



# Tales from the postdoctoral path

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# First things first...

- Just to make sure everyone's on the same page:
- “A postdoctoral researcher is a person conducting research after the completion of their doctoral studies as part of a temporary appointment, usually in preparation for an academic faculty position. It is intended to further deepen expertise in a specialist subject, including integrating a team and acquiring novel skills and methods.”
  - Wikipedia

Academic path: Grad school → Postdoc(s) → Faculty

other really cool jobs

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graph TD; A[Grad school] --> B[Postdoc(s)]; B --> C[Faculty]; A --> D[other really cool jobs]; B --> D; C --> D;
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## Second...

I do **not** want to reinforce the idea that you **should** do a postdoc

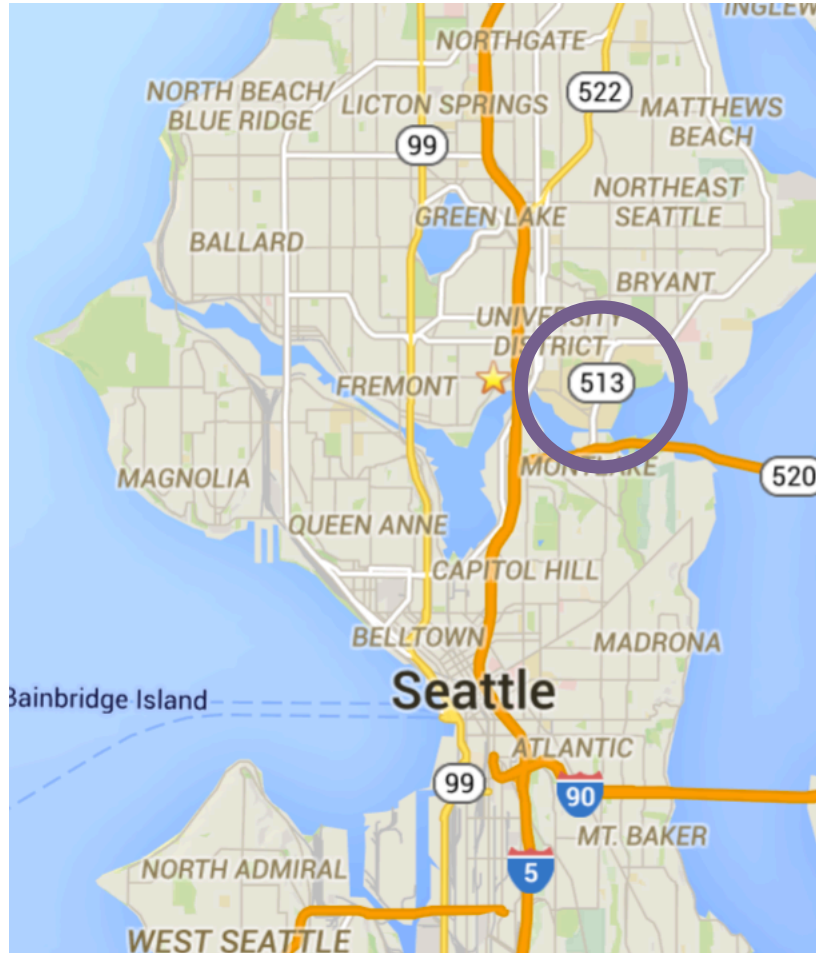
- There are lots of cool things to do in life!
- Go to the other career seminars, learn more!

# My postdoc story so far

Today I will tell you

- **My** perspective on what it's like to be a postdoc
- Why I chose this path
- How I got to where I am
- What I considered when making decisions
- Advice I've been given for going forward
- **Most important: stay happy & healthy**
  - Talk to the other postdocs in the department!
  - (Be wary of postdoc perspectives on the internet...)

# A bit about me



**W** UNIVERSITY of WASHINGTON



<https://sacnas.org/civicrm/event/info>

- Postdoc at the University of Washington in Seattle

# A bit about me

- Acting Assistant Professor\* in the Department of Applied Math



*Lewis Hall, [www.flickr.com/photos/cronncc/](http://www.flickr.com/photos/cronncc/)*

- Sackler Scholar in Integrative Biophysics in the Department of Physiology and Biophysics

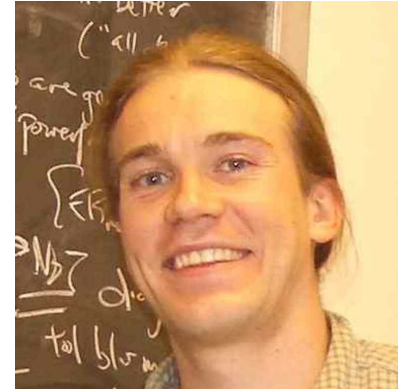


*Health Sciences Building, [pathology.washington.edu/](http://pathology.washington.edu/)*

- \* Fancy sounding title, but it's a postdoc position (with some extra benefits)

# A bit about me

- Joint position with
  - Eric Shea-Brown (theorist)
  - & Fred Rieke (experimentalist)
- Switched fields:
  - **Computational neuroscience**
  - “Study of brain function in terms of the information processing properties of the structures that make up the nervous system.”
  - (CPLC talk tomorrow @ 2 in 144 Loomis)



*Eric Shea-Brown*



*Fred Rieke*

# Why did I decide to do a postdoc?

- **Short answer:** I wanted to study the brain
- **Slightly longer answer:**
  - Wasn't sure I wanted to do a postdoc
  - Was looking into big data/finance/google-like companies
  - But became really interested in neuroscience
  - Wanted to at least try theoretical neuroscience research



# Why did I decide to do a postdoc?

## This is my philosophy:

If I become a prof, that will be **awesome**, but even if not, I get to do some really cool research for this window in my life, & I should enjoy every moment of it!

- Still trying to optimize my chances to get a faculty job!

## You might be wondering...

- **How much do I work?**

- A lot.

- Many evenings, ~1/2 day on weekends, if no other plans

- Industry (e.g., Amazon): work a lot too (often on call)

- **Do I have a non-academic back-up plan?**

- Not exactly. Have a few ideas, nothing solid just yet.

- **Am I happy with my postdoc life so far?**

- Yes! Can't guarantee I won't regret some things if getting a faculty job doesn't work out, but just enjoying it for now!

# How did I go about getting my postdoc?

- **Email *a lot* of people, apply to *a lot* of fellowships**
  - I applied to ~30 (people + fellowships)
- **Cold email people; don't wait for a call for applications**
  - They might have \$\$ but haven't posted, or are waiting to hear on a grant, or might know someone who *is* looking
  - Send CV, papers/preprints all at once; don't wait for them to ask (they might forget)
- **Keep in touch with your friends!**
  - This is how I heard about the position I have now

# Example email

## “Inquiry about possible postdoctoral opportunities for fall 2013!”

Dear Dr. Shea-Brown,

I am graduate student in Physics working with Karin Dahmen at the University of Illinois at Urbana-Champaign. I will be graduating this coming spring and am seeking postdoctoral opportunities in theoretical neuroscience for fall 2013. If you expect to have postdoctoral funding at that time, I would love to discuss possibilities for research projects!

To give you some background, my graduate research has been on a broad range of non-equilibrium dynamical systems with disorder. It includes the development and simulations of statistical models of sheared frictional systems, including earthquake faults, subject to oscillating boundary stresses and studies of criticality/phase transitions and hysteresis in systems with and without long range interactions, and with and without temperature. I have also collaborated with theorists and experimentalists on synchronization models and analysis of criticality in experimental neuronal network data. I have supervised the research of two undergraduate students in our group on earthquake statistics and firing avalanches of neurons in slices of rat brain. Going forward, I am very interested in applying my statistical physics techniques to more neurological or biophysical systems, and I would love the opportunity to pursue such interesting problems in your group! X recently asked me to give feedback on a preprint you two just submitted, and it definitely is very interesting work!

Attached to this mail I am sending you my CV (which includes a publication list) and some preprints of recent work I have done on periodically driven stick-slip systems and earthquake faults, looking for statistical signals of impending large failure events (to be submitted soon). I have previously presented this work at last and this year's Rutgers Statistical Mechanics meetings and the American Physical Society March Meeting, and plan to present some recent results at the upcoming March Meeting. Also attached are my published papers on the statistics of avalanches in disordered magnet models with tuned coupling constants (first author), analysis of neuronal avalanche data (coauthor) and an analysis of the statistics of electrons in layered metals (first author). I will contact my references to request they forward reference letters to you.

Thank you for your time! I look forward to hearing from you!

# Looking for your postdoc

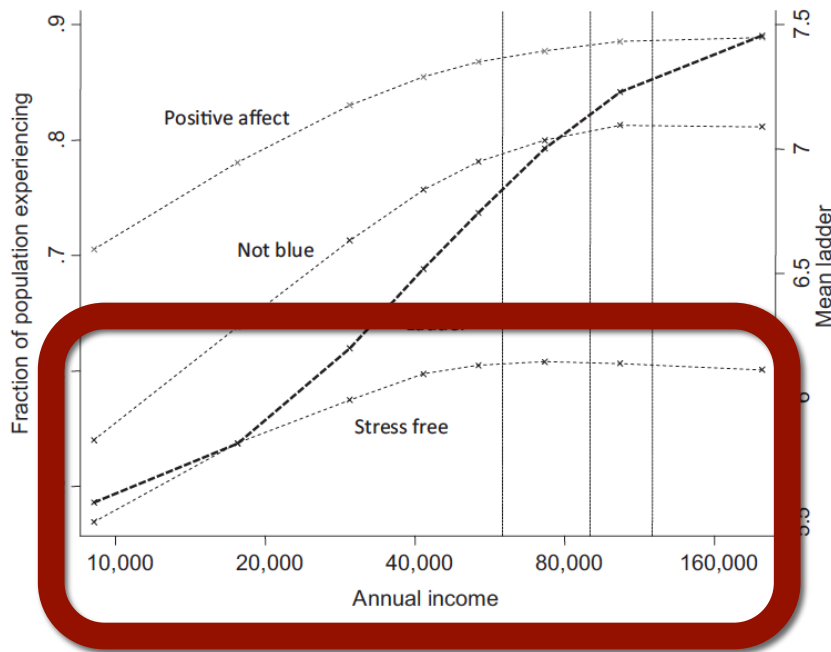
- **Not all postdocs are created equal!**
  - e.g., my AAP title comes with a couple of perks
    - Not a typical title.
    - More common is “Research Assistant Prof”, but that’s typically a promotion
  - Fellowships
  - National labs/institutes/IBM
- **Don’t just look at physics departments!**
  - Lot of interdisciplinary work going on now
  - Sometimes other depts have more money...
  - e.g., see [mathjobs.org](http://mathjobs.org), look at chem, compsci, bio, eng. depts

# Location, location, location?

- **Does location matter? Things to consider:**
  - Cost of living
    - <http://money.cnn.com/calculator/pf/cost-of-living/>
  - Jobs in the area (post-postdoc, for significant others)
  - Local culture
  - Jobs outside North America – planning on returning?
  - Can't be *too* picky – jobs are where they are
  - Personal happiness & well-being

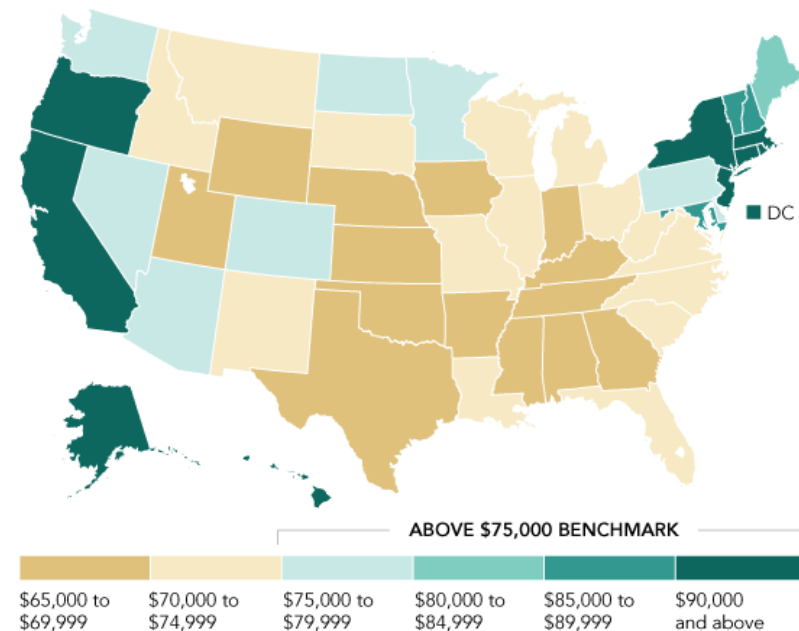
# Money, money, money?

- Does salary matter?



## The Happiness Benchmark In All 50 States

Earning more money will increase your day-to-day emotional well-meaning, but only up to a point. This map shows at what household income level Americans reach a happiness plateau, in which they don't report better emotional well-being regardless of how much more they earn.



Sources: Daniel Kahneman and Angus Deaton: High income improves evaluation of life but not emotional well-being. Doug Short: Happiness Revisited: A Household Income of \$75K?, Council for Community & Economic Research.\*

THE HUFFINGTON POST

[http://www.huffingtonpost.com/2014/07/17/map-happiness-benchmark\\_n\\_5592194.html](http://www.huffingtonpost.com/2014/07/17/map-happiness-benchmark_n_5592194.html)

- Kahneman & Deaton, PNAS 2010
- Total household income does not improve emotional well-being beyond ~\$75k/year

# Money, money, money?

- **Does salary matter *to you*?**
  - Cost of living
  - What expenses do/will you have? Kids? Car? House?
- **Salaries can vary between institution or fields**
- **But, e.g., NIH payscales:**

Fellowship and Training Stipend Levels, in Dollars

Career Level	12 months	1 month
Predoc	22,920	1,910
Postdoc 0	42,840	3,570
Postdoc 1	44,556	3,713
Postdoc 2	46,344	3,862
Postdoc 3	48,192	4,016
Postdoc 4	50,112	4,176
Postdoc 5	52,116	4,343
Postdoc 6	54,216	4,518
Postdoc 7 or more	56,376	4,698

<http://www.niaid.nih.gov/researchfunding/paybud/pages/salarystip.aspx>



# What to do on interviews

- **Don't panic**
- **Read up on what people in the group do!**
- **Be yourself**
  - Show enthusiasm/interest about your own work!
- **You're interviewing them too**
  - **How well do you get along with the group?**
  - **Make sure this will be a good environment to work in.**

# Making a decision – additional considerations

- **Length of position**
  - Aim for  $\geq 2$  years.
- **Teaching responsibilities?**
- **Non-citizens: *Optional Practical Training***
  - up to 29 months (extension of Visa status)
- **How well do you get along with the group?**

# Trying to optimize odds of tenure-track success

- **Longer the postdoc position, more you accomplish**
- **Go to conferences, summer schools**
  - Learn more about the field
  - Meet people in the field!
- **Get comfortable writing**
  - Training grants, e.g., K99/R01 training grant
- **Be up front with desires/expectations**
  - Bosses should want you to be successful & do what they can to help optimize your progress

# Upcoming opportunities in comp. neuro.

- **Big initiatives in studying the human brain**
  - BRAIN Initiative (US)
  - Human Brain Project (Europe)
- **Lookout for positions in upcoming years!**
  - No direct postdoc applications yet
  - ***Join the comp. neuro. mailing list!***
    - <http://neuroinf.org/mailman/listinfo/comp-neuro>
    - Look for similar mailing lists in fields you're interested in

# Upcoming opportunities in comp. neuro.

- **A rough list of postdoc applications**

- UW Institute for Neuroengineering (next year)

- <http://uwin.washington.edu/post-docs/apply-post-docs/>

- Simons Foundation on the Global Brain (NY)

- <https://www.simonsfoundation.org/funding/funding-opportunities/life-sciences/simons-collaboration-on-the-global-brain-postdoctoral-fellowships/>

- Janelia (Virginia, postdocs or 5-year fellows)

- <http://www.janelia.org/professional-opportunities/research-positions>

# Upcoming opportunities in comp. neuro.

- **A rough list of postdoc applications**
  - Lewis-Sigler fellows (Systems Bio, Princeton)
    - <http://www.princeton.edu/genomics/jobs/>
  - Human Frontier Science Program
    - <http://www.hfsp.org/funding/postdoctoral-fellowships>
  - NSF Mathematical Sciences Postdoctoral Research Fellowships
    - [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5301](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5301)
  - NIH Training grants
    - [http://grants.nih.gov/training/T\\_Table.htm](http://grants.nih.gov/training/T_Table.htm)

**Is there anything else you want to know?**

**If I didn't mention something you wanted to know,  
ask away!**

**Thanks for your attention!**