So, you want to be an academic?

Matthijs (Matt) van der Meer

Assistant Professor & Canada Research Chair

Department of Biology
Centre for Theoretical Neuroscience

www.vandermeerlab.org

UNIVERSITY OF WATERLOO

So, you want to be an academic?

are you **sure**?

there are some (high-profile and pervasive) misconceptions about what professors actually do…

The Least Stressful Jobs Of 2013

531 comments, 102 called-out + Comment Now + Follow Comments

The Least Stressful Jobs Of 2013

1 of 10

Courtesy of University of Texas, Dallas

1. University Professor

Median salary: $62,000

University professors have a lot less stress than most of us. **Update: Well maybe not, see ADDENDUM below.** Unless they teach summer school, they are off between May and September and they enjoy long breaks during the school year, including a month over Christmas and New Year's and

- the public face of a typical professor is restricted to class time only

- this doesn't seem like a lot to most people!

Forbes.com, Jan 2013

there are some (high-profile and pervasive) misconceptions about what professors actually do…

David Kroll, Contributor
I'm a scientist who writes about the drugs and science in your life.
+ Follow (28) Follow 46

PHARMA & HEALTHCARE | 1/05/2013 @ 11:47PM | 106,929 views

Top 10 Reasons Being a University Professor is a Stressful Job

76 comments, 41 called-out + Comment Now + Follow Comments

Being a university professor is in no way the least stressful job for 2013. In fact, 2013 is likely to be one of the worst years to be a university professor.

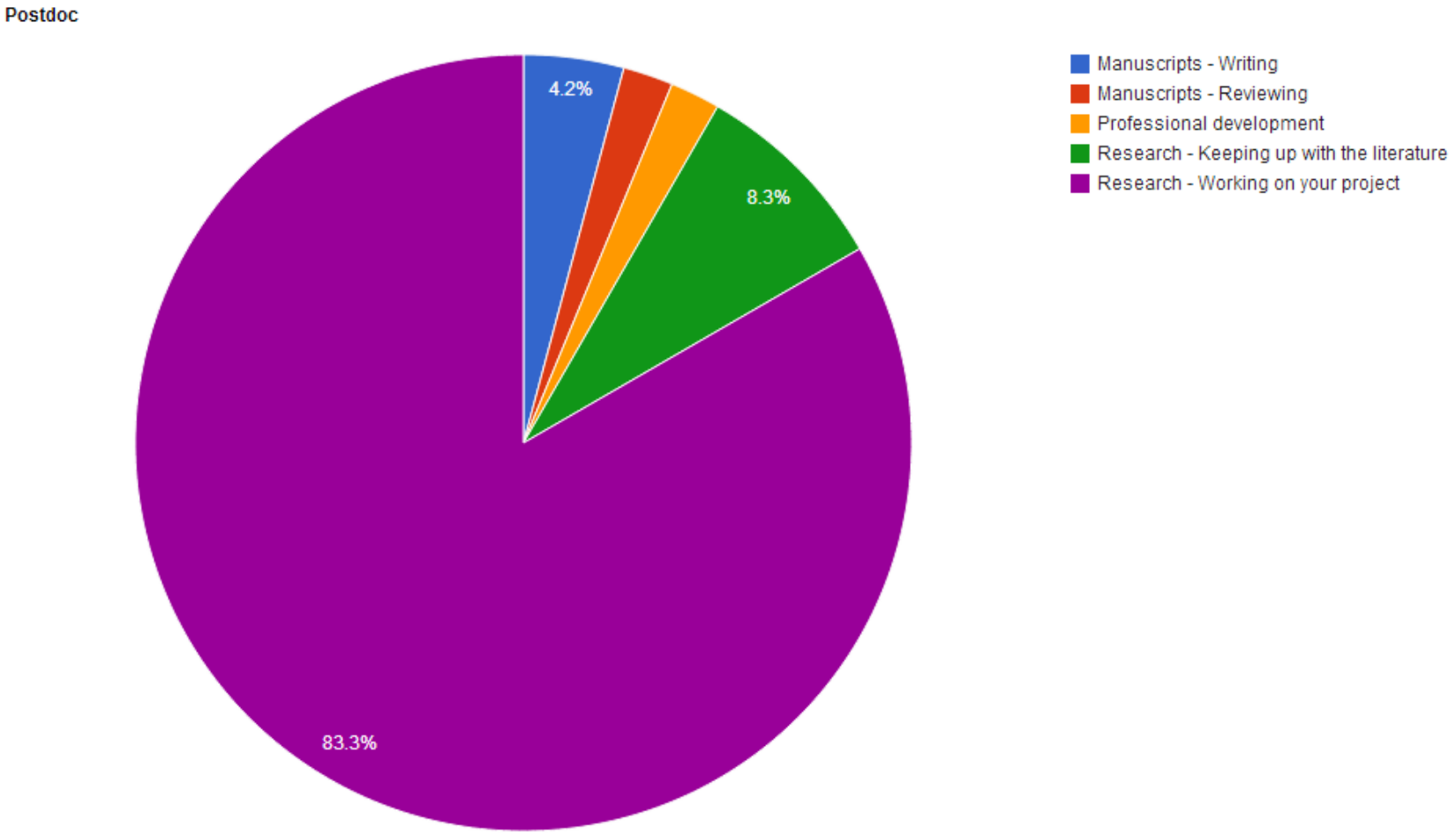
But many pixels are being spent across the Forbes.com platform at the site of Forbes staff columnist, Susan Adams. Adams has been a legal affairs columnist at Forbes since 1995 and writes widely on leadership and careers.

Johns Hopkins University. (Photo credit: Wikipedia)

- the public face of a typical professor is restricted to class time only
- this doesn't seem like a lot to most people!
- need to look behind the scenes; will touch on some of the more stressful (and rewarding) aspects in this talk

Forbes.com, Jan 2013

…but even for those “on the inside” the professorial job description isn’t always obvious:



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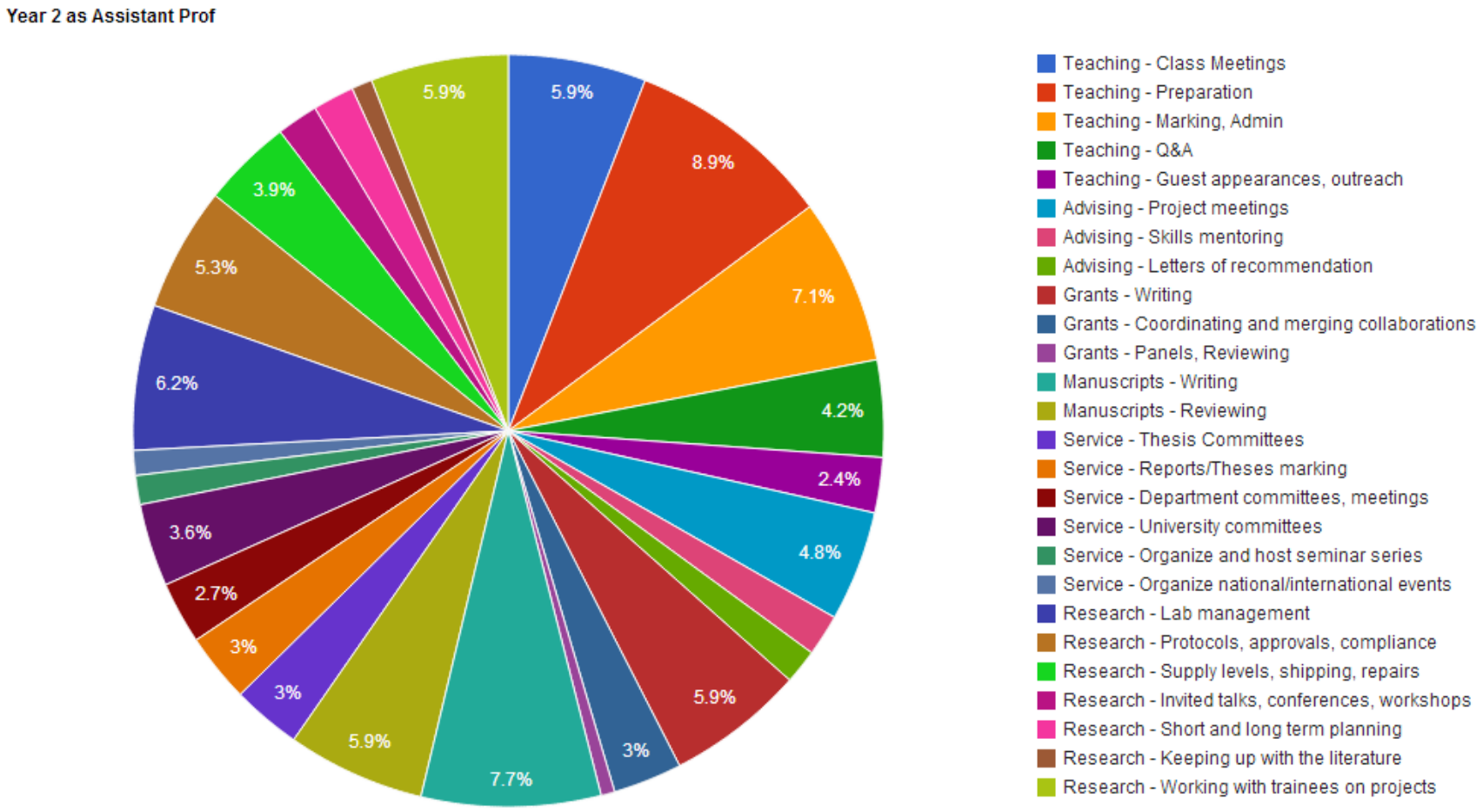
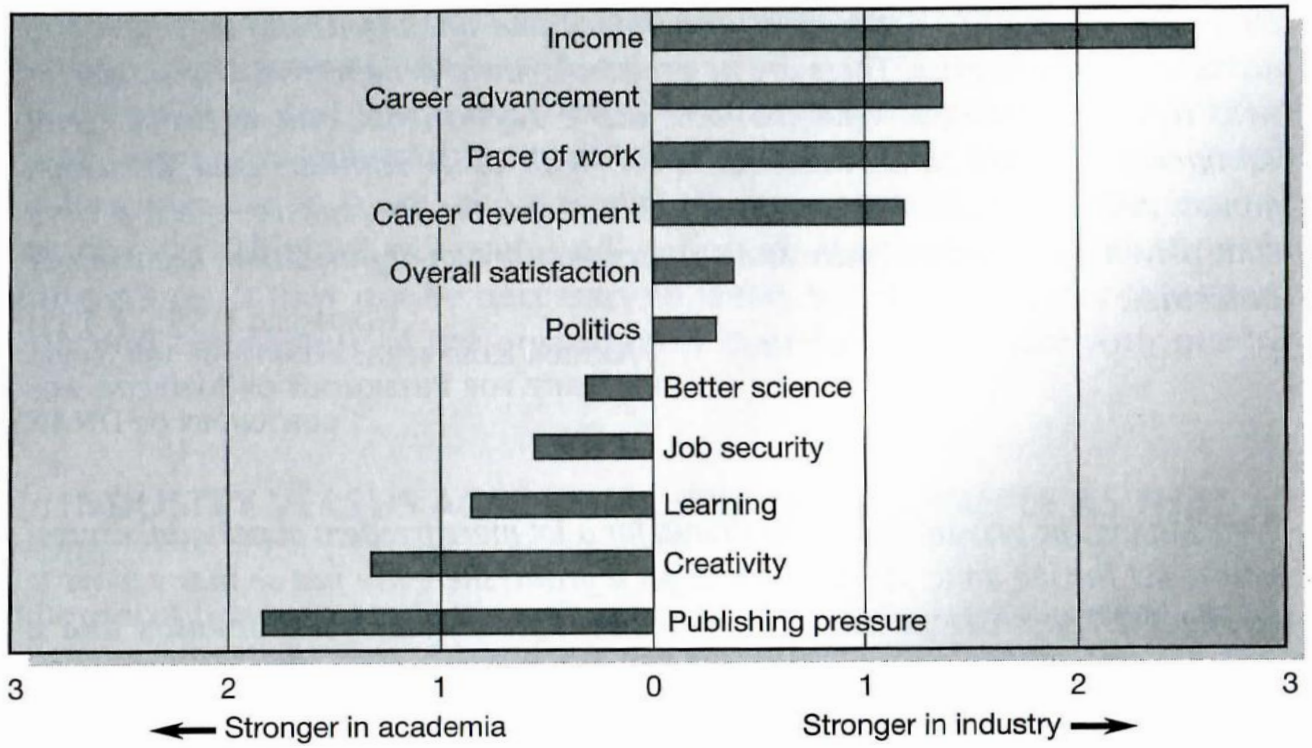


big difference between how grad student/postdoc and typical prof spend their time!

academia vs. industry



Average relative scores of 11 factors, from 162 reader responses.

FIGURE 1. Distinctions between academic and industry jobs. (Adapted, with permission, from Grimwade 2001, p. 29.)

but, lots of diversity both in industry and academia

can sometimes combine (some of) both

faculty positions – what is expected?

example: currently active job ad in biology

key phrases:

- "publication record indicative of…"
- "..expected to establish vigorous externally funded research program…"
- "…contribute to teaching…"

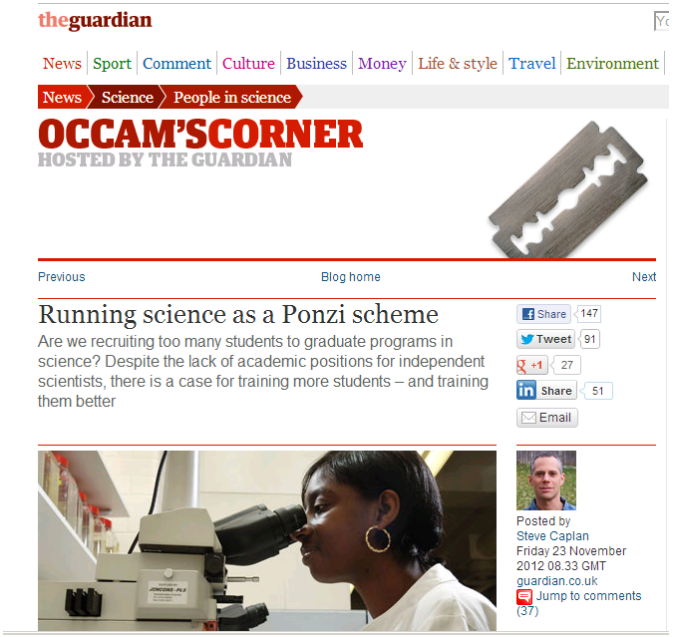
this is typical in science/biomed

ok, if after considering this, you think a faculty position is for you:

what are the odds of actually obtaining a faculty position?

not much hard data available, but it's pretty clear that they aren't good:

Nature, 2011



The Guardian, 2012

ok, if after considering this, you think a faculty position is for you:

what are the odds of actually obtaining a faculty position?

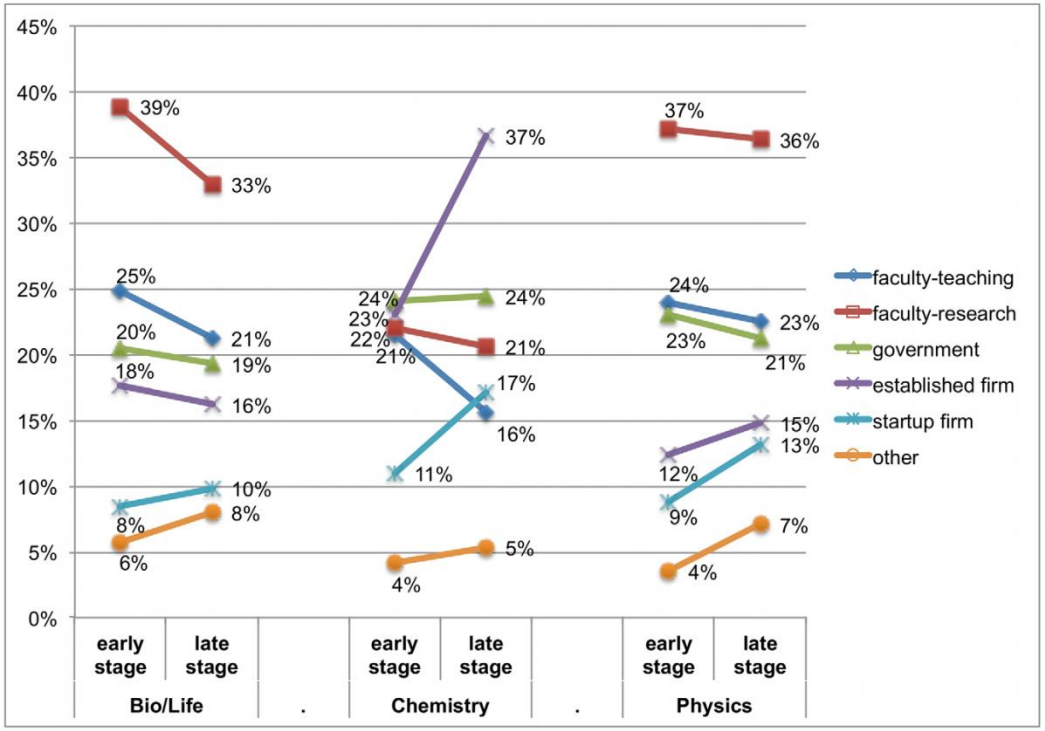
not much hard data available, but it's pretty clear that they aren't good:

- widespread perception that "universities run a pyramid scheme" [training many PhDs for few faculty positions]
- "apprenticeship model of 19th century [the PhD] is ill-suited to 21st century realities"
- 5-6 years after PhD graduation, only 14% hold faculty position (Biological Sciences, NSF 2006 Survey of Earned Doctorates; 2011 numbers likely much lower)

ok, if after considering this, you think a faculty position is for you:

whichever way you look at it, there is a “labor market imbalance” for faculty positions

faculty positions often attract 100+ applicants



← % of PhD student respondents rating career option as “very attractive”

Sauermann & Roach, PLoS ONE 2012

questions…

is a faculty job right for you?

know what is involved, and know the odds of getting one.

what can you do to learn about faculty life?

how can you maximize your odds?

once you are new faculty, then what?

goals for this talk

1) give an impression of life as a new-ish faculty member

(necessarily personal, just one voice)

2) share some things I've learned, do's and don'ts

(idem)

3) introduce you to some resources and tools

(that will hopefully be more applicable to you)

disclaimer and credits

my view is necessarily personal, biased, limited, discipline-specific, research-university specific, etc…

so, don't just take my word for it; try to find out what the equivalents for your specific discipline are, get other views

credits:

- hat-tip to David Clausi's excellent take on this sort of talk
- numerous books, articles, blogposts linked throughout
- my scientific mentors and colleagues

about me

- BSc, Science, University College Utrecht (2001) with exchange term, University of California, San Diego (2000)
- MSc, Informatics, University of Edinburgh (2002)
- PhD, Neuroinformatics, University of Edinburgh (2007)
- Post-doc, Department of Neuroscience, University of Minnesota (2007-2010)
- Assistant Professor, Department of Biology, University of Waterloo (2010) (*Chosen after interviewing at a number of very different institutions in 4 countries)
- Canada Research Chair (Tier II, 2011)
- Neuroscience lab, currently consists of 1 post-doc, 1 PhD student, 2 Master's students, 1 tech, several undergrads

faculty positions – getting an interview

a major step! can be extremely difficult even for well qualified candidates

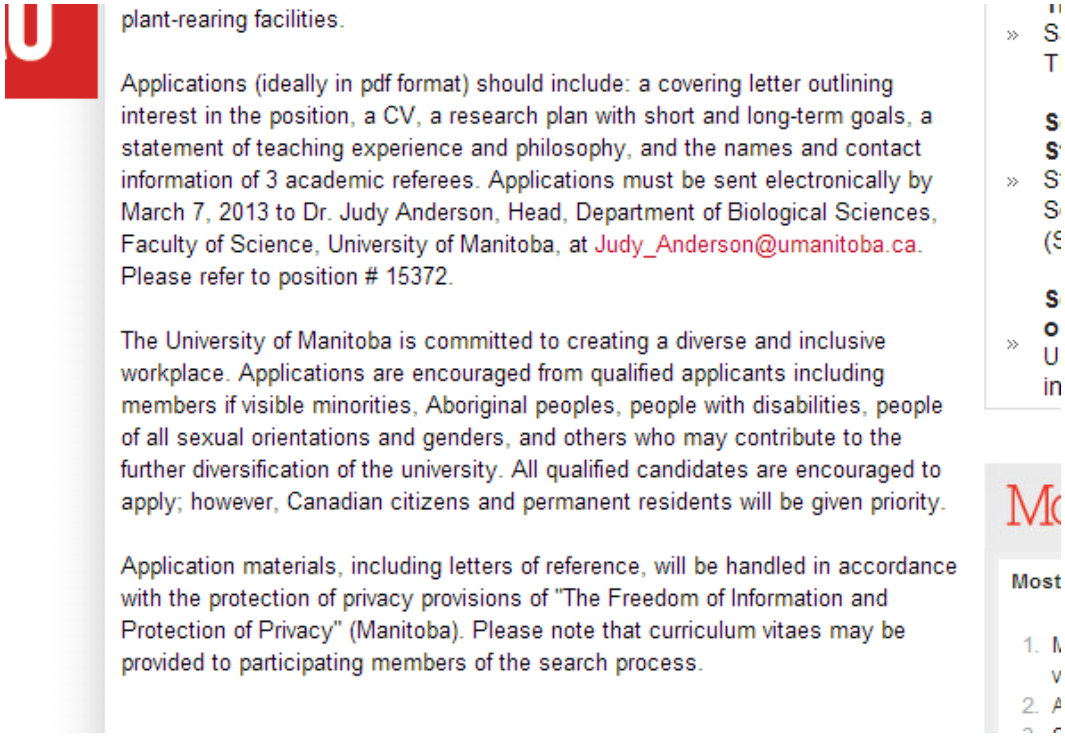
be aware of available positions, start doing this during PhD

for Canada: subscribe to *University Affairs*. Many journals (*Nature*, *Science*) and societies have job postings.

contact senior colleagues familiar with your work to let them know you are looking.

your advisor should be promoting you.

faculty positions – getting an interview



plant-rearing facilities.

Applications (ideally in pdf format) should include: a covering letter outlining interest in the position, a CV, a research plan with short and long-term goals, a statement of teaching experience and philosophy, and the names and contact information of 3 academic referees. Applications must be sent electronically by March 7, 2013 to Dr. Judy Anderson, Head, Department of Biological Sciences, Faculty of Science, University of Manitoba, at Judy_Anderson@umanitoba.ca. Please refer to position # 15372.

The University of Manitoba is committed to creating a diverse and inclusive workplace. Applications are encouraged from qualified applicants including members if visible minorities, Aboriginal peoples, people with disabilities, people of all sexual orientations and genders, and others who may contribute to the further diversification of the university. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority.

Application materials, including letters of reference, will be handled in accordance with the protection of privacy provisions of "The Freedom of Information and Protection of Privacy" (Manitoba). Please note that curriculum vitaes may be provided to participating members of the search process.

<u>application package:</u>

- cover letter
- CV
- research plan (~2 pages is the norm) with short- and long-term goals
- teaching experience and philosophy
- 3 academic references

this is typical.

Ask yourself: how can you get to a point where you can do these well?

faculty positions – getting an interview

cover letter:

Lots of advice, resources, workshops…

My strategy: keep it brief (2-4 paragraphs). Search committee members have lots to read already.

Use it to make a good first impression and add a personal touch

- Start with why you are writing
- Explain what attracts you to the place, why it could be a good fit
- Perhaps you already have a connection – mention it
- Any special circumstances that need explaining

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cover letter example

Dear Sir/Madam,

Please find enclosed a PDF with statements of teaching and research, my curriculum vitae, and 3 representative papers in application for the junior faculty position at the School of XXX at YYY.

I can say without reservation that I think the academic environment at YYY, as well as the wider community of the XXX-YYY and related research centers ZZZ, would be a tremendously exciting place to work, with many opportunities for synergy between its existing strengths and mine.

In particular, my work in studying cognition through both experimental and computational methods can form a natural interface between neural circuits, behavior, and computation. I expect this interface to connect productively with groups working in robotics, statistical and knowledge learning, and planning and reasoning within the School.

I have requested letters of reference from my current and past academic advisors:

[…]

Of the three enclosed representative papers, one ("Triple dissociation of information processing…") is not yet in press; I have nonetheless chosen to include it because it represents my favored approach of connecting large neuroscience data sets to computational ideas.

Thank you for your consideration,

faculty positions – getting an interview

CV:

Get a sense of what constitutes a competitive CV in your field. Look up a few new asst profs at a range of institutions, and see.

CV red flags in my field include:

- not enough publications
- gaps in productivity
- primarily middle-authorships among large lists of authors
- no evidence of independent funding
- downward trajectory
- padding with meaningless junk (e.g. "paper submitted to *Nature*")

Again, many resources/workshops/examples around.

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faculty positions – getting an interview

Research plan:

Should start with a brief overview of your research accomplishments.

Need to establish that you have the skills, expertise, and credibility to pull off what you are about to propose.

Need to balance long-term vision with specific, realistic goals.

In my field, often includes specific aims associated with grants (either funded or planning to apply), preliminary data

Keep in mind you are writing for an audience: some experts, but need to appeal to most of committee

application package:

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this is typical.

Ask yourself: how can you get to a point where you can do these well?

faculty positions – getting an interview

Teaching:

Application requirements tend to vary more than for the research plan.

Most R1 positions don't expect teaching experience, but you need to demonstrate you have given it serious thought

Again, balance specifics with a vision.

Give an example of a course you would like to teach, what challenges you expect to face, how you will address them.

But also refer to the broader context of teaching in your discipline. What long term trends do you see, etc?

application package:

- cover letter
- CV
- research plan (~2 pages is the norm) with short- and long-term goals
- **teaching experience and philosophy**
- 3 academic references

this is typical.

Ask yourself: how can you get to a point where you can do these well?

faculty positions – getting an interview

References:

Two should be from your PhD and post-doc advisor. If either of these is missing, people will wonder why.

My view on letters of reference: a few platitudes and a signature (even if famous) will not do it. Needs to contain specific examples that demonstrate the applicant's skills and character.

Make sure this will be easy for your advisor to do well!

A third reference who is "at arm's length" can be immensely valuable!

application package:

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- CV
- research plan (~2 pages is the norm) with short- and long-term goals
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this is typical.

Ask yourself: how can you get to a point where you can do these well?

faculty positions – at the interview

Congratulations! You've cleared a huge hurdle and have made yourself an attractive candidate for a faculty position.

Now what?

- At research universities: research talk and group interview (sometimes the group interview is a "chalk talk", or the two may be separate)
- Individual meetings with faculty, chair, dean(s)
- Group meeting with students; lunch/dinner with faculty
- Primary purpose is to sell yourself to the university, but be prepared to explain what you need to be successful
- Do your homework: ask in advance to meet with specific people of interest (not just faculty, but also techs/managers), and tour key facilities

faculty positions – at the interview

"fit" is an elusive concept.. often unclear what the search committee is looking for, but common questions include:

- How will you start your research program?
- Where do you expect to be in 1, 5, 10 years?
- How will you attract key personnel, trainees?
- What is your strategy in applying for (more) external funding?
- What specific projects do you have planned? What are the key milestones?
- How do you supervise and manage your lab?
- What equipment/resources/facilities do you need?
- What collaborations do you see?
- What courses can you teach? How will you approach this?

faculty positions – preparing for the interview

you need to be ready for these questions!

organize a file (I used a folder with tabs) for all of these.

you should also have your own questions:

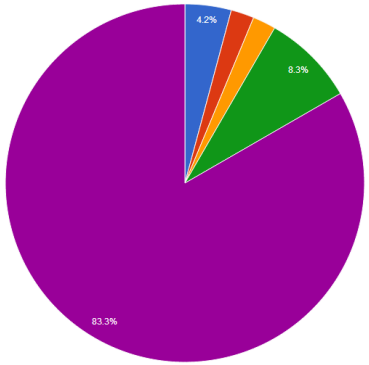
- lab space (who allocates this? renovation budget? what is included?)
- start-up funds
- teaching reduction
- how is the graduate program and funding implemented?
- what administrative, technical support is available?
- tenure success rate?
- teaching load?

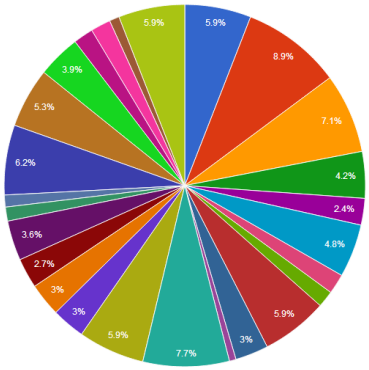
navigate these questions carefully. for instance, salary discussions can wait.

faculty positions – negotiating an offer

- ask for what you need to be successful; back this up with a detailed budget (ask advisor, recent new faculty for data on this)
- salary data are often publicly available; also surveys (Chronicle)
- two-body problem
- get start-up, space, teaching load, and other critical components specified in writing

from this… **to this**





- not enough time to do all these things well
- prioritize, and keep some “protected time”
- periodically verify that your goals and dept/univ expectations are aligned
- don’t say yes to everything
- keep electronic activity log and paperwork folders
- ask for help (colleagues, mentors, peers at other places)
- learn about tools, workshops etc.

my new faculty experience - teaching

- expect to develop your own materials even if you “inherit” a course
- for me (first time teaching new course): ~9 hours preparation, marking, meetings for *each hour* of class time!
- make notes after each meeting to make the next time easier
- recreate notes the second time: you will forget, don’t teach unprepared
- articulate your own teaching mandate and goals
- use teaching resources (e.g. CTE, materials from peers, societies)
- becoming a good teacher takes time and commitment, do this over the long term (or your research will suffer!)
- cannot be everything to all people

my new faculty experience - research

- attracting students with the right skills is key; I did my best to give talks, guest lectures at many places
- traditional advice: have some relatively safe, bread and butter projects so you can show things are working (tenure, set up students with pubs)
- but also have something more ambitious in parallel
- mitigate publication gap with collaboration, review papers (carefully)
- no “finish line” where everything is working; more of a dynamic equilibrium of things breaking & getting fixed
- set aside protected time to plan, think; be ready to write down ideas at any time
- think about where work fits in to preliminary data for grant applications
- stay connected (reviews, conferences, collaborations)

my new faculty experience - service

- choose committees/roles that are synergistic with your current career goals
- e.g. seminar series organizer, animal care committee member
- should get some new faculty member time off
- learn to say no

ok, sounds fun. so how do you get there?

no recipe!

research productivity is the *sine qua non*, but can take many forms (e.g. 2 glamour publications+ vs. 8 solid contributions)

need to develop a research identity, a coherent and recognizable path that equips you with a set of projects that are realistic, interesting, and “yours”

become embedded and recognized in your field

no substitute for hard work and long hours on your primary projects, but don’t forget about the soft skills

be passionate about what you do!

PhD checklist

- be aware of what is needed for the next stage (typically landing a good post-doc)
- some publications (~1 per year is typical in my field)
- build network with peers at different institutions: summer schools, conferences
- meet at least a few senior figures in the field (visiting speakers, at conferences, by e-mail)
- apply for own funding (PhD and post-doc)
- review some papers (typically together with advisor)
- take advantage of opportunities to develop soft skills: presentation workshops, “Preparing Future Faculty” type courses
- align your expectations and career plans with your advisor’s plans and the lab’s capabilities
- but, do all these things in moderation: #1 is still your research productivity

postdoc checklist

- choose a lab with pedigree if you can (possible exception: working with new faculty) in a large research community
- work on projects that set you up for a compelling independent research proposal
- continue to build network, take a more active role (e.g. proposing workshop topic)
- start applying for faculty jobs as soon as your first postdoc paper comes out
- attend grant writing workshops, apply for independent investigator grants if your position allows; ask to be involved in your advisor's grant writing
- advisor should be promoting your work; ask to be considered for invited talks
- career plan analysis (myIDP)
- as before: #1 is still your research productivity

myIDP

myidp.sciencecareers.org

iGoogle | PubMed | Google Scholar | Import to Mendeley | uWaterloo | lab | teaching | learning | news | personal | admintools | computing | temp | Other boo

my IDP INDIVIDUAL DEVELOPMENT PLAN
Science Careers

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AAAS

You have put a lot of time and effort into pursuing your PhD degree. Now it's time to focus on how to leverage your expertise into a satisfying and productive career. An individual development plan (IDP) helps you explore career possibilities and set goals to follow the career path that fits you best.

myIDP provides:

- Exercises to help you examine your skills, interests, and values
- A list of 20 scientific career paths with a prediction of which ones best fit your skills and interests
- A tool for setting strategic goals for the coming year, with optional reminders to keep you on track
- Articles and resources to guide you through the process

There is no charge to use this site and we encourage you to return as often as you wish. To learn more about the value of IDPs for scientists, read the first article in our myIDP series.

Click below to get started.

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Authored by:
Cynthia N. Fuhrmann, Ph.D. (UCSF) Jennifer A. Hobin, Ph.D. (FASEB)
Bill Lindstaedt, M.S. (UCSF) Philip S. Clifford, Ph.D. (MCW)

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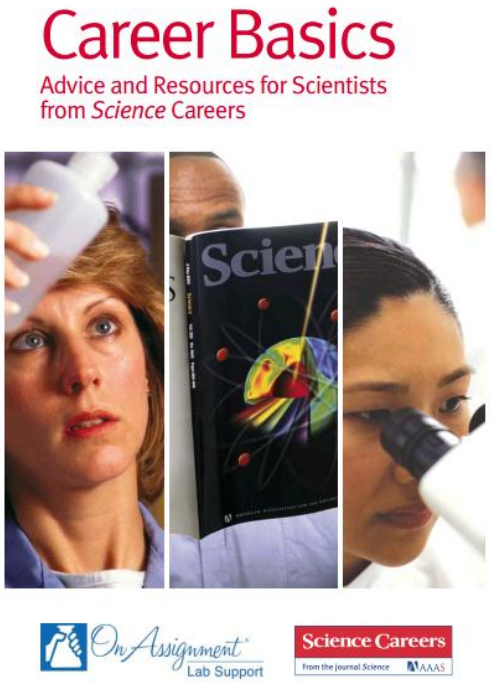
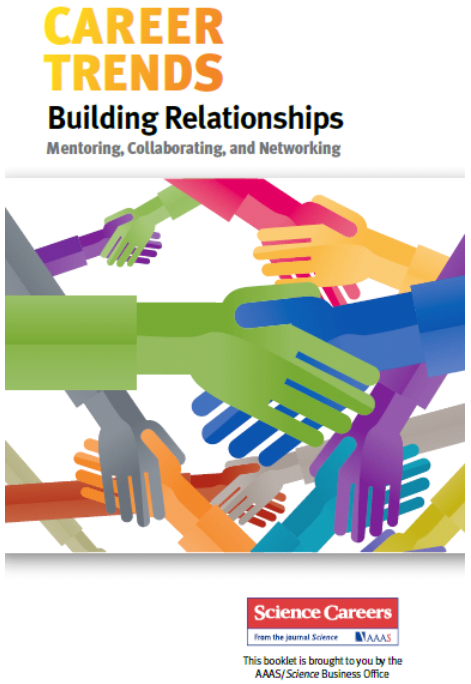
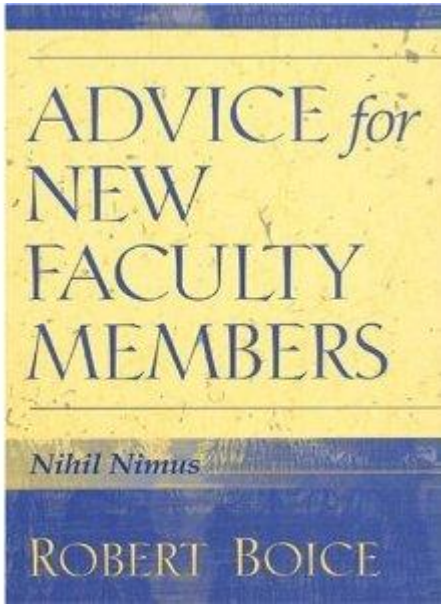
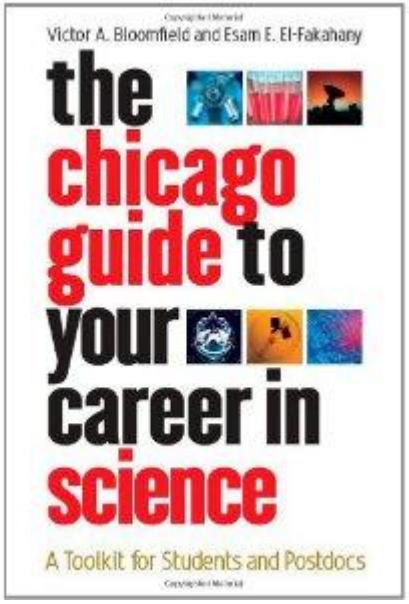
sciencecareers.sciencemag.org (a resource from the AAAS) has a number of **excellent** booklets:

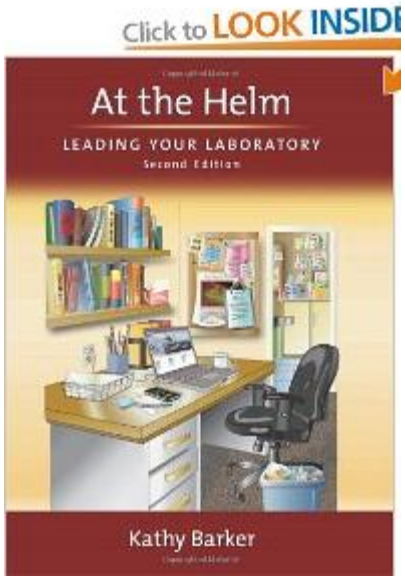


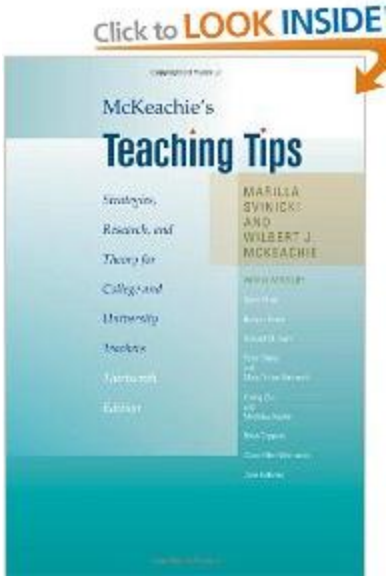


books I have personally found useful:









resources at Waterloo

many departments have a graduate “skills” course (e.g. BIOL 690 – Scientific Communication)

CTE

CECA

…

some more relevant blogs, resources (biomed/science-skewed)

profblogs:

Fumbling towards tenure ~~track~~

FemaleScienceProfessor

DrugMonkey

Exponential Book

other ideas:

Chronicle of Higher Education (US)

Academic Matters (Canada)

Tomorrow's Professor

ScienceCareers

ProfHacker

Society for Neuroscience Autobiographies