

Planning Your Path Through Academia

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At ICAPS Launchpad
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Australian
National
University

Some Reflections – Based on my Path

About the Speaker, in a Nutshell

Who am I?

- Some planning researcher.

Why do I speak here?

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 - Maybe because I have a good ICAPS/AAAI/IJCAI/KR/ECAI track-record (and sometimes even got lucky with awards)
 - Probably because I have *lots* of student supervision experience (see later) and love giving/sharing advice.
- **This doesn't mean I know what I am talking about, but maybe some of the advice is still helpful for some...**

→ Slides are made available online (to look up some ideas).

Research

Research: Research Questions and Output

Research Directions:

- Algorithm and heuristic design (solve problems quickly)
- Computational Complexity Analyses

times (cross product)

- Solving (mostly hierarchical) planning problems
- Modeling Support (how to repair incorrect models?)

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- several conference publications per year, usually ≥ 1 per PhD
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- Solving (mostly)
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Research output status

- several conferences
ICAPS, AAAI, UAI
not the amount

Take-away messages?

Theory: Usually,

- gets accepted much easier,
- much less work to get done,
- gets fewer citations.

Practice: Usually,

- *much harder* to get accepted,
- much more work,
- gets much more citations.

(Doesn't mean you should pick your work based on these observations.)

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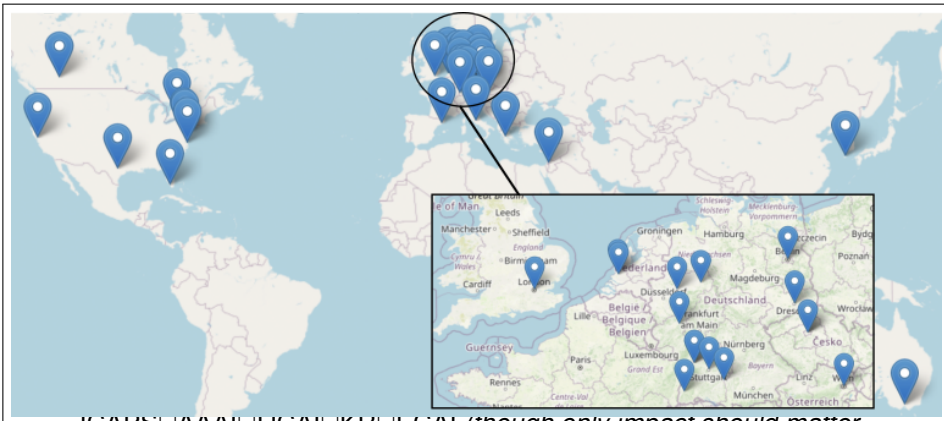
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- A few [best [undergrad*] [student*] paper awards]⁺
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Take-away messages?

- Being a scientist is fun! :)
- Success (often) largely depends on colleagues! Create a network early! (ICAPS is great for that!)
- Don't aim for anything, other than good research. Success comes over time.

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Course convening/teaching:

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Take-away messages?

- Teaching is the *best* way of understanding a topic!
- Do it!! But don't sacrifice too much time. You can still create the best material once you have tenure...
First, you need to get it.

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Supervision:

- I supervised > 50 research projects,
- and 8 PhD students, 2 already graduated.

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Start early with supervision. Why?

- I still have to learn. :(After 50...
- Improves soft skills!
- You get more work done (sometimes).
- Discussions generate ideas.
- Appreciation is rewarding. :)

Service

Service: Reviewing

My review service:

- (Senior) Program Committee (=PC/SPC) Member, (Sub)reviewer
- Too many to list!! But roughly:
 - Since 2012, 3 years into PhD (too late !!).
 - By now: at least 6 venues per year, plus journals.
 - Approx. 10 to 20 papers each year.

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- DO IT ! DO IT ! DO IT !!!!
- “Make this happen”

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Service: Others...

There's more you can do, e.g.,

- being a guest editor
- co-organization of workshop or other events
- maybe something University-internal? (Ask around!)

Usually, not before one even started a PhD... :) So, this is more “mid-PhD advice”

But if organizing events is something you enjoy, these opportunities might be a reason to do a PhD.

Goal of PhD

Define (your envisioned) Success

What does success mean for you? // Do **not** ignore this question!!

- Is it getting a tenured position?
- Does it mean many citations? (Not a good measure/goal!)
- Does it mean good *teaching*? (Did you think of certificates?)
- Who says you need many research projects? (That's more work!)

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- Maybe a family? More sports? Learn an instrument?
(And thus a few papers less per year? Might be worth it...)

→ Never neglect your (mental) health!

Both your PhD (and career in general) should be fun!

*The **journey** is the destination!* // in particular for academics
// since there will *always* be another paper!

Define Success, Reality-check

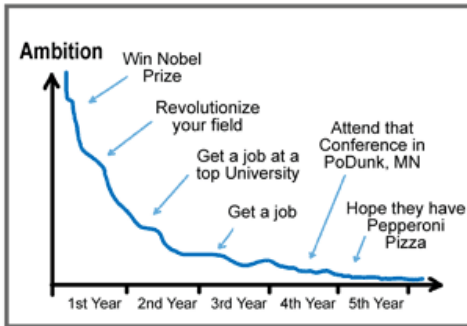
YOUR LIFE AMBITION - What Happened??



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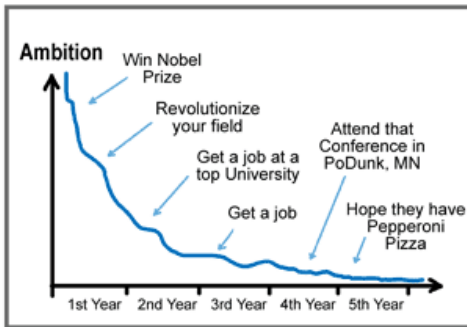
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What does a PhD (or Research in General) mean?

The following circle denotes all of mankind's knowledge.



This graphic is adapted from:

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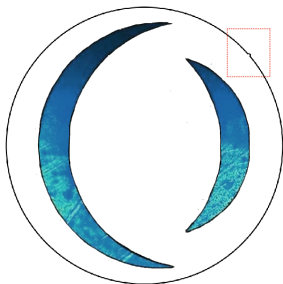
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Keep pushing

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And the bulge is your PhD/career contribution. (And that's enough!)

Topic Selection

How to select research directions?

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→ If somebody else can do your work, why bother?*
- *Well... Sometimes, there are arguments, e.g., quick papers.
- Do what you love (even if your supervisor doesn't like it*).
 *Have a conversation, and do what *has* to be done.
→ If you are passionate, you are more likely to succeed.

Better (Or more?) Papers

A Few Random Thoughts...

Helmert's Law of Two

There are two kinds of papers:

- those that do not appear particularly novel

— Malte Helmert (2023)

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 - If you collaborate on a paper: Discuss author order early.
Do not assume all are happy just because they are silent.

Feedback beyond your Supervisor's

How to get more input/help?

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- Collaborate. Research stays at other universities?

Time Management

Time Management: Some important Observations

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Parkinson's Law

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Time Management: Some important Observations

Hofstadter's Law

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Take-away messages?

- Time required isn't a consequence, time "required" is a *choice*.
- Set *tight* deadlines, you get done more!
(= Literally more publications!)

And close

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Time Management: Submit to Workshops

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- You will create a presentation and discuss it at the workshop:
That creates further ideas! (For improvements or follow-ups.)
Remember from earlier: teaching makes you *really* understand –
even your own work!

Concluding Remarks

Launchpad Questions

If you are not yet a PhD student, you might wonder:

- Should I do a PhD or go to Industry?
- Should I join the ICAPS community or a different one?
- Which supervisor to pick?
- Which topic to pick? (Should I listen to my supervisor?)

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He/she should respect you and take time for supervision.

Envisioned topics should align. My Number 1 rule: If you do what you love, you will be the most successful version of yourself!

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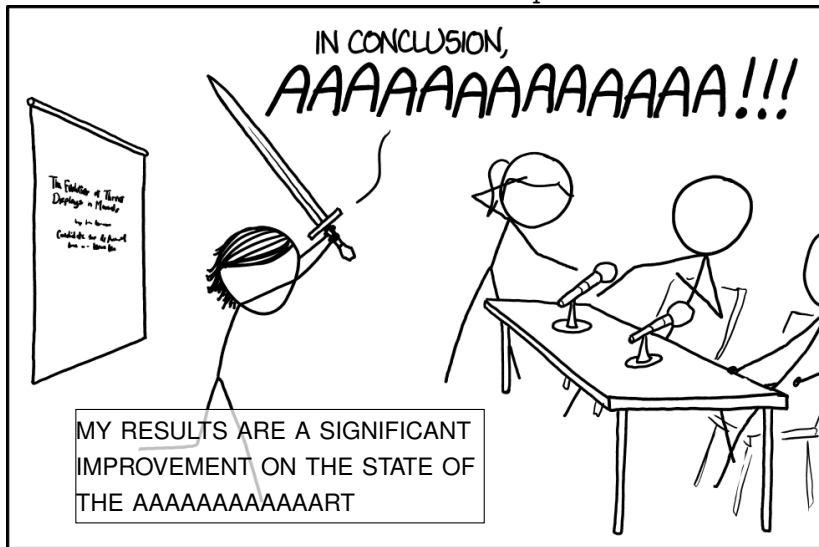
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See above. And tell your supervisor early when you are not happy. Remind him/her about rule 1.

Conclusion

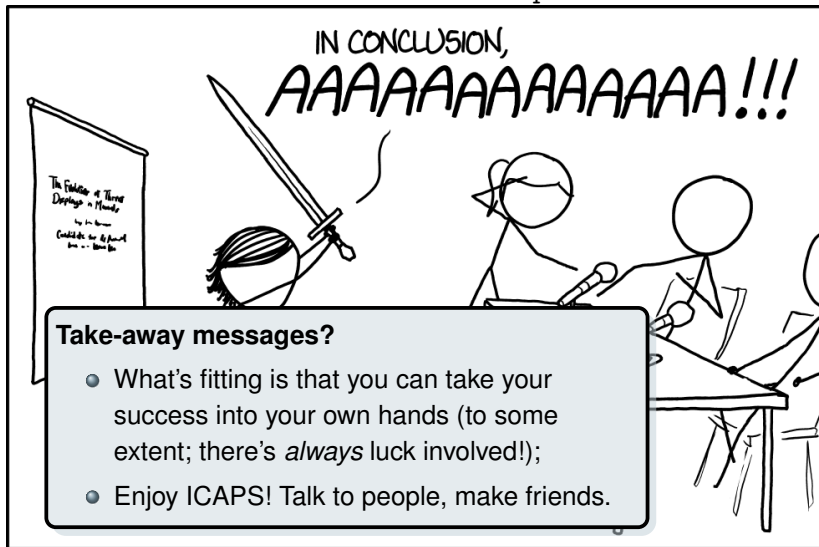
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