

LIFE AS A RESEARCHER

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LIFE AS A GRAD STUDENT

UNDERGRAD TO GRAD

- X “Why are grad students busy? All they do is research. I take way more courses than they do, work on side projects, and joined multiple student clubs.”
- X Learning what other people have discovered
 - Making your own discoveries
- X Learning to solve problems accurately & fast
 - Learning to find a problem to solve





I get an infinite amount of
freedom to work on
what I want to work on
and even get paid!



I get an (almost) infinite amount
of freedom to work on
what I want to work on
and even get paid (a bit)!

SOURCES OF STRESS

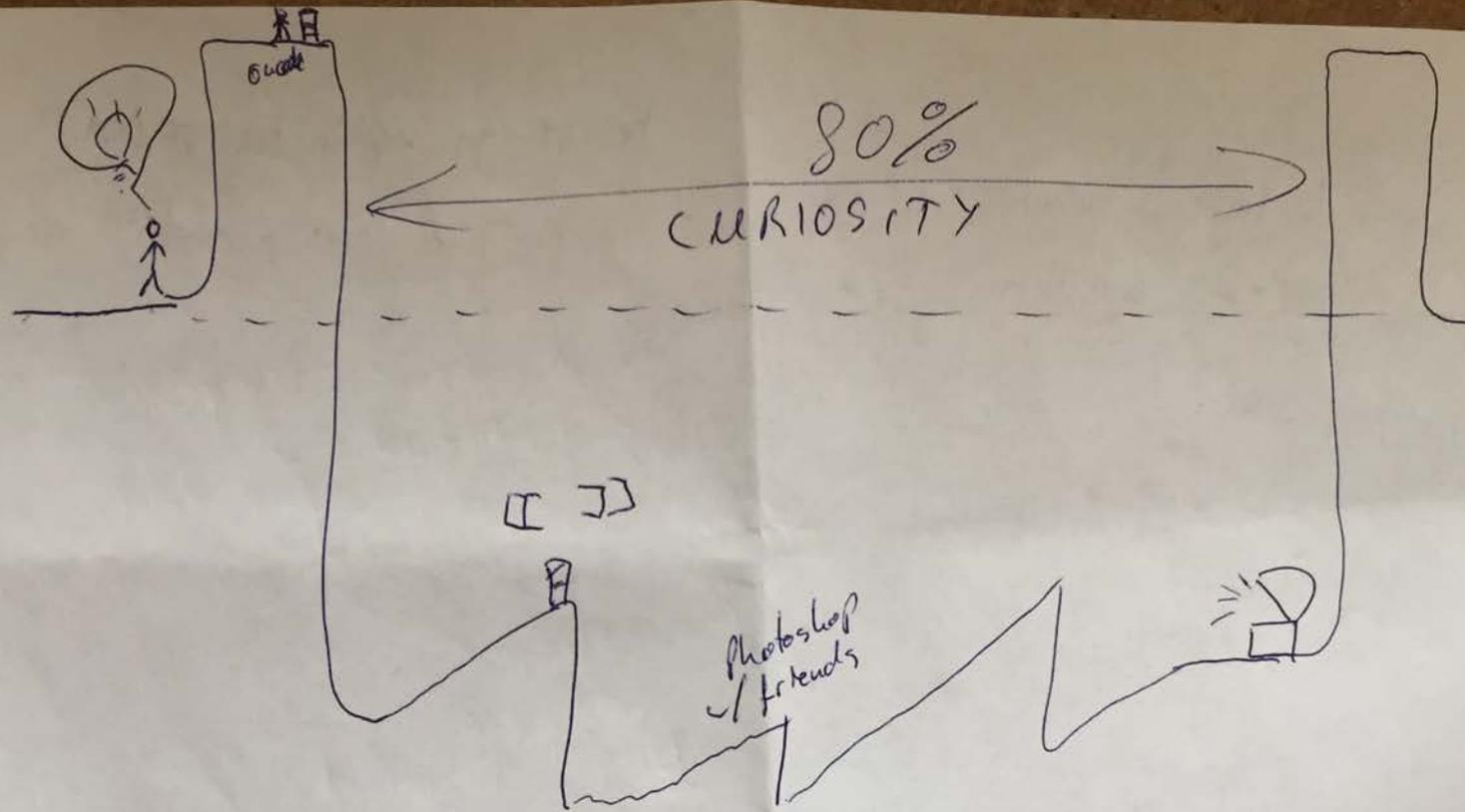
- X Research progress (by definition it doesn't just work)
- X Formulating a valuable research question (my research sounds so dull)
- X Advisor! (esp. due to apprenticeship model)
- X Competition (peer pressure and jealousy)
- X Financial (my medical doctor friend...)
- X Self-doubt (am I qualified to do research?)
- X Rejections
- X Critiques

IMPOSTOR SYNDROME

- X A psychological pattern in which an individual doubts their accomplishments and has a persistent internalized fear of being exposed as a "fraud".
[Wikipedia]
- X "I'm not good/smart enough.", "I just got lucky.", "I must not fail."
- X Very very common among high achieving students / researchers
- X Associated with overwork, with an overly keen focus on pleasing others, and with an almost desperate drive to constantly achieve more.
- X Strong correlation with anxiety, stress, depression, and burnout

CRITIQUES EVERYWHERE

- X Paper reviews
- X Meeting with advisor
- X Discussion with collaborators & colleagues
- X Fellowship / Internship applications
- X Thesis proposal & defense
- X Classes
- X ...



YOU ARE THE OWNER OF YOUR RESEARCH, NOT YOUR ADVISOR

- X You should be the one formulating and solving the problem.
- X Your advisor is there to help you by giving you feedback and guidance, but ultimately you should own your research.
- X In earlier stages of research, more guidance helps.
- X You need to independently explore, learn, and make decisions.

FAILURE → SETBACK → GROWTH

- X “Fail early, frequently, and softly.”
- X If you succeed in solving your research problem at your first attempt, it’s a bad sign: maybe the problem is too easy or too trivial.
- X Good research involves multiple iterations of building–feedback–rebuilding cycles.
- X Learn something each time you fail and try something differently the next time.

First paper rejection



Degree programs I did not get into

- 2008 PhD Program in Economics, Stockholm School of Economics
- 2003 Graduate Course in Medicine, Cambridge University
Graduate Course in Medicine, UCL
PhD Program in Psychology, Harvard University
PhD Program in Neuroscience and Psychology, Stanford University
- 1999 BA in International Relations, London School of Economics

Academic positions and fellowships I did not get

- 2014 Harvard Kennedy School Assistant Professorship
UC Berkeley Agricultural and Resource Economics Assistant Professorship
MIT Brain & Cognitive Sciences Assistant Professorship
This list is restricted to institutions where I had campus visits; the list of places where I had first-round interviews but wasn't invited for a campus visit, and where I wasn't invited to interview in the first place, is much longer and I will write it up when I get a chance. The list also shrouds the fact that I didn't apply to most of the top economics departments (Harvard, MIT, Yale, Stanford, Princeton, Chicago, Berkeley, LSE) because one of my advisors felt they could not write a strong letter for them.

Awards and scholarships I did not get

- 2011 Swiss Network for International Studies PhD Award
- 2010 Society of Fellows, Harvard University
Society in Science Scholarship
University of Zurich Research Scholarship

WHAT HELPS?

- X Seek help!
- X Psychological safety & social belonging
- X Peer support (especially “academic friends” who are just like you)
- X Good advisor (talk to them often; you often need to reach out)
- X Life outside work
- X Research worth \neq self-worth (“my paper got rejected” \neq “I got rejected”)
- X Having thick skin
- X Criticism \rightarrow Constructive feedback \rightarrow Your own growth

ACADEMIA

PRO

YOU CAN WORK WHENEVER
YOU WANT! EVERY DAY
IS A SATURDAY!



JORGE CHAM © 2017

CON

YOU WORK ON SATURDAYS.



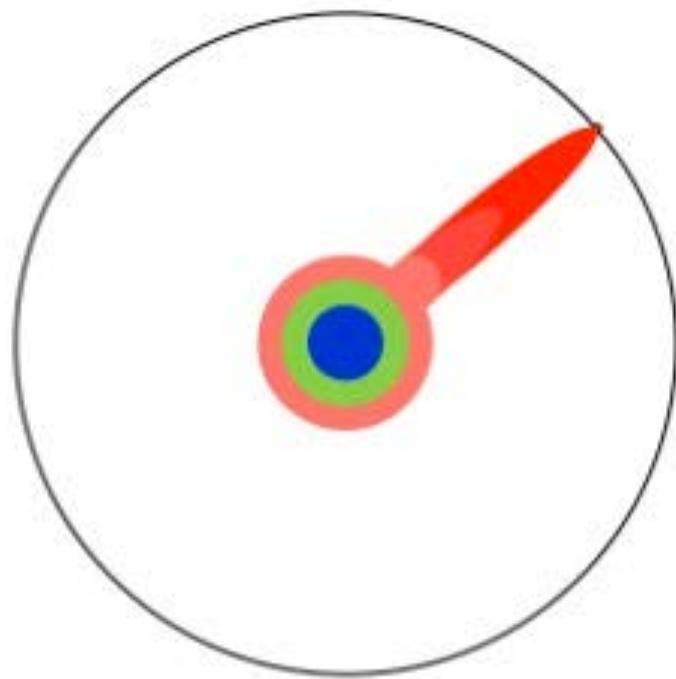
WWW.PHDCOMICS.COM

WHAT IS PH.D.?

WHAT PH.D. ENTAILS

- X Ph.D. is validation that you can identify, formulate, solve, evaluate, and communicate a problem.
 - Hence, new knowledge is created and communicated.

The Illustrated Guide to a Ph.D.



Matt Might



WHAT'S A PH.D.?

You've done the whole process yourself!

Identify Formulate Solve Evaluate Communicate

MOST IMPORTANT

HOW'S IT DIFFERENT FROM WORKING AT A COMPANY?

- X You work with teams of experts in different areas
- X Goal: change the market and make profits.
 - o Academia: create knowledge and change minds. (credit: Andy Ko)

Identify Formulate Solve Evaluate Communicate

Marketing
User research
Strategy
Product cycle

Design

Engineering

Testing

Marketing
PR
CEO on stage

HOW'S IT DIFFERENT FROM DOING A STARTUP?

- X Goal: change the market and make profits.
 - o Academia: create knowledge and change minds. (credit: Andy Ko)

Identify Formulate Solve Evaluate Communicate

You and a small team

IT'S ALL ABOUT MOTIVATION

- X You should work on something you're really really excited about.
 - If not, reassess.
 - No reason to suffer.
- X It's not a good financial decision.
- X It's not a time-saving decision.
- X It's not an efficient process.

Intelligence

Thinking fast

Spark of ideas

Problem solving



Steadiness

Embracing uncertainty

Perseverance

Problem identification

LIFE AS PROFESSOR

PH.D. TO PROFESSOR

- X “It’s like you get your driver’s license, and they hand you the keys to a Boeing 777. Like, sure they both technically have wheels...”

LIFE AS PROFESSOR: LIKE RUNNING A SMALL COMPANY

- X Secure (enough) funding
- X Hire & mentor (good) students
- X Manage projects
- X Manage lab
- X Teach classes
- X Do academic service: community, school, department
- X And... do (hopefully good) research (that gets published)

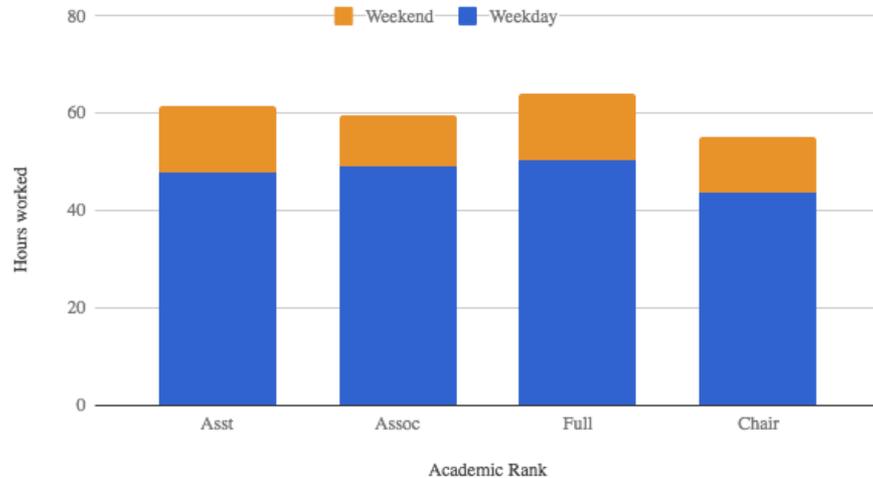


FRAGMENTED SCHEDULE & LOTS OF CONTEXT SWITCHES

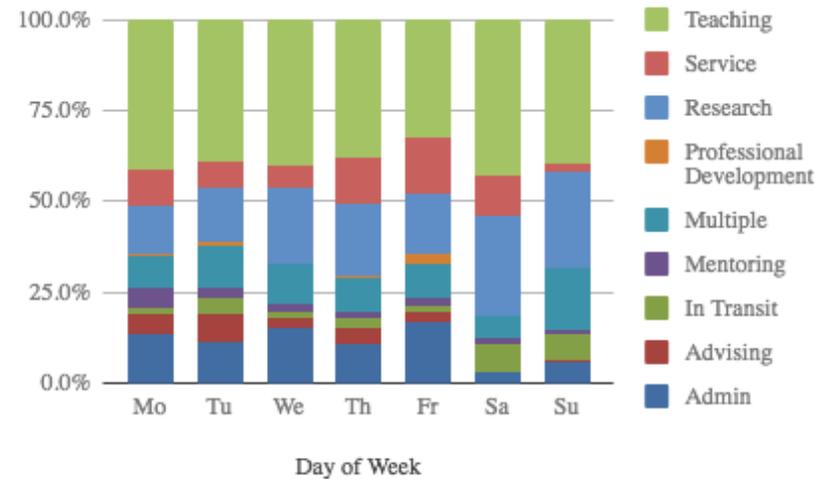


OVERWORKED & MULTIPLE JOB FUNCTIONS

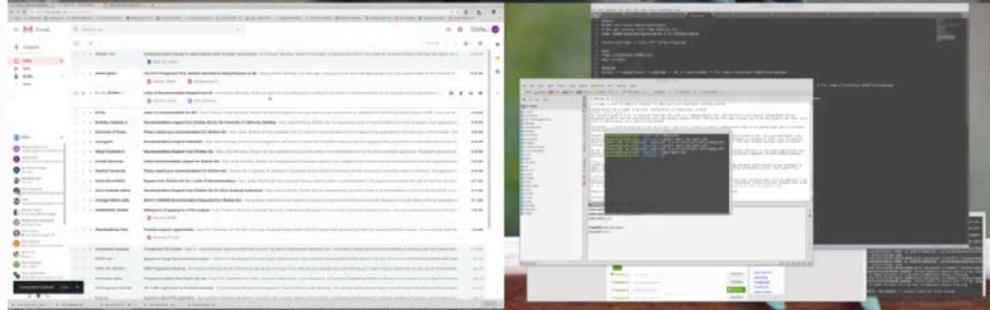
Hours Worked by Academic Rank



Job Function by Day of Week



Real science. Now in real time.



tenure clock: 31 weeks 4 days 20 hours 59 minutes 25 seconds

11 viewers

PEER REVIEWS EVERYWHERE

- X Paper reviews
- X Grant proposal reviews
- X Tenure cases
- X New positions
- X Teaching evaluation
- X Award recommendation
- X ...

ACADEMIC CULTURE

- X Publish or perish
 - How do we evaluate “impact” of research?
- X Paper inflation
 - Even many grad school applicants have papers these days.
- X Number game
 - “This guy has X top-tier papers this year.”

LIFE AS FACULTY: WHAT'S AMAZING

- X Working on whatever I'm most excited about with nobody telling me what to do or not do.
- X Joy of research
- X Joy of mentoring
- X Joy of collaborating
- X Joy of teaching
- X Joy of endless learning



NEXT CLASS: RESUME WORKSHOP

- X Please volunteer to use yours as an example in class.
- X Add a reply to a CampusWire post (to be posted right after class today).