

Early Career Discussion

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The story so far...

So far...

Options

How to
choose

Academic

Industry

- School
- Undergraduate degree
- Master's degree?
- PhD



The story so far...

So far...

Options

How to
choose

Academic

Industry

- School
- Undergraduate degree
- Master's degree?
- PhD
- Post-doc?



Careers options

So far...

Options

How to
choose

Academic

Industry

- Academia
- Industry



Careers options

So far...

Options

How to
choose

Academic

Industry

- Academia
- Industry
- Postgraduate-level



Careers options

So far...

Options

How to
choose

Academic

Industry

- Academia
- Industry
- Postgraduate-level
- Other



Science-related careers options

So far...

Options

How to
choose

Academic

Industry

- **Academia**
- **Industry**
- Postgraduate-level
- Other



Science-related careers options

So far...

Options

How to
choose

Academic

Industry

- **Academia** ← Science-related
- **Industry** ← Science-related
- Postgraduate-level
- Other



How to choose?

So far...

Options

How to
choose

Academic

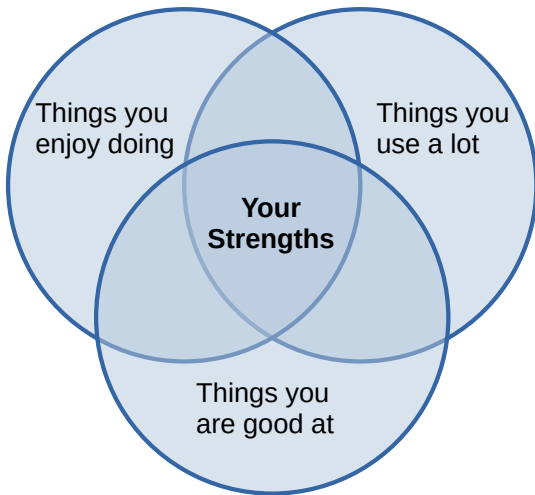
Industry

“Play to your strengths”

- What do you like?
- What are you good at?
- What do you use?



Cartoon



So far...

Options

How to
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Academic

Industry



How to choose?

So far...

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“Mitigate your weaknesses”

- What do you dislike?
Why? Can you do anything about it? Could you find another way to accomplish the same thing?
- What are you not good at?
Can you practice?
- What do you not use?
Could you use it?



Academic career path

So far...

Options

How to
choose

Academic

Industry

The classic track:

- PhD



Academic career path

So far...

Options

How to
choose

Academic

Industry

The classic track:

- PhD
- Post-doc



Academic career path

So far...

Options

How to
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Industry

The classic track:

- PhD
- Post-doc
- Post-doc or Fellowship



Academic career path

So far...

Options

How to
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The classic track:

- PhD
- Post-doc
- Post-doc or Fellowship
- Fellowship or Lecturer/Assistant Professor

Only the last stage here is a “permanent” job, and even then it depends...



Academic track record: “Research Outputs”

This might seem obvious, but a scientist’s “research output” is the primary way of assessing “how good” they are; but what does this really mean?

- Papers: quality or quantity?

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5 Phys. Rev. B > 1 Nature Physics ?

So far...

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- Papers: quality or quantity?
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- Are people using your work?

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- Papers: quality or quantity?
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- Are people using your work?
 - Yes – how can you show this?
 - No – are you publishing in the right place? Are you promoting the work at conferences, social media etc?

So far...

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Academic track record: “Research Outputs”

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- Papers: quality or quantity?
5 Phys. Rev. B > 1 Nature Physics ?
- Are people using your work?
 - Yes – how can you show this?
 - No – are you publishing in the right place? Are you promoting the work at conferences, social media etc?
- Have you produced something else?
 - New technique, instrument, software, analysis
- Misc (patents, consultancy, technical reports, tutorials)



Academic track record: Independence and Collaborations

Scientific research is *collaborative*. Generally, people want a new staff member to:

- Bring something new to the department/institution
- Work with the existing staff

So far...

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Academic track record: Independence and Collaborations

So far...

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Scientific research is *collaborative*. Generally, people want a new staff member to:

- Bring something new to the department/institution
- Work with the existing staff

Are all your research outputs...

- With your PhD supervisor?
- With the same people?
- From the same institution?

You want to show that you can work **independently** but also **collaboratively**.



Academic track record: Grants

Grants show:

- Initiative
- Leadership/collaborations
- Good communication skills
- External quality check

So far...

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Academic track record: Grants

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Wait, how can you get grants without having an academic post?!

So far...

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Academic track record: Grants

Grants show:

- Initiative
- Leadership/collaborations
- Good communication skills
- External quality check

Wait, how can you get grants without having an academic post?!

- Facility time – beam time, microscope time, computing
- Travel grants
- Mini-Fellowships



Other academic roles

So far...

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Not all roles in universities are “academic research” roles.

- Experimental Officers
- Computer Officers
- Research Software Engineers
- Research Group Leaders
- Teaching Fellow



Industrial career path

So far...

Options

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A bit more varied, but the classic track:

- PhD (+ post-doc?)
- Company training programme/probation
- Staff scientist

The last stage here is usually a “permanent” job.



Industrial track record: Collaborations

Most companies and industrial labs rely on *research teams*.

Generally, people want a new staff member to:

- Work with the existing staff
- Complement the skills

Less emphasis on research outputs, and more emphasis on:

- Ability to deliver (on time)
- Skills and competencies
- Awareness of the field
- Communication

So far...

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Open discussion

So far...

Options

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Over to you!

- What challenges are you facing?
- What support might you need?
- What questions do you have?