UNIVERSITY OF LIVERPOOL | Careers and Employability

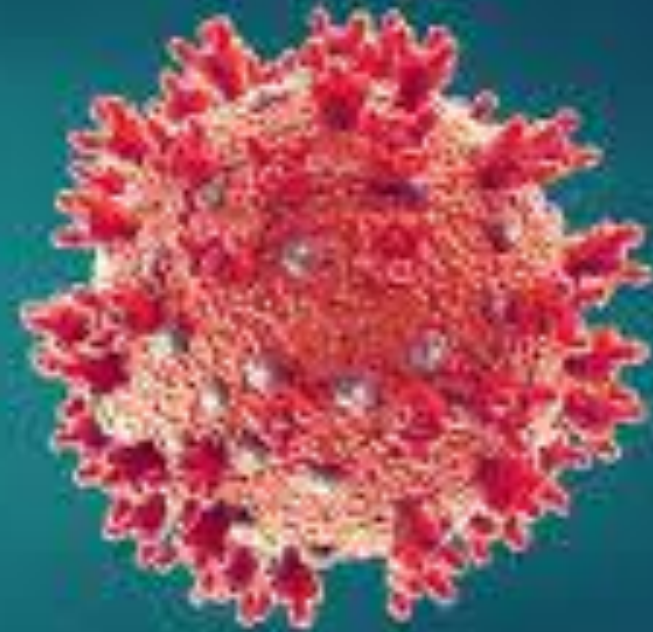WE   ARE

CAREERS AND EMPLOYABILITY

Careers Perspective
7th March 2022

Dr. Alexis Nolan-Webster
Career Consultant, Careers and Employability
AlexisNW@liverpool.ac.uk

Covid-19 and the Current Job Market

The Future of Jobs Report 2020 – World Economic Forum

In-depth information for 15 industry sectors and 26 advanced and emerging countries Report Findings:

Technology – priority for business. Rise in encryption, non-humanoid robots and artificial intelligence.

Automation –

- 43% of businesses surveyed said they would reduce workforce due to technology integration

- 41% plan to extend their use of contractors for task-specialised work

- 34% plan to expand workforce due to technical integration.

By 2025 work by humans and machines will be equal. Companies will also make changes to locations, size of workforce and factors beyond tech in next 5 years.

Emerging professions will grow from 7.8% to 13.5% (5.7% growth) of the total employee base of company respondents. By 2025, 97 million new roles may emerge that are more adapted to the new division of labour between humans, machines and algorithms.

https://www.weforum.org/reports/the-future-of-jobs-report-2020/digest

The Bigger Picture

According to the *Prospects / Luminate Survey What do graduates do?* 2021/22 reveals a graduate labour market in relatively good health.

Of the 198,875 UK-domiciled first-degree graduates who responded to the Graduate Outcomes survey:

• The majority of graduates were in employment 15 months after graduating.
• 7.7% were unemployed and looking for work.
• 72.4% of employed graduates were in a professional-level job.
• 8.8% of graduates were in further study.
• The average salary for graduates who went straight into full-time employment in the UK was £24,492.
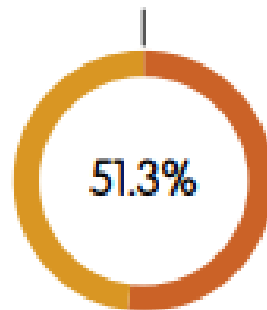
https://luminate.prospects.ac.uk/what-do-graduates-do

Type of course for those in further study

Studying for a Doctorate (e.g. PhD, DPhil, MPhil) — 8.3%

Studying for a postgraduate diploma or certificate (including PGCE/PGDE) — 14.4%
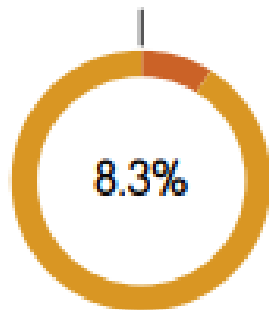
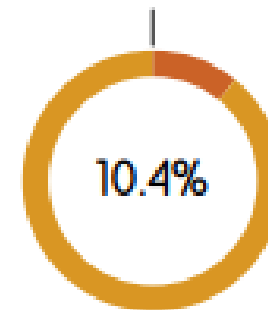Studying for a Masters (e.g. MA, MSc) — 51.3%
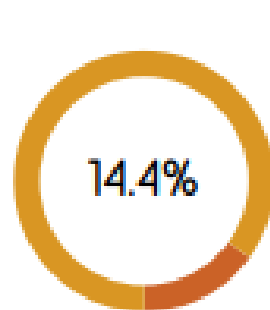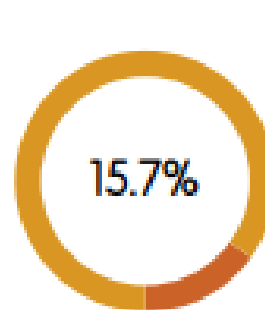
Studying for a professional qualification — 15.7%

Other study — 10.4%

TOTAL NUMBER OF GRADUATES IN FURTHER STUDY: 35,245

Research

Academia

Industry

Start your own Business

Any idea what may be next?

Menti.com
Code: 2048 1311

Data for Physics Destinations - Graduate Outcomes

- Biggest UK annual social survey

- Taken 15 months after graduating

- Helps current and future graduates gain an insight into career destinations

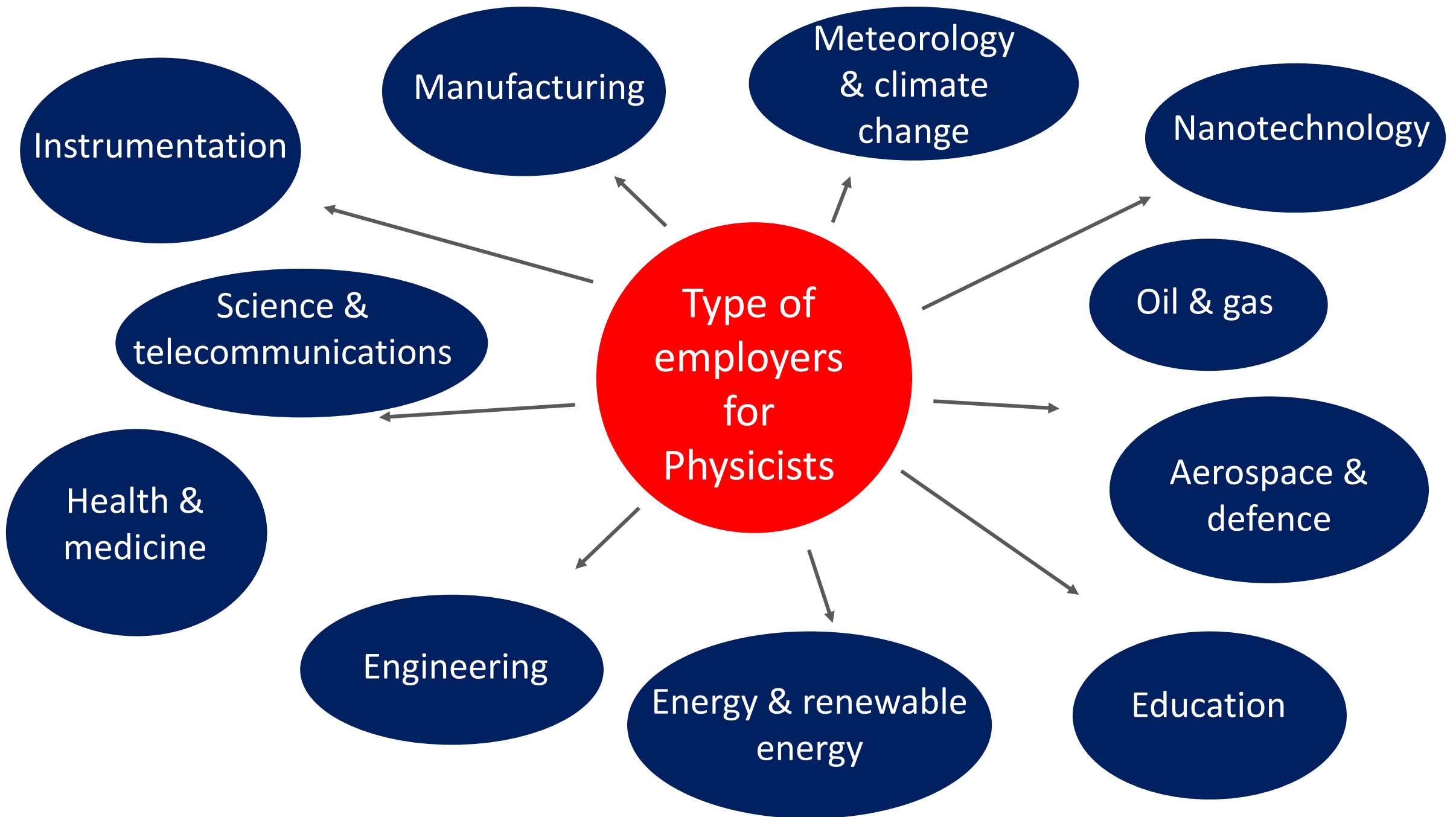- We don't expect every path to be straightforward!

Graduate Outcomes for UoL

- 2017/18 – 2018/19 – Pre-Covid Pandemic
- 66.7% Response Rate

Main Activity (15 months after graduation)
Whilst multiple activities can be chosen, this is their **main** activity at census week

	2017/18	2018/19
Engaged in a course of study, training or research	**24%** (10)	**43%** (19)
Paid work for an employer	**71%** (30)	**39%** (17)
Unemployed and looking for work		**11%** (5)
Doing something else		**2%** (1)
Taking time out to travel - NOT short-term holidays		**2%** (1)
Voluntary/unpaid work for an employer		**2%** (1)
Caring for someone (unpaid)	**2%** (1)	
Self-employment/freelancing	**2%** (1)	
Known Responses	77	82
Population	121	123

Graduate Outcomes for UoL

Top 5 Further Study HEIs (18/19)
Graduates with further study at any point after graduation

	2017/18	2018/19
The University of Liverpool	**56%** (9)	**45%** (9)
Liverpool John Moores University	**13%** (2)	**15%** (3)
The University of Strathclyde		**10%** (2)
The University of Manchester	**6%** (1)	**10%** (2)
The University of Lancaster		**10%** (2)
Grand Total	**100%** (16)	**100%** (20)

Type of employers for Physicists

Instrumentation

Manufacturing

Meteorology & climate change

Nanotechnology

Science & telecommunications

Oil & gas

Health & medicine

Aerospace & defence

Engineering

Energy & renewable energy

Education

The data below is based upon all known employment and not only those whose main activity is employment. If you wish to isolate data to only those whose work is their main activity use the filter below.

Pick Years to Feature	Study Level (UG/PG)	Pick Group (UoL/Fac/Dept)	Specific course title(s)	Home / EU / Overseas	Employment Type Option
2018/19	All	Physics	All	All	All Employment

TO P E M..

TOP EMPLOYERS

The top employers (excluding not known/nulls) provided by the graduate and cleaned by HESA

Employer	%
University of Liverpool	8% (4)
Ministry of Defence	6%
Oxford University Hospitals NHS Trust	4%
Science and Technology Facilities Council	4%
Tesco Retail	4%
Argos Ltd	2%
BAE Systems	2%
Bombardier	2%
Brainboxes Ltd	2%
Cardiff and Vale University Health Board	2%
CERN	2%
Challenger Mobile Communications Ltd	2%

Job Title

Job Title

Job title string supplied by graduate, this is not cleaned so is more for context then official data

Job Title	%
Clinical Scientist	8% (4)
Senior Clinical Scientist	4%
Software Engineer	4%
- Support consultant	2%
Applied Fellow	2%
Audit Assistant	2%
Civil SERVANT (Defence)	2%
Customer assistant	2%
CUSTOMER SEVICE ADVISOR	2%
Data analyst	2%
data support specialist	2%
Dispensary technician	2%

HIGH SKILLED: **90%** (44)   MEDIUM SKILLED: **4%**   LOW SKILLED: **6%**

Looking for Employment

"*A postgraduate degree in itself isn't an indicator of a high calibre candidate or one who has leadership potential*"
- National Centre for Universities and Business, 2010

Along with any other candidate, you have to provide an employer with **evidence of your suitability and potential**. Whether a job needs a postgraduate degree or not, what is likely to set you apart is the ability to demonstrate an increase in personal capability, and enhanced skills developed during your postgraduate research experience.

Comparing demand, 2018 vs. 2022, Top Ten Skills

2018	Trending, 2022	Declining, 2022
• Analytical thinking and innovation • Complex problem-solving • Critical thinking and analysis • Active learning and learning strategies • Creativity, originality and initiative • Attention to detail, trustworthiness • Emotional intelligence • Reasoning, problem-solving and ideation • Leadership and social influence • Coordination and time management	• Analytical thinking and innovation • Active learning and learning strategies • Creativity, originality and initiative • Technology design and programming • Critical thinking and analysis • Complex problem-solving • Leadership and social influence • Emotional intelligence • Reasoning, problem-solving and ideation • Systems analysis and evaluation	• Manual dexterity, endurance and precision • Memory, verbal, auditory and spatial abilities • Management of financial, material resources • Technology installation and maintenance • Reading, writing, math and active listening • Management of personnel • Quality control and safety awareness • Coordination and time management • Visual, auditory and speech abilities • Technology use, monitoring and control

Source: Future of Jobs Survey 2018, World Economic Forum.

Skills Employers are looking for:

From the World Economic Forum Report:

Skills gaps continue to be high as in-demand skills across jobs change in the next five years. The top skills and skill groups which employers see as rising in prominence in the lead up to 2025 include:

- Critical thinking and analysis
- Problem-solving
- Skills in self-management such as active learning
- Resilience/stress tolerance
- Flexibility

94% of employers expect employees to also pick up skills on the job, an uptake from 65% in 2018

Examples:

PHILIPS

To succeed in this role, you should have the following skills and experience

- Minimum 2:1 degree in a commercially related degree (Bachelors or Masters)
- You will have long term career ambitions for leadership roles in sales, marketing or operations
- You will have first class communication, planning and organizational skills
- You must also have a full and valid UK driving license.
- You will demonstrate a **high level of energy, drive and passion in pursuing work objectives** and a total commitment to achieving successful outcomes.
- You will be adaptable and socially confident, enabling you to build strong relationships quickly, which will be key to your success. In essence, you will already be naturally demonstrating our behaviors of Eager to win, Take Ownership and Team up to Excel. This will be evidenced by your academic and extra curricular activities.

MAZARS

Person Specification

We are looking for people who bring something special to the firm and who also have some distinctive qualities. We want driven people who think creatively about their work, embrace challenges and can resolve complex problems.

- Demonstrates strong analytical and research skills
- Takes ownership of assigned tasks and adopts a pro-active approach
- Ability to organise and prioritise workload
- Produces accurate and timely work
- Participates in meetings, providing information and ideas with clarity and persuasiveness
- Ability to build relationships
- Respects differences in people and values diversity of ideas
- Applies active listening skills – asks questions when necessary but makes basic assumptions when appropriate
- Actively seeks to enhance own expertise and knowledge
- Demonstrates drive and commitment to self-development
- Professional approach to work and clients i.e. professional appearance, respect for individuals, and ethical conduct

tpp

Requirements

- ABB or higher at A Level (or equivalent) including either Maths or IT
- A 2:1 or higher in a computer related degree
- A passion for computing and new technologies & competent knowledge of general computing
- Be a natural problem solver
- Excellent communication skills – verbal and written, with the ability to liaise internally and externally with contacts at all levels
- The ability to work within strict deadlines and under pressure
- The ability to think broadly and have an aptitude to learn quickly

TESLA

Requirements

- Bachelor or Master's degree or the equivalent in professional experience and extraordinary talent for sales.
- Experience in Sales, Customer Service or Retail is a plus.
- Strong communication skills and customer focused.
- Strong sense of team mentality and reliability.
- Ability to work on weekends and at events.
- Positive, enthusiastic and passionate about the changes in the personal transportation industry.
- Fluency in English is required.
- Ability to understand and convey business issues and technical concepts.
- Valid driver's license in the country in which you are applying, 2 year minimum driving record required with a clean driving history.

FDM

Entry requirements:

- Educated to degree level
- Demonstrable interest in usability
- Excellent communication and interpersonal skills
- A proactive problem solver
- Keen eye for detail
- Proven ability to work under pressure within a fast-paced environment
- Geographic flexibility throughout the UK

Think about what else you have been doing in addition to your PhD as you will have developed skills through a wide range of experiences.

Positions of Responsibility and Leadership

Administration and Teaching/Demonstrating Responsibilities

PhD Research

Industry Placements

Voluntary work

Competitions

Conferences

Committees and Societies

Training Courses

Sport

Employment

Non-academic employers in particular will be interested in skills gained from a variety of activities.

How to Find a job?
Networking:

- Did you know that 70%+ of jobs are never advertised?
- LinkedIn, Academia
- Connect with others in your field
- Ask Advice
- Follow interest groups
- Promote your research, conferences, publications
- Jobs advertised

Linked in

Where to start looking?

- Careerjet - https://www.careerjet.co.uk/search/jobs?s=physics+phd&l=
- ECM High Tech Recruitment (Cambridge) - http://www.ecmselection.co.uk/
- Gradcracker - https://www.gradcracker.com/search/sciences-maths/physics-graduate-jobs
- Indeed - https://uk.indeed.com/Astrophysics-jobs
- Linkedin - https://www.linkedin.com/jobs/astrophysics-jobs/?originalSubdomain=uk
- Quant - https://www.quantaccountants.co.uk/sector/contractors-freelancers/(Page for PhDs)
- ResearchGate - https://www.researchgate.net/scientific-recruitment
- Simply Hired - https://www.simplyhired.co.uk/
- Total Jobs - https://www.totaljobs.com/jobs/jobs-for-phd-graduates

Graduate Schemes

Same as recruitment for all graduates. PhDs who enter either graduate schemes or graduate jobs may progress much more quickly than other graduates.

Many big name recruiters only have one professional entry point for those without experience. This includes some major consultancies such as Accenture, the UK Civil Service Fast Stream, the NHS Scientific Training Programme and more.
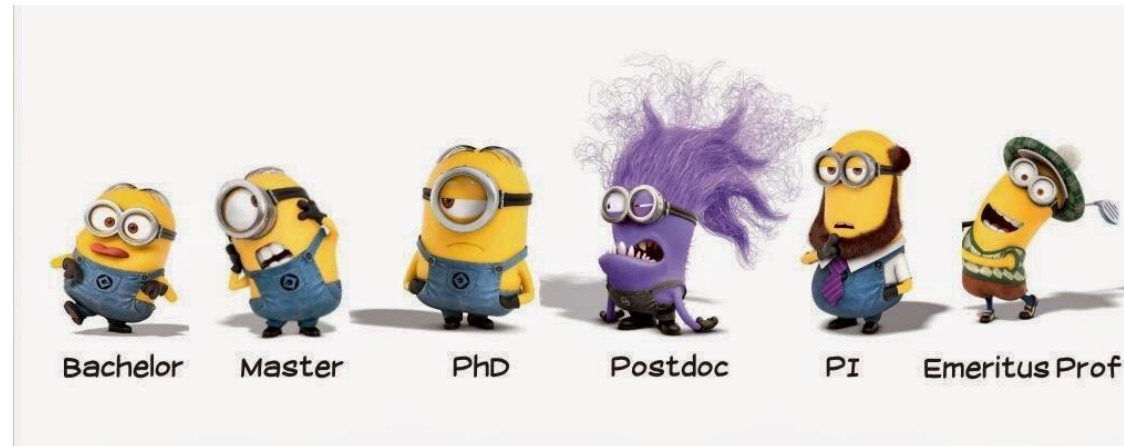
Resources

Article on PhDs working outside Academia https://www.findaphd.com/advice/doing/phd-non-academic-careers.aspx

Prospects   https://www.prospects.ac.uk/postgraduate-study/phd-study/your-phd-what-next

Vitae https://www.vitae.ac.uk/researcher-careers

How to find a Postdoc?

1. Your supervisors contacts
2. Networking
3. University Websites

Webpages:

- https://www.findapostdoc.com/
- https://www.jobs.ac.uk/
- https://www.researchgate.net/scientific-recruitment/jobs

Applying for Jobs or a Postdoc?

- Different CVs – Industry and Academia
- Industry – 2 pages
- Academia – much longer 6-8 sides, detailed
- Use STAR throughout. Situation, Task, Action and Result
- Apply for roles in plenty of time, don't leave it to last minute
- Ask for help with your CVs and any cover letters. Get feedback and someone else to check
- Career Studio

Starting your own business

Opportunities / Events

BAE event on Monday 28th March at 5pm, Soon to be on Handshake

Ignite Your Future in the Department of Computer Science. Events on Space, Gaming/VR/AR, Manufacturing and AI, CyberSecurity, Blockchain and Crypto and Local jobs event – Ignite Your Future in Your City. More info
https://bit.ly/IYF2022

Launch Your Future, Physical Science week starts on 14th March

GCHQ, MI5 and MI6 don't advertise. You can register interest on their Early Careers Network https://recruitmentservices.applicationtrack.com/vx/lang-en-GB/mobile-0/appcentre-1/brand-5/xf-b412c04c50e1/candidate/so/pm/3/pl/7/opp/2395
Find out more about roles by reading the Graduate Brochure:
https://view.pagetiger.com/intelligenceservicesgradbrochure

When thinking about your next step:

- **Do your research**. Identify skills that really matter to employers

- **Self assess**. Skills Audit. Identify gaps. Vitae Researcher Development Framework (RDF).

- **Gain experience.** Industry placements, voluntary work, part time jobs, teaching and admin responsibilities, committees, societies, training courses, hobbies etc. Gain <u>evidence</u> for the skills required

- **What** you do is key, there can be flexibility around <u>where</u>

- **Maximise your PhD research.** Continue to develop the specific technical and research skills required for your future

- **Prepare** fully ahead of interviews and when making application

- **Develop the right mind-set**. A positive attitude goes everywhere with you

Keep Going!

The Science of Failure...

- Nearly all science is rooted in **'learning to fail'**

- Science is a constant process of trying and failing, seeing failure as progress rather than a threat

- Many examples of scientists that have failed until they made a breakthrough

The Science of Failure…
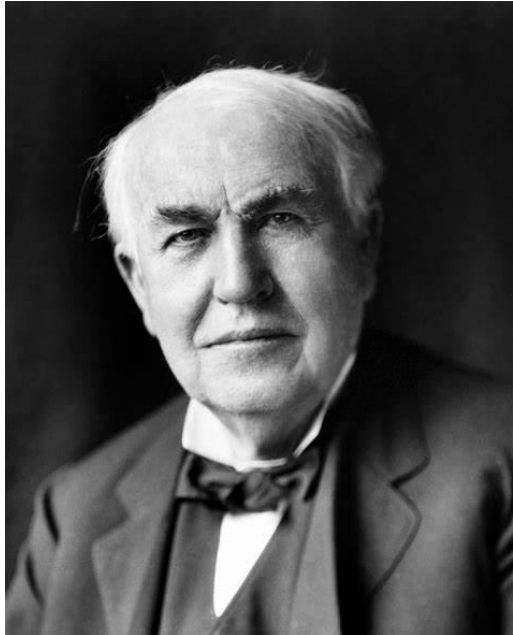
Thomas Edison

"I have not failed. I've just found 10,000 ways that didn't work" – Light Bulb

Steve Jobs

'Forced out' of his own company in his early career. Later went back and developed Apple into a global brand

Growth Mindset

Fixed mindset

- I'm either good at it, or I'm not
- I don't like to be challenged
- When I fail, I'm no good
- Praise my achievements
- If you succeed, I'm threatened
- My abilities determine everything

Growth mindset

- I can learn anything I want to
- I want to challenge myself
- When I fail, I learn
- Praise my efforts
- If you succeed, I'm inspired
- My effort and attitude determine everything

Angela Duckworth Stanford University, USA