### The Many Ways to Spell "Postdoc"

<table>
<thead>
<tr>
<th>Spell</th>
<th>Description</th>
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<tbody>
<tr>
<td>&quot;postdoc&quot;</td>
<td>The lazy way</td>
</tr>
<tr>
<td>&quot;Post-doc&quot;</td>
<td>The grammatically correct way</td>
</tr>
<tr>
<td>&quot;PostDoc&quot;</td>
<td>The German way?</td>
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<tr>
<td>&quot;Postdoc Student&quot;</td>
<td>The Confused Admin way</td>
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<tr>
<td>&quot;Post Doctor&quot;</td>
<td>Chinese standard</td>
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<tr>
<td>&quot;Postdoctoral Fellow/Scholar&quot;</td>
<td>&quot;Look at me, I'm Ivy League&quot;</td>
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<tr>
<td>&quot;Postdoctoral Researcher/Associate&quot;</td>
<td>&quot;I'm not sure this is better but throw me a bone, will you&quot; way</td>
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PURPOSE OF POSTDOC

• To get additional research experience
• To learn additional skills
• To get a broader perspective
→ To become ready to do independent research

There is a decades-old tradition that „the postdoc is a training ground for a tenure-track position, that is the metric for success for young scientists,“ says Cathee Phillips, executive director of the National Postdoctoral Association (NPA). „Postdocs have heard this for years, which causes them not to think about their own strategic career plan, because they think the postdoc will naturally flow into a tenure-track position.“
INCREASE IN POSTDOC POSITIONS

THE POSTDOC PILE-UP
The number of researchers in US postdoctoral positions has more than tripled since 1979. The vast majority of postdocs are in the life sciences. Across fields, median salaries for postdocs are outstripped by those for non-postdoc positions, when measured up to 5 years after receiving a PhD.


2. PhD (81)

- Academia: 48 (59%)
- Business and Industry: 17 (21%)
- Other: 37 (46%)

3. Postdocs (245)

- Academia: 164 (67%)
- Business and Industry: 51 (21%)
- Other: 32 (13%)
- Info Not Public: 25 (10%)
- Group leader: 70 (28%)
- Faculty: 48 (20%)

IST AUSTRIA ALUMNI DATA
HUMANS ARE OPTIMISTIC

- Psychology tells us that humans are optimistic
  - We overestimate our chances
  - We overestimate our abilities
- (People with clinical depression show a realistic estimation of their chances)
Moving from PhD to postdoc often happens automatically without realizing this is a real and pivotal career moment.
WHO NEEDS TO DO A POSTDOC

• If you want to secure a group leader position in academia

• If you want a group leader position in the biotech and pharma industry
  • Preferably short postdoc
CAREERS WHERE A POSTDOC CAN BE BENEFICIAL

• Certain types of research management and administration
• Careers in experimental facilities
• Careers where you apply the knowledge you acquired during the postdoc, e.g. certain data science positions
• Moving from basic science to more applied science
POSTDOC NOT REQUIRED

• Most other careers
• Will usually not count as work experience
• Career transition will require „narrative“ (doable)
THE TEMPTATION

Someone heard that a colleague/friend has a postdoc position available and suggests you should apply.... You contract will run out next week..... It is sort of ok, not really what you were looking for but the city seems nice...
THE MORE ENERGY CONSUMING WAY

• Where do you hope to be in a few years time?
• In which research community do you want to establish yourself?
• You should have a rough idea of what comes next to know whether a specific postdoc will help you get there
3 TASKS FOR YOUR POSTDOC YEARS

1. You need to decide in what area of science you want to make your name
2. You need to finish at least one significant project
3. You need to establish yourself in the relevant communities so that you can be considered for a PI position
CHOOSING THE RIGHT ADVISOR

„The adviser is the primary gatekeeper for the professional self-esteem of the student, the rate of progress towards the degree, and access to future opportunities.“

S.E. Widnall, past President of AAAS
CHOOSING THE RIGHT ADVISOR

- Science
- Reputation
- Location
- Leadership style, lab culture
- Record
- Career support
CHOOSING THE RIGHT ADVISOR

Pros for working with a junior advisor:

✓ Closer collaboration, PI has more time for you, more direct training
✓ Smaller lab: Bigger contribution, every member is important
✓ Opportunity to learn how to set up a lab
CHOOSING THE RIGHT ADVISOR

Pros for working with a senior advisor:

✓ More established in the community, reference will carry more weight
✓ Already has established leadership style and mode of operation
✓ Bigger lab, perhaps easier to do your own thing
✓ Data on what happened to former postdocs available → less risky
FUNDING

- Where will the funding come from? For how long will there be funding available?
- Some PIs have positions available
- Fellowships
INSTITUTION

- Institutional reputation matters in faculty recruiting
- Which institutional support will you get in terms of career development?
- Pay scale, benefits
- Facilities, core facilities, etc.
- Research the cost of living
CHOOSING THE RIGHT PROJECT

- What excites you?
- How exciting is the project to the community?
- Does the project broaden your expertise/diversify your scientific portfolio? Will you step out of your comfort zone?
- Will you learn new techniques/skills?
- How independent will you be?
- How risky is the project?
- Will you be able to take it with you? Which parts?
- Who will author the papers and in which order?
RISK TAKING — BACK UP PLANS

- Be conscious of your project’s risks — from time to time evaluate & adapt if necessary
- Develop a side project that is your own idea
- A good PI should support this
- Side project can be solid
WHEN SHOULD YOU START THE PROCESS?

Early! One year in advance

Networking takes time

Do some research on the relevant conferences, workshops to meet the right people

Take into account the time it takes to apply for fellowships
HOW DO YOU DO IT?

- Start with many different research visions
  - Where could you be in five years?
  - Allow yourself to dream at this stage….
  - Create many different visions

- Next evaluate the different dreams
  - Which ones are most appealing? Why?
  - Which ones are realistic?
  - Reduce them to a few, or perhaps even one

- Research these areas? Who are the leading people?
  - Become systematic

- Refine even more and contact them
RESEARCHING POSTDOC POSITIONS

- Research group/institution – internet and talking to people there
- Visit group and place
- Treat any visit as if it is an interview – impressions count
- Talk to people who have worked with potential PI
- Will you have (the opportunity) to teach?
CONTACTING POTENTIAL ADVISORS

- "Application" is typically an email to a potential advisor
- State why you are looking at the lab (and perhaps who recommended them)
- Why is their science interesting to you (show that you understand their work and are not just another spam email)
- Talk about your past research and how you fit to the group
- Close by asking about potential positions
- Mention your timeline
APPLY IN PARALLEL

- Apply for several positions in parallel
- Try to get several job offers
- Take a conscious decision based on the topics we discussed
Big differences between fields

- **CS:** short postdoc phases or only one postdoc usual
- **Math:** typically at least one postdoc
- **Physics:** experimentalists on average spend more years as postdocs; two postdocs not uncommon
- **Biology:** one postdoc, two postdocs possible but shorter ones
- **Neuroscience:** longer postdoc phase not uncommon
- **Chemistry:** short postdoc phases common
HOW LONG/HOW MANY

- Look at careers of those you consider successful
- Study those who are 3-5 years ahead of you
TEACHING & SUPERVISION

- Teaching experience needed for next career step
- Teaching can help you with your own research
- Develop communication and presentation skills
- Use or create opportunities
- Take training to learn how to teach
WHAT IF... YOU DO NOT GET ALONG WITH YOUR PI?

- Get help early!
- Try to understand
- Improve your communication skills
  - Where do conflicts come from?
  - Is there a problem in terms of expectations?
  - Often the conflict is linked to assumptions that are so clear they are not even discussed
- This is not to say that it is your fault, but you cannot change the other person
WHAT IF... YOUR PROJECT DOES NOT WORK

- Postdoc is different from PhD where negative results can be built into narrative of thesis
- Take a step back – is it really a failure or just not the results you were hoping for?
- What can be salvaged?
- What does it mean scientifically?
- Any lessons learnt?
WHAT IF... YOUR PROJECT DOES NOT WORK

- Confront your anxieties: What is the worst thing that can happen?
- What can do in this situation?
- What can help you? Which resources do you have?
QUESTIONS?