

# Research Career Pathways

-or-

What are you doing here anyways?

Ankur Desai, MICMoR Visiting Scientist 2014, KIT IMK-IFU, University of Wisconsin-Madison

NATURE | NEWS

## 'Extreme' workloads plague scientists at the start of their careers

But survey finds other concerns vary from country to country.

Elizabeth Gibney

22 January 2014

- “One that jumped out is that young academics reported working long hours — 50 hours per week in Germany”

- “Perhaps unsurprisingly, the survey found that a lack of funding was the most commonly felt obstacle — except, notably, in Germany. The vast majority (83%) of German respondents said they felt that job insecurity was an obstacle, compared to 44% in the Americas (Brazil, Canada and the United States) and just 15% in Asia (Japan, Sri Lanka and Thailand). A little more than half of German respondents also highlighted a lack of mentoring and support.”

- ““If you embark on an academic career [in Germany], you carry the risk you’re going to be jobless in a couple of years’ time. You either have to be mad or very self--confident,” says Nico Bruns, a chemist at the University of Fribourg in Switzerland, who worked previously in Germany and took part in the survey. The lack of a tenure--track system in Germany means that most postdocs remain on short--term contracts until they earn a professorship — and those positions become more scarce the more senior you get, says Bruns. The survey found that just 35% of German respondents were confident about finding a permanent research career in academia, compared to 68% in Nigeria and South Africa.”

# Who the \*\*\*\* am I?

- I am a father
- I am an American from their perspective
- I am a tenured professor at a university
- I am a scientist who studies complex systems and their interactions
- You really don't know my interests
- I like my coffee, my woods, my



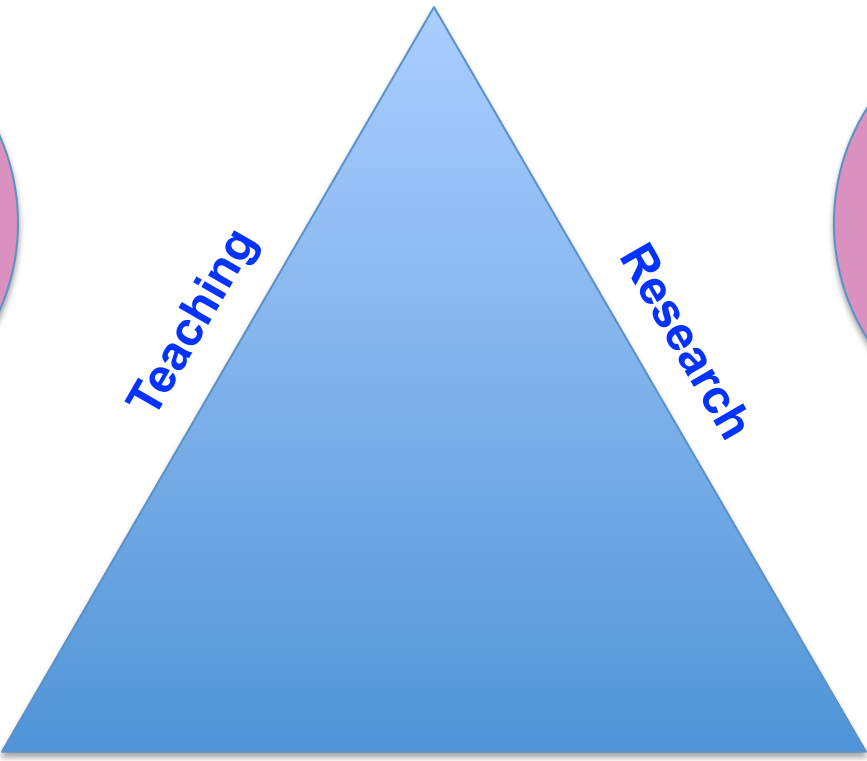
wife. I am 38.  
India. I ran away  
major research  
and the earth  
here  
research  
I like to write in the  
movies

# Scientists create and communicate knowledge about the natural world

Proposing Ideas  
Designing Experiments  
Interpreting Results

Disseminate  
Knowledge

Create  
Knowledge



Presenting  
Writing  
Mentoring

Time  
Money  
People

# CV

- 1993-1997 B.A. Computer Science and Environmental Studies, Oberlin College
- 1997-1999 Internships at US EPA and US Forest Service
- 1998-2000 M.A. University of Minnesota, Geography
- 2000-2001 Research fellow, UMN, Forest Resources
- 2002-2006 Ph.D. Penn State, Meteorology
- 2006-2007 Advanced Study Program Postdoc, NCAR
- 2007-2011 Assistant Professor, UW-Madison
- 2011- Associate Professor, UW-Madison

# CV

- ~~1993–1997 B.A. Computer Science and Environmental Studies, Oberlin College~~
  - Was a computer nerd at a hippie school, turned down MIT as a rebellious teen
  - Probably would have been richer if I stuck with computers, but really liked ecology
- ~~1997–1999 Internships at US EPA and US Forest Service~~
  - Paid to go hiking in the woods and write unused databases in byzantine bureaucracy
  - Decided to go to grad school when bored with work world, liked idea of human-environment
- ~~1998–2000 M.A. University of Minnesota, Geography~~
  - Went to program that offered most funding and best parties, learned human and physical geographers don't get along, lucky to meet my advisor, but then he leaves, I briefly follow
- ~~2000–2001 Research fellow, UMN, Forest Resources~~
  - Was told to build a flux tower from scratch with no experience. Boss quits partway
  - First inkling of weird joint pains. Got married. Wife gives up on science jobs
- ~~2002–2006 Ph.D. Penn State, Meteorology~~
  - Followed advisor to middle of nowhere Pennsylvania, M.S. paper rejected
  - Buy a house, learn that I have psoriatic arthritis, wife gives birth week after pre-lims
- ~~2006–2007 Advanced Study Program Postdoc, NCAR~~
  - Applied to UW on a whim after workshop. Offered position with one-year post-doc option
  - Moved a 3-year old to Boulder. Skied a lot. Unwittingly ran an airborne field campaign and workshop
- ~~2007–2011 Assistant Professor, UW Madison~~
  - Second child born two weeks after moving, three days before teaching first class ever
  - Win the grant funding lottery, have another kid, have a new “family”, get older, not wiser
- ~~2011–Associate Professor, UW Madison~~
  - Early tenure decision forced by an outside offer, students graduate, run grad program
  - Hit funding drought, need new research directions, go on sabbatical!



# Conclusion

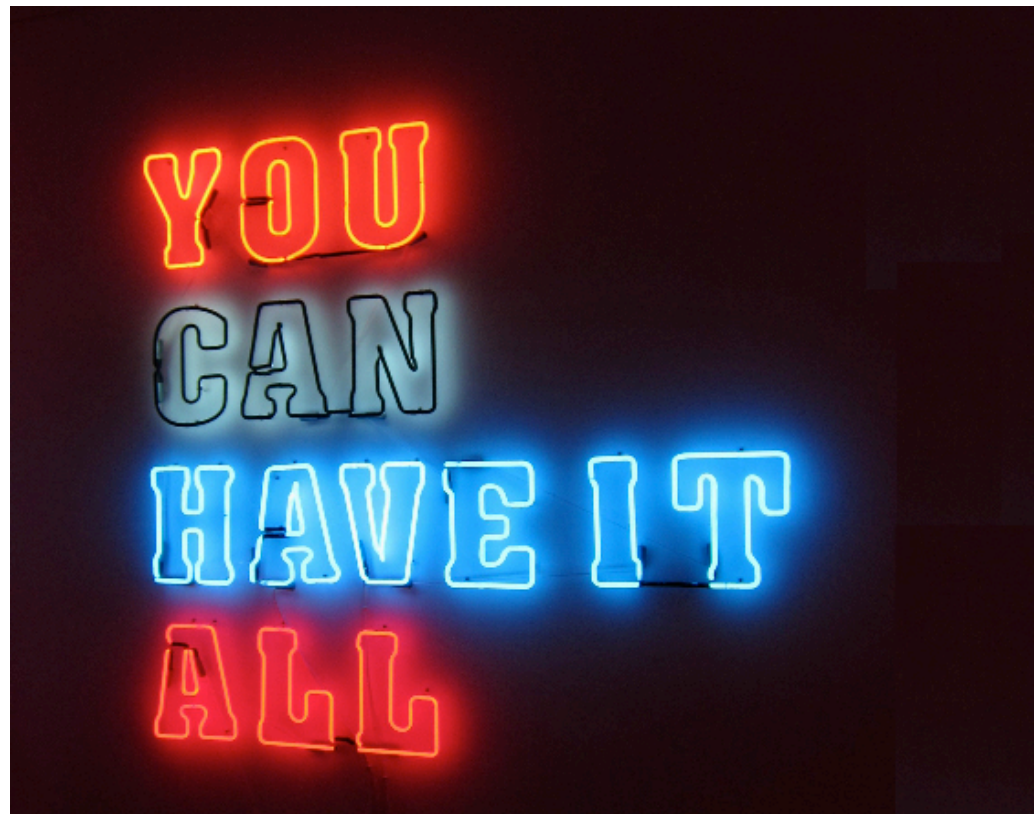
- There is no one right career, one right path or guarantee of success in science
- There are some simple rules to live by
- BUT:

Free advice is what it is worth



# 12. You can have it all

- Just not at the same time
- Marathon, not a sprint



# 11. Failure is a way of life



**FAILURE**

It's Priceless!

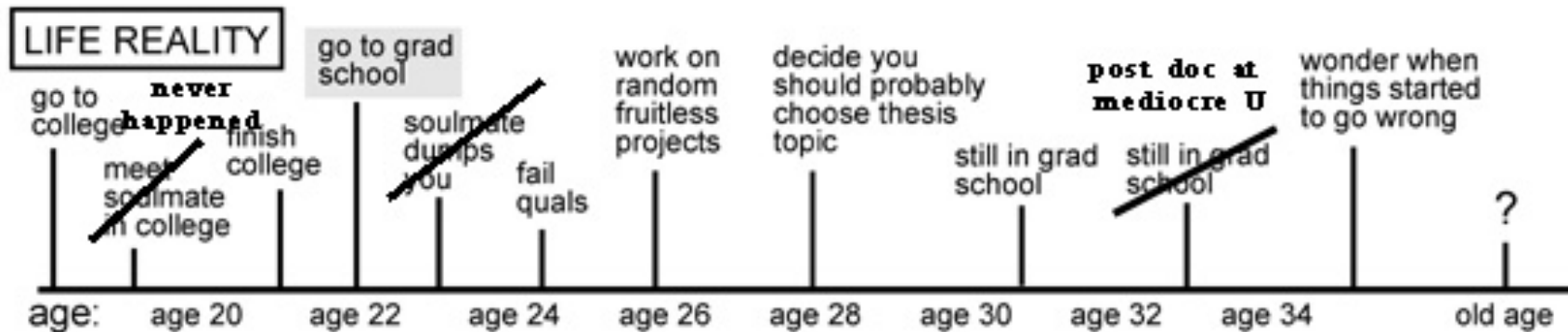
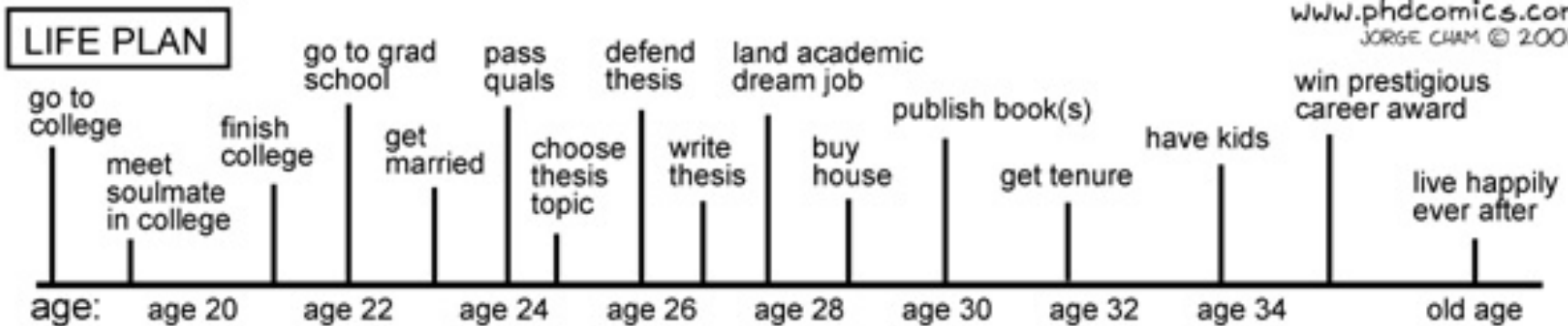
# 10. We all have unreasonably high expectations of ourselves

- Imposter syndrome is a real thing
- Learn to say no



# 9. Shit happens

www.phdcomics.com  
JORGE CHAM © 2003



8. If you are not of the majority culture, race, gender, orientation, prepare to work harder

- Be aware of subtle and subconscious bias
- Form your own networks

# 7. Read, write and speak constantly

## How to Write Your Thesis in Ten Minutes a Day

It's that simple!



Step 1. Spend ten minutes each day for the first X number of years filled with anxiety, stress and doubt about whether you'll ever finish your thesis, what you're doing with your life, and whether you made the right decision to come to grad school.



Step 2. On your last year, sleep for ten minutes a day and spend the rest of the time writing your thesis.



# 6. We are mostly introverts. Get over it!



# Research today@IFU

*aka science slam*

## Motivations

- 1) be part of the **festivities**
- 2) take the chance and learn how **to present science** in an **understandable** and entertaining way to the **public** (or your future boss!).

## Facts

- 5 min
- max 3 slides
- bring what you can carry
- prizes for the winner(s)!

!!! This should be team work – ask your colleagues for input/ideas !!!

&

We will help you, too!

## 5. AFTDJ

- Apply For The Damn Job

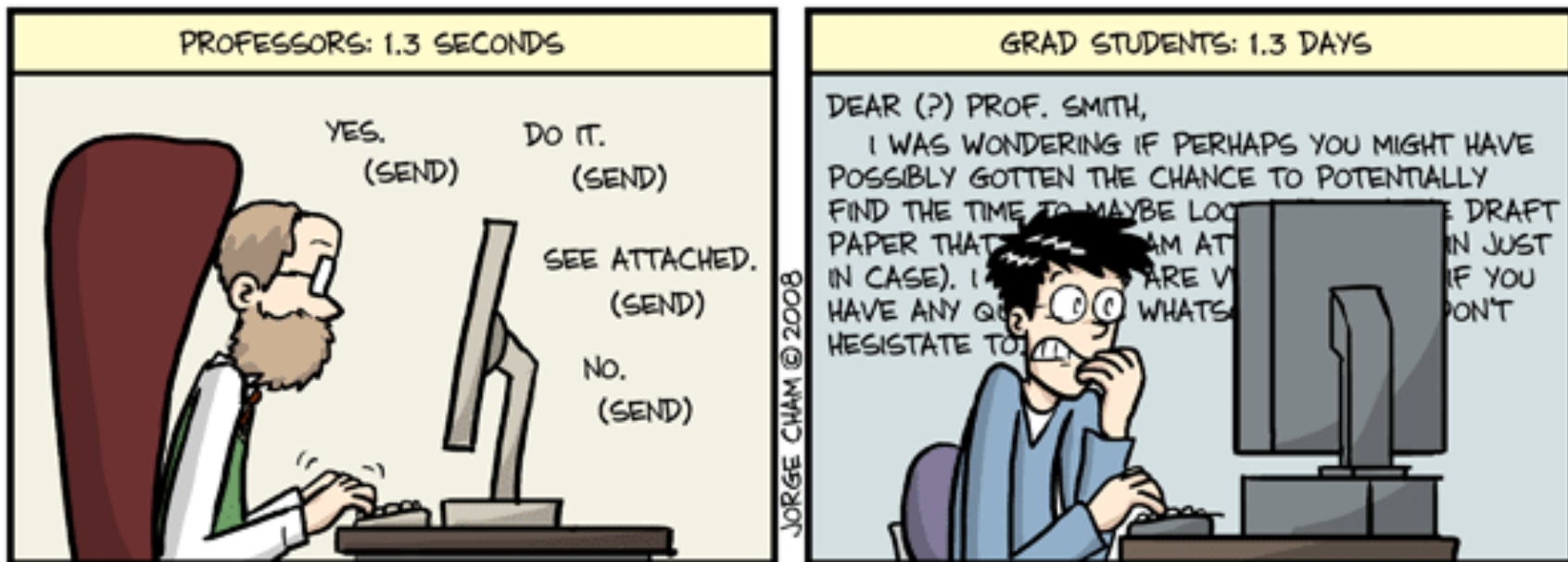
## 4. Personal and work life will be intertwined

- Rely on each other!



### 3. You will get better and faster at things

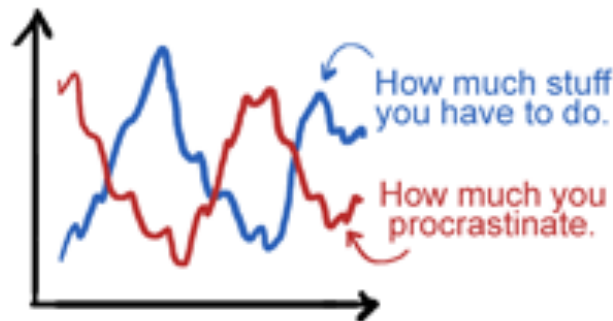
#### AVERAGE TIME SPENT COMPOSING ONE E-MAIL



## 2. Be a child

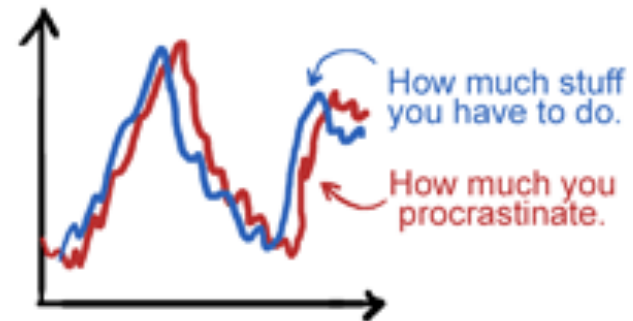
### Procrastination

Ideally:



$$\text{Procrastination} \propto \frac{1}{\text{How much stuff you have to do}}$$

In reality:



$$\text{Procrastination} \propto \text{How much stuff you have to do}$$

# 1. Don't be an asshole

- Avoid other assholes
- Be a mensch





# Activity

- On the first piece of paper: In one sentence, describe the goals and importance of your current research or dissertation plan, in language understandable by an educated person, but not necessarily a scientist.
- Then, write down one thing that worries you about realizing this or that you want to know more about from each other or me?



# Activity

- Write down one concrete goal of what you'd like to accomplish and what is keeping you from getting there:
  - In one year
  - In three years
  - In five years