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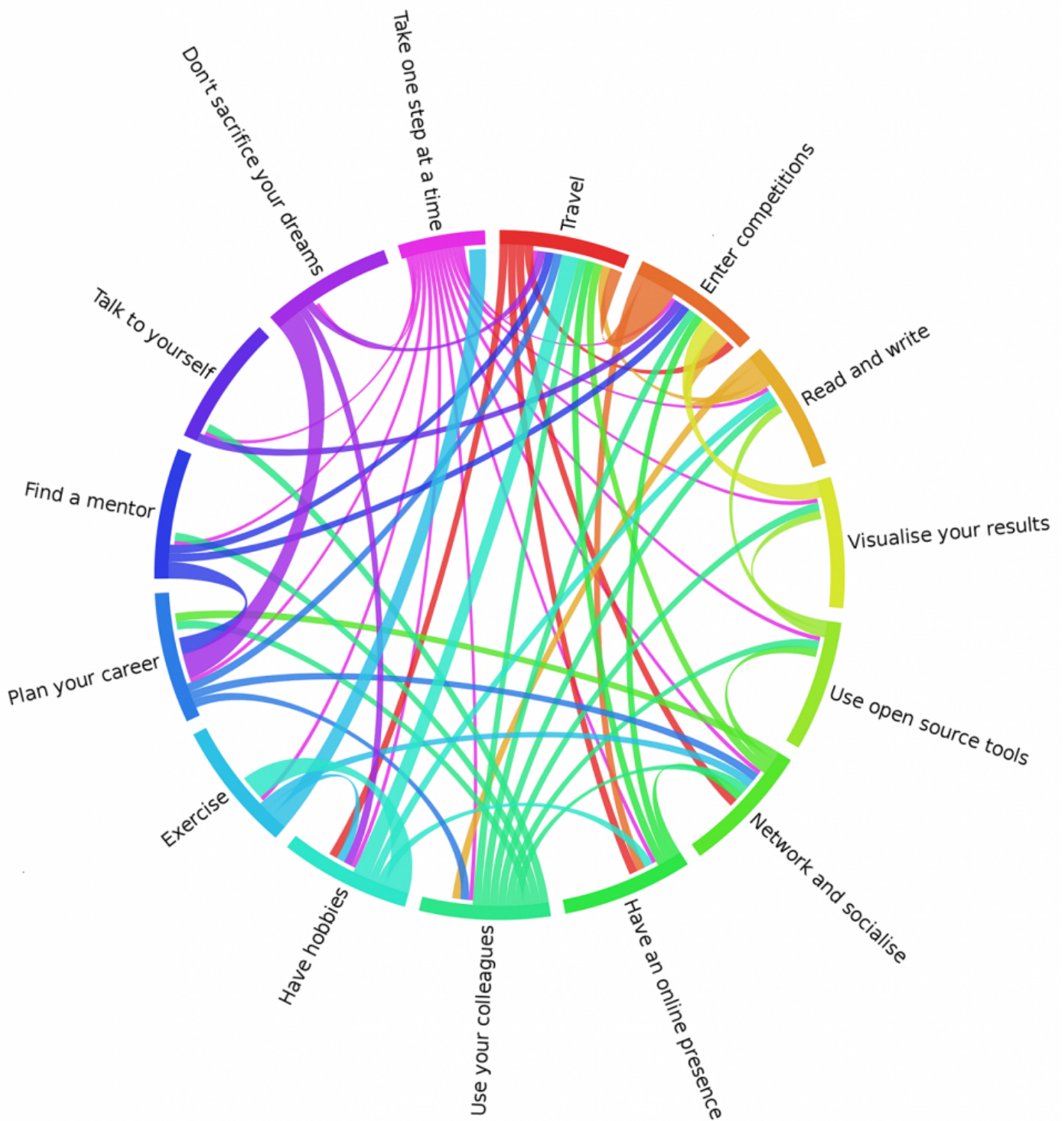
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## Surviving academia as an early career researcher: an unreliable guide

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**Being an early career researcher is exciting but terrifying. Use this guide to make the most of your PhD or postdoc experience, says Atma Ivancevic.**

In today's cut-throat world of grants and publications, being an early career researcher (ECR) can feel more than a little daunting. As an ECR myself, I can't guarantee that this will help you make it to the other side unscathed. But I'm still here, and if you're reading this, you probably are too. Outlined below are the things I've learnt during the ups and downs of post-PhD life.



## 1) Travel

Conferences and networking events promote personal growth in a way that sitting at home never will. You'll meet scientists who share your passions and experience new cultures. A good rule of thumb is to attend at least one conference per year (preferably international events). This is particularly important towards the end of your PhD, whether you're looking for future postdocs or interested in industry. Keep up to date with upcoming meetings and registration discounts. Here's my conference 'wish list', all of which have travel scholarships available for students and ECRs:

- ABACBS & COMBINE Symposium, Nov 2017 in Adelaide, Australia
- AMSI BioInfoSummer, Dec 2017 in Monash, Australia

– Keystone Symposia on Molecular and Cellular Biology, Feb 2018 in Santa Fe, New Mexico

– Human Genome Meeting, March 2018 in Yokohama, Japan

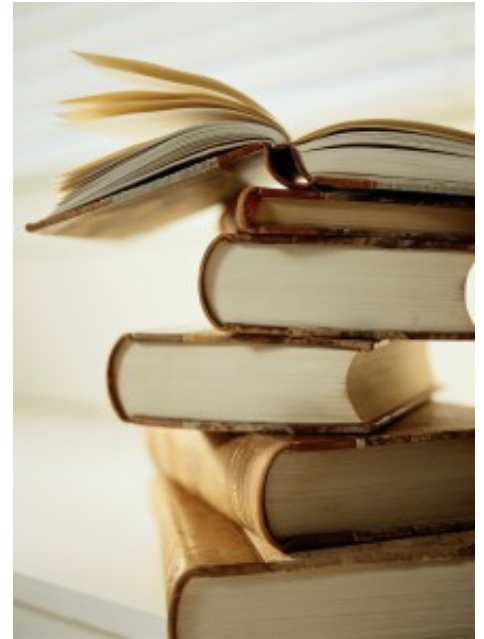
## 2) Enter competitions

This includes travel grants, poster presentations, young scientist awards, three minute theses, interpretive dance theses, hackathons, photo or writing competitions: anything and everything you're eligible for. Being able to quickly compose a logical and engaging competition entry is an invaluable skill, regardless of whether you actually win. And you can't win if you never try.

## 3) Read and write regularly

You need to be able to write well. Finding ground-breaking results will only turn into a *Nature* paper if you can also communicate them clearly, both within the scientific community and to the public. If you're seriously considering a career in academia, you should know that half your time will be spent writing papers, grants, fellowships and countless other applications to secure future funding. Practicing frequently will make the whole process a little less stressful and a lot more efficient.

It's also important to read and write outside of work. Restrict your scientific reading to weekday hours; in your spare time, read or listen to something else. Set yourself a challenge, like one new novel per week or month. This can increase creativity and help you avoid burnout from dense scientific literature.



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## 4) Learn how to visualize results

People are more likely to read your paper if your figures are compelling and informative. Learn how to make schematic diagrams to summarise key ideas using Inkscape or GIMP. Use LaTeX to create method workflows. If you want to go one step further, try making interactive figures with software packages like circo and iTOL. Need more inspiration? Check out [/r/dataisbeautiful](#).

## 5) Use open source tools

All of the tools listed above are freely available for download and use. Using open resources is a good habit to get into, and captures the very spirit of science. Don't buy pretty, commercial products for things you can do yourself. Many forums list open source alternatives to commonly used software. In the long run, you'll save a lot of money and gain valuable skills.

## 6) Network and socialize

See those local networking events advertised in emails and around campus? Trying going to a few. If there's no nearby PhD or postdoc group, try starting one by inviting colleagues out to the pub. At conferences, avoid slinking into the back row and sitting by yourself. Always go to welcome receptions and closing drinks. "It's not what you know, but *who* you know" holds strong in science, so learn to socialise and keep in touch.

## 7) Establish an online presence

Socialising is important both in person and online. Make a Twitter profile, update your LinkedIn account, and keep

your public Facebook pages professional. Use ORCID, ResearchGate, GitHub, Google Scholar, Stack Overflow, University student and staff directories. Upload new results and unpublished manuscripts to preprint servers, such as aRxiv and bioRxiv. Some institutions have started including social media activity and public presence as a measure of academic success. Google yourself to see what comes up — this is what your prospective supervisors will see.

## 8) Make use of the people around you

Never be afraid to ask for help, for fear of looking ignorant. In all honesty, yes, there is such a thing as a dumb question. But will it ruin your career, or even your day? Highly unlikely. Better to ask now and learn than spend years timid and bluffing your way through science.

Group learning is also incredibly useful. Having a strong support group in the lab will alleviate stress and make impossible tasks seem achievable. If possible, try to join a lab with other PhD students and postdocs – it's reassuring to have company while struggling through a difficult period.

“No one **finishes** a PhD overnight, or learns how to **play Led Zeppelin** riffs in one sitting.”

## 9) Remember there IS life outside of work

Getting stuck in the same routine will quickly leave you disillusioned and miserable. Remember to regularly try new things. This year, I tried aerial silks: a bizarre sport where you use hanging silks to contort your body into ridiculous positions. It was physically demanding, but a welcome relief from academic troubles. When looking for potential postdocs, seek out labs that encourage work-life balance and offer adequate sick and annual leave.

## 10) Exercise

Your work-life balance should include a regular exercise regime. You don't need to be a professional athlete to stay healthy. I currently use the following phone apps to stay motivated:

- 30 Day Fitness: Daily workouts that start easy but increase in difficulty as you go on.
- Strava: To keep track of longer runs and bike rides.
- Pocket Yoga: For when I need to relax.

## 11) Plan your career as a to-do list of goals

Writing down a list of career goals and aspirations can help you plan the next few years of your life. Find role models

online: people who have accomplished the things you hope to. Look through their resumes and LinkedIn profiles to determine exactly what you need to do, and how far along you already are. But don't be discouraged by their seemingly endless accomplishments. Remember that resumes rarely portray the whole story, since they don't show failures or unsuccessful applications.

## 12) Find a mentor

Once you have a clear idea of your academic goals, find a mentor to guide you through the murky waters of grant writing and research proposals. Your mentor should be someone outside of your immediate lab, who can objectively offer career advice without a vested interest in your project. It doesn't have to be part of a structured university program – feel free to approach senior postdocs and faculty members yourself — people like free coffee.

## 13) Talk to yourself

At some point, you'll have to start giving presentations about your research. Unfortunately, public speaking does not come naturally for most of us. Practice speaking professionally and clearly as much as you can. Talk to your friends, your family, your dog and your mirror. Record skype conversations and play them back afterwards. If you are confident in your work, you'll have an easier time making others confident in your work, too.

## 14) Don't sacrifice your dreams for someone else

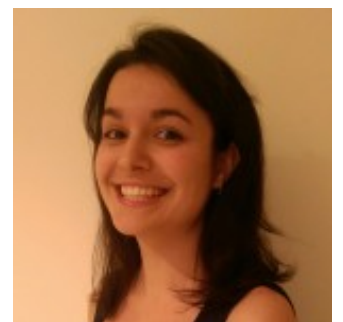
The PhD/postdoc period is a terrifying time where you have the opportunity to travel overseas, explore different labs, move around a lot and figure out what you want to do for the rest of your life. But it often falls at around the same time people start thinking of long-term relationship goals. Will your relationship survive long distance for a few years? How soon do you want kids? Do your career goals align with your partner's? And if not — will the relationship last?

This depends completely on your personal relationships and everyone's ability to compromise. But it's important to objectively evaluate what you want in life, and communicate those desires to others. Don't miss an opportunity for fear of losing someone. Life has a funny way of working things out, regardless of our input.

## 15) Feeling overwhelmed? Take one step at a time

No one finishes a PhD overnight, or learns how to play Led Zeppelin riffs in one sitting. The above points are more like guidelines than rules. I'm not going to pretend that I always exercise, or present well, or maturely handle reviewer two's comments. It is hard and often feels pointless. But the worst thing you can do is stop trying.

*Atma Ivancevic is a mathematician turned bioinformatician with a passion for writing. She currently works at the Adelaide Medical School in Australia, using bioinformatics to investigate junk DNA and neurological disorders. Next year, she hopes to travel abroad for her first overseas postdoc. You can follow her on Twitter, ResearchGate or LinkedIn.*



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