You do what now?

Ankur R. Desai, AOS Dept Seminar
Wed Feb 27, 2013
Post hoc vs Post-Doc

The Post hoc Fallacy
To incorrectly assume "A" is the cause of "B" just because "A" preceded "B".

  e.g. "All Professors have Ph.D.'s, therefore getting a Ph.D. means you'll get a Professor job (right?)"

The Post-Doc Fallacy
To incorrectly assume you'll have a job just because you have a PhD.

  e.g. "Now what??"
What do you want to do?

- A Ph.D. is a scholar-in-training, but not a job guarantee

Where do our graduates go?
Where do our graduates go?

• Academia
Where do our graduates go?

• Academia
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines
Where do our graduates go?

• Academia
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines

• Research positions
Where do our graduates go?

• Academia
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines

• Research positions
  – Academic (soft-money)
  – Government (civil service or soft-money or both!)
Where do our graduates go?

• Academia
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines

• Research positions
  – Academic (soft-money)
  – Government (civil service or soft-money or both!)

• Operational meteorology
Where do our graduates go?

• Academia
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines

• Research positions
  – Academic (soft-money)
  – Government (civil service or soft-money or both!)

• Operational meteorology
  – Government (NOAA)
  – Private sector
Where do our graduates go?

- Academia
  - Research intensive meteorology programs
  - Teaching intensive meteorology and related disciplines
- Research positions
  - Academic (soft-money)
  - Government (civil service or soft-money or both!)
- Operational meteorology
  - Government (NOAA)
  - Private sector
- “Alt-Ac”
Where do our graduates go?

• Academia
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines

• Research positions
  – Academic (soft-money)
  – Government (civil service or soft-money or both!)

• Operational meteorology
  – Government (NOAA)
  – Private sector

• “Alt-Ac”
  – Private industry or non-profit research, consulting, communication, outreach, grant management, weather modeling/forecasting
Where do our graduates go?

• Academia – 1/3
  – Research intensive meteorology programs
  – Teaching intensive meteorology and related disciplines

• Research positions – 1/3
  – Academic (soft-money)
  – Government (civil service or soft-money or both!)

• Operational meteorology – 1/6
  – Government (NOAA)
  – Private sector

• “Alt-Ac” – 1/6
  – Private industry or non-profit research, consulting, communication, outreach, grant management, weather modeling/forecasting
Where do our graduates go?

- **Academia** – 1/3 (shrinking, esp. on tenure track)
  - Research intensive meteorology programs
  - Teaching intensive meteorology and related disciplines
- **Research positions** – 1/3 (steady, shift to soft money)
  - Academic (soft-money)
  - Government (civil service or soft-money or both!)
- **Operational meteorology** – 1/6 (growth in private)
  - Government (NOAA)
  - Private sector
- **“Alt-Ac”** – 1/6 (growing)
  - Private industry or non-profit research, consulting, communication, outreach, grant management, climate impacts modeling
• But the vast majority all Ph.D. graduates first go on to do a post-doc!
What is a post-doc?

• A postdoctoral research associate is a temporary full-time research position at an academic or research organization
  – Usually 100% research (sometimes with mentoring or teaching responsibilities)
  – Funded by grants or fellowships
  – Direct supervision by a mentor
  – Typical length is 1-2 years
  – There are generally more positions than qualified applicants in most sub-fields
And what do you do there?

- Gain independence in research and lab management skills
- Chance to publish your dissertation
- Learn new techniques or explore new directions of existing research
- Have more say in direction of project
- Teach or supervise students
- Find a permanent position!
Guidelines

• From Bourne and Friedberg, PLoS Computational Biology, 2006

• 1. Select a position that excites you

• 2. Select a laboratory that suits your work and lifestyle

• 3. Select a laboratory and a project that develops new skills

• 4. Have a backup plan
Guidelines

• 5. Choose a project with tangible outcomes that match your career goals
• 6. Negotiate first authorship before you start
• 7. Time in a postdoc fellowship should be finite
• 8. Evaluate a growth plan
• 9. Strive to get your own money
• 10. Learn to recognize opportunities
Community matters!

Hi, welcome to the weekly postdoc social hour!

This is a chance for the postdoc community to come together...

Thanks!

Basically, we stand around complaining about not being able to get a faculty job while our kids run around like wild animals.

Is this organized by the campus postdoc association?

Yes, our motto is “we exist!”

www.phdcomics.com
How to find one?

- Start applying ~6 months before defense
- Put together a CV and research statement
- Avoid “cold-emailing” – ask your advisor for contacts
- Network at conferences!
- Looks at job lists at major atmospheric science programs and research centers (e.g., NCAR, CIMSS)
- Apply for fellowships
- Subscribe to listservs:
  - Met-jobs [http://www.lists.rdg.ac.uk/mailman/listinfo/met-jobs](http://www.lists.rdg.ac.uk/mailman/listinfo/met-jobs)
Fellowships – what’s out there?

- NSF AGS post-doc program
- NOAA Climate & Global Change
  - [http://www.vsp.ucar.edu/cgc/](http://www.vsp.ucar.edu/cgc/)
- NCAR/UCAR Advanced Study Program
  - [http://www.asp.ucar.edu/](http://www.asp.ucar.edu/)
- USGS Mendenhall
- DOE ORISE
- National Academies
  - [http://sites.nationalacademies.org/pga/rap/](http://sites.nationalacademies.org/pga/rap/)
- NASA Post-doc Program
  - [http://nasa.orau.org/postdoc/](http://nasa.orau.org/postdoc/)
- DOE Labs (LLNL: [https://postdocs.llnl.gov/](https://postdocs.llnl.gov/))
Fellowships – what’s out there?

- University fellowships:
  - Harvard Environmental Fellows: [http://environment.harvard.edu/grants/fellows](http://environment.harvard.edu/grants/fellows)

- International:
  - NSF IFRP
  - NERC
  - Fulbright fellowships, Marie Curie fellows, etc…
What do post-docs pay?

• Low-end: <$40K/yr
• Mid-range: $42-52K
• Fellowships: $50-60K
• High end: >$75K
• Be sure to account for cost of living!
• Part-time positions are possible, but most are full-time 12-month
• Salaries go up with years and with experience
• Taxes on post-doc salary vary with job classification
What else to consider in negotiation?

- Health/dental/vision/retirement benefits
- Vacation/sick/parental leave
- Moving expenses
- PI status for grant submission
- Conference travel and research supplies
- Office space
- Supervision responsibilities
- Flex time to work on publishing dissertation
- Expectations for publication, authorship, intellectual property
Things to avoid doing

• More than several post-docs in a row
• Staying on as a post-doc in one position for more than 3-4 years without promotion to a research position
• (maybe) doing a longer than 6 month post-doc with your current PhD advisor
• Asserting an extreme level of independence
• Not exerting any independence
• Not publishing/presenting your dissertation
• Not having a contract or research plan in writing
• Leaving a position without “cleaning up” – documenting and providing data, having a publication plan, keeping your mentors notified of job offers and interviews
• Not consulting your peers, family, partners, advisor before accepting a position, a move, or a salary
Is there a reason to not do a post-doc?

• You have a permanent position!
  – Consider a post-doc deferral, esp. for tenure-track positions

• You are sure you do not want a research focused career
  – Teaching post-docs do exist!

• You need time off and can afford to do so
  – Long gaps will be questioned by employers
Thanks!

Thanks again to Jorge Cham!

More:
National Post-doc Association: http://www.nationalpostdoc.org/