get a "thanks but no thanks" reply have just attached a CV with no covering letter.....and I only reply on LinkedIn if I know the person.

Healthcare



NHS Scientist Training Programme
(https://nshcs.hee.nhs.uk/programmes/stp/)

2:1 or 1st in a 'relevant' subject (varies according to strand), or 2:2 plus masters or PhD

Online aptitude tests (numerical and logical reasoning)

Programme includes a master's in Clinical Sciences

NHS Higher Specialist Scientist Training

(https://nshcs.hee.nhs.uk/programmes/hsst/)

NHS Trusts:

https://www.nhs.uk/servicedirectories/pages/nhstrustlisting.aspx

NHS Jobs website: https://www.jobs.nhs.uk/

NHS STP 2020



Application deadline 20 January 2020

First selection process: online tests (deadline for online tests 22 Jan). Around 70% pass online tests.

Second selection process: shortlist drawn up according to how well application meets the person spec.

For successful application:

- evidence of research interests/experience
- demonstrate NHS values
- show understanding of role of healthcare scientist (for example through work experience/shadowing)
- Show enthusiastic and patient centred
- Demonstrate academically motivated, with transferable skills

NHS STP Interview



Three 'stations':

- Research (questions exploring research interest/motivation/skills)
- Professionalism (questions could be about NHS constitution, your professional skills, balancing your time, coping with stress)
- Specialism (questions around specialism)

Standardised questions for all applicants on that day (allocation to dates according to specialism)

Some tips: Read NHS long term plan, people plan, listen to podcasts, read journals, look at professional body websites of relevant specialisms, follow current trainees on Twitter (they often post useful things)

NHS STP strands



Clinical Bioinformatics

- genomics, physical sciences, health informatics.

Life Sciences

- clinical biochemistry, clinical immunology, cytopathology, cancer genomics, genomics, genomic counselling, haematology and transfusion science, histocompatibility and immunogenetics, histopathology, infection sciences, reproductive science.

Physical Sciences

- clinical engineering (rehabilitation engineering, clinical measurement and development, device risk management and governance), clinical pharmaceutical science, medical physics (radiation safety, radiotherapy physics, imaging with ionising radiation, imaging with non-ionising radiation).

Physiological Sciences

- audiology, cardiac science, critical care science, gastrointestinal physiology and urodynamic sciences, neurophysiology, ophthalmic and vision sciences, respiratory and sleep sciences, vascular science.

Further info



Strands vary in competitiveness

2019 data:

Clinical Biochemistry 584 applications for 17 places

Clinical Bioinfomatics (Genomics) 195 applications for 17 places

Microbiology 281 applications for 3 places

Clinical Immunology 350 applications for 6 places

For those needing visa sponsorship "Should you be successful at the interview stage for the STP any offer made to you will be based on meeting the requirements of the Resident Labour Market Test (RLMT)."

Public Health England



Biomedical Scientist/Healthcare Scientist Specialist - Microbiology (HEO)

Job purpose:

To work as part of the laboratory team, providing a high level of analysis in order to provide patients with the highest level of diagnosis and treatment.

Using the appropriate testing, in a timely manner, to assist the Consultant Microbiologists, and thus ensure the correct clinical diagnosis.

To perform a range of microbiological technical and scientific activities, including testing samples referred from other NHS and PHE laboratories.

Requires Biomedical Science degree and HCPC registration; master's degree desirable.

This role is HEO grade; also roles at EO level (one grade down)

Jobs advertised on NHS jobs website and Civil Service jobs website

Civil Service jobs



Research Scientist Bacteriology (EO grade), Animal and Plant Health Agency

Job role: to assist in the development and application of research tools for the detection and molecular epidemiology of Brucella, in order to complement disease surveillance and outbreak resolution.

Qualifications

Science background with education to degree level or equivalent work experience.

Nationality requirements

Open to UK, <u>Commonwealth</u> and <u>European Economic Area (EEA)</u> and certain non EEA nationals. Further information on whether you are able to apply is available <u>here</u>.

Academic research



PhD

Perhaps Research Assistant work first Research Associate/Research Fellow Post-doc

For more information about PhDs see slides and recordings on <u>Moodle</u> (in section 'Current events and resources from previous events' – 'slides and resources from workshops by careers consultants')

Recording and slides for 'Find and Fund a PhD' – includes PhDs with industry component

Recordings of Academic Careers Forum events (section 'Current events and resources from previous events' – 'Recordings and notes from alumni, employer, guest speaker and panel events'

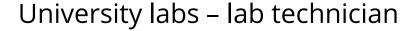
Gaining further lab experience



Independent Pathology Labs



- The Doctors Laboratory (TDL) <u>www.tdlpathology.com</u>
- Viapath <u>www.viapath.co.uk</u>
- Synlab http://www.synlab.co.uk/
- Forensics: Cellmark <u>www.cellmark.co.uk</u>
- LGC Group <u>www.lgcgroup.com</u>







Job Hunting for academia + tips for those on Tier 4 visas



Academic jobs: https://www.jobs.ac.uk/ but also look at individual university websites

Research assistant work here? https://jobs.lshtm.ac.uk/ but also build a good relationship with your supervisor...

For international students:

Be aware, research assistant roles do not typically pay enough to qualify for a Tier 2 visa

In the UK large, private sector organisations are more likely to sponsor for a visa than smaller organisations or the public sector

Come to the visa talk on 30 January to learn about visa options (12.45 pm in the John Snow)

Many jobs in pharma are outside the UK

Using science



Other roles within pharma



Business operations

Business operations



Communications and government affairs

Shape our messages and help us to communicate them clearly to governments and consumers and within GSK itself.



Environment, health, safety and sustainability

Work to reduce our environmental impact and keep our people safe at work.



Finance

Help to manage our operations in a way that supports our strategy and our purpose.





eople to deliver our

and well looked

AstraZeneca Operations

Delivering our life-changing medicines



Procurement

Join our global procurement team to learn how smart purchasing, strategic thinking and great relationships help a business like ours to thrive.



Technology

Help us use technology in sustainable and innovative ways so we can meet our strategic objectives.



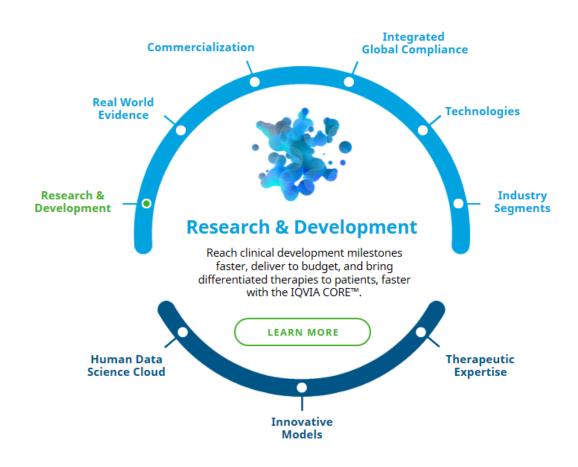




AZ Pharmaceutical Technology & Development Graduate Programme

Key areas at IQVIA





Management Consultancy?



Increasing link up between clinical research organisations and management consultancy – data/evidence

Eg Management Consultancy Evidera – part of CRO PPD; IQVIA formed from Management Consultancy IMS Health and CRO Quintiles

For more on Management Consultancy listen to recording of careers session, or view slides (both available here
https://ble.lshtm.ac.uk/mod/folder/view.php?id=104945)

Evidera – Research Scientist – health preferences



This <u>job role</u> encompasses:

Science

- Leads studies of high scientific quality, presenting scientific work in peerreviewed journals and at professional meetings
- Provides scientific leadership to team members, and contributes to the development of the way that preference methods are delivered by the team.

Strategy/Consulting

Financial & Business Development

Project Management

PCR Operations Support

Requires:

Doctorate in scientific discipline and more than one year experience in relevant field; or

Master's degree in scientific discipline and more than 5 years' experience in relevant field

Medical/science communications



Costello Medical provides scientific support in the analysis, interpretation and communication of clinical and health economic data.

Roles such as Analyst, Health Economist, Medical Writer

Nucleus Global is the largest specialist medical communications network in the world. Has a number of agencies:

























Read some 'Career Profiles' here





WPP Health Practice is a leading global health marketing communications company, recognised for accelerating better health outcomes.

Getting into communications



http://medcommsnetworking.com/

Build experience – blogs, articles, editing, networking

Consider learned societies – eg education officer at The

Physiological Society http://www.physoc.org/

Public Engagement Co-ordinator within a university

Journal editing

PR eg Hanover Communications

http://www.hanovercomms.com/

Charities wanting to communicate their research eg British Heart

Foundation

Health communications consultancies – eg Incisive Health

https://www.incisivehealth.com/

Health governance/regulatory affairs



- Medicines & Healthcare Products Regulatory Agency (MHRA)
 https://www.gov.uk/government/organisations/medicines-and-healthcare-products-regulatory-agency Pharmaceutical Assessors
- Clinical Practice Research Datalink https://www.cprd.com/home/ (manages NHS data for research studies)
- Public Health England (https://www.gov.uk/government/organisations/public-health-England)
- Care Quality Commission (https://www.cqc.org.uk/)
- Human Tissue Authority (https://www.hta.gov.uk/)
- National Institute for Health and Care Excellence (NICE) (https://www.nice.org.uk/)
- NHS Digital (https://digital.nhs.uk/)
- Human Fertilization & Embryology Authority (https://www.hfea.gov.uk/)
- NHS (<u>https://www.jobs.nhs.uk/</u>)

Example regulatory agency job



<u>Scientist (HEO) – Medicines and Healthcare Products Regulatory Agency</u>

The position is in the Physico-chemical Analysis Group which undertakes testing for polysaccharide conjugate or recombinant protein vaccines against meningitis, Haemophilus influenza type b (Hib) and typhoid, to ensure quality, safety and efficacy of the product.

Minimum 2:1 Honours degree in a life science

Demonstrable laboratory-based experience of HPLC or IC

Experience in performing chromatography assays and use of associated software programs

Good laboratory skills including pipetting, weighing, preparing solutions using standard laboratory equipment, e.g. centrifuge, pH meter.

Experience of working within the ISO17025 quality system.

Intellectual Property/Patent Attorney





We normally recruit up to six people each year to be trained as patent attorneys in London, Oxford or Cambridge. All trainee patent attorneys are expected to train and qualify both as a European and as a British Patent Attorney.

The academic requirements are rigorous. Candidates should have an excellent track record of achievement at school and university with a minimum of a 2.1 honours degree in a scientific or technical subject, preferably physics, engineering, computer science, chemistry or biosciences such as molecular biology, biochemistry, genetics, immunology or plant sciences. We are open to applications from candidates holding or studying for a Bachelor's, Master's or PhD degree.

https://www.jakemp.com/en/careers/a-career-as-a-patent-attorney

Civil Service Science and Engineering



"On the Science and Engineering Fast Stream you'll help shape government policy and decision-making using the best scientific and engineering knowledge and techniques."

Application deadline end October (for following Sept entry). Part of the Civil Service Fast Stream. <u>Info about recruitment process</u>.

Requires 1st or 2:1 in any subject **plus** higher degree (master's or doctorate) in any science or engineering discipline, or be a chartered engineer or scientist registered by one of the professional institutions licensed by the Engineering Council or by the Science Council.

Three year (minimum) training programme starting on £28K. "You will exit the programme as confident science advisors, advocating for the value that science and engineering brings to the government's work."

Analyst – eg PHE



Cancer Intelligence Analyst

HEO role within Health Improvement Directorate

Developing, quality assuring, promoting and disseminating cancer data, in line with the national business plan and/or in response to local requirements. These will support:

monitoring and interpretation of trends and variations in cancer health indicators and outcomes;

planning and evaluation of health and wellbeing services; consider the impact of risk factors on the incidence of poor health.

NICE



The National Institute for Health and Care Excellence (NICE) is the independent organisation responsible for providing national guidance and advice on promoting high quality health, public health and social care.

Our role is to improve outcomes for people using the NHS and other public health and social care services. We do this by:

- Producing evidence-based guidance and advice for health, public health and social care practitioners.
- Developing quality standards and performance metrics for those providing and commissioning health, public health and social care services;
- Providing a range of information services for commissioners, practitioners and managers across the spectrum of health and social care.

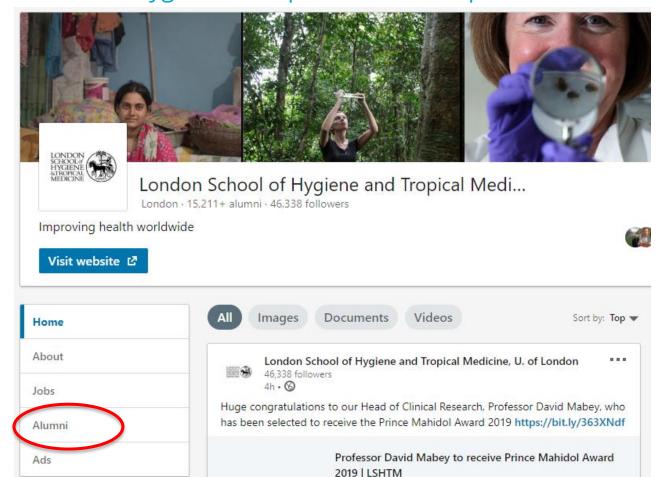
Beyond science

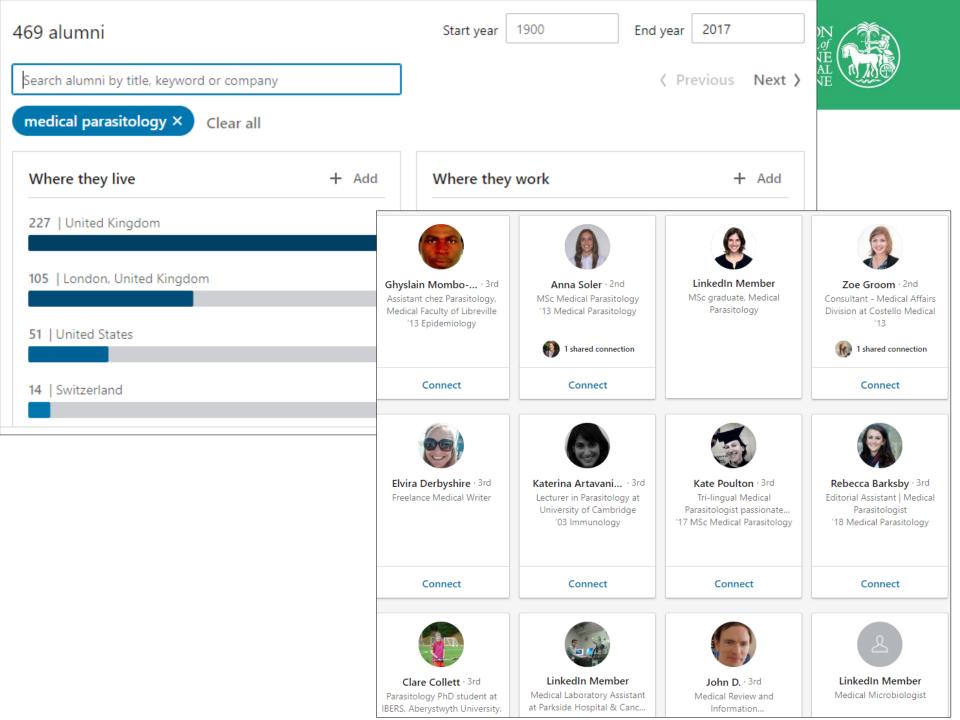


Generating further ideas



LinkedIn – look for what other people who graduated from your programme are now doing: https://www.linkedin.com/school/london-school-of-hygiene-&-tropical-medicine-cp/





Moodle – lots of resources



Moodle https://ble.lshtm.ac.uk/course/view.php?id=1070§ion=1

Events and resources from previous events:

https://ble.lshtm.ac.uk/course/view.php?id=1070§ion=4

Career and study options:

https://ble.lshtm.ac.uk/course/view.php?id=1070§ion=5

Finding and applying for jobs:

https://ble.lshtm.ac.uk/course/view.php?id=1070§ion=6

Alumni destinations:

https://www.lshtm.ac.uk/sites/default/files/2017-03/graduate_destinations_2016.pdf (but also use LinkedIn for that)

Interview and application resources



Interview simulator: <u>Interview stream</u>
Assessment centre simulator: <u>assessment</u>
day

Case interview preparation website: http://www.caseinterview.com/

Helpsheets



How to write a CV

How to market your masters

A CV should not b document that sh the recruiter shou

Steps to a great

Start with the jo

The starting point for CV v skills and experience the r find this on the list of job advert, job description or

Your task is to clearly evid requirements on your CV the reader of your ability applying speculatively and search for similar roles to transferrable skills.

2. Active language

Use action words in your convey achievement and

Advice for career changers

Changing career has become the new normal. It is rare now to have a single 'career' spanning a lifetime of work.

There are many reasons for considering a change. You may:

- Want to change because you are dissatisfied with your current job/ career or have discovered a career direction you would prefer to take
- Need to change because your previous career sector is shrinking or disappearing
- Have the opportunity to change because new circumstances give you the freedom to move in a different direction

You may have chosen your new career direction and then embarked on your current or recent studies with that focus. Alternatively, you may have chosen your

Profile

For career changers, a brief profile at the top of your CV is a useful technique for focusing the attention on the unique combination of skills, knowledge and experience you would bring to your next job and the reason why you want to move in that direction.

Education

If you are using your university course as the springboard for your change of direction, it usually makes sense to put the education section early in the CV, to give it prominence.

Put a little detail in about relevant modules studied, new skills gained and research project/dissertation

dying – how do you sh t makes you as a poter dergraduate degrees, s int additional skills you

> Is your final dissertation/ to the area of work you a so, include the title and t research involved.

What kind of jobs might I ap level?

As with undergraduate degree degrees are essentially transferabling you to further deve

Have we covered?



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Questions and feedback





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Student Seminars (12.45-13.40):

Public Health professionals working in Latin America – Fri 17 Jan in LG81 Next Seminar – Fri 24 Jan in LG81

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