Graduate School – Experiences, Lessons-Learned, Life-After

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Talk Outline

Talk addresses following points:

· The most important question.

· Advise for the first year students.

· Advise for the second year students.

· Advise for third year students.

· Lessons learned.

· Your employment options.

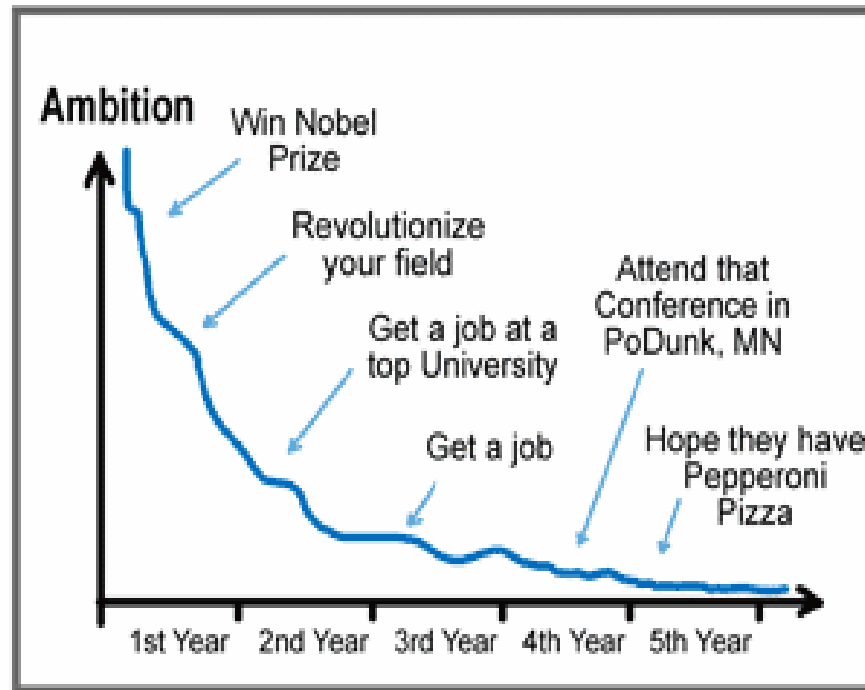· Life as a research fellow.

· My Advice.

The Most Important Question?

Why post-graduate studies?

· You want to be intellectually challenged

· To become an expert in the area.

· Curious to find answers to unknown questions.

· It is worth doing of your time.

· Family expectations.

- You should have more than a clear answer to this question.
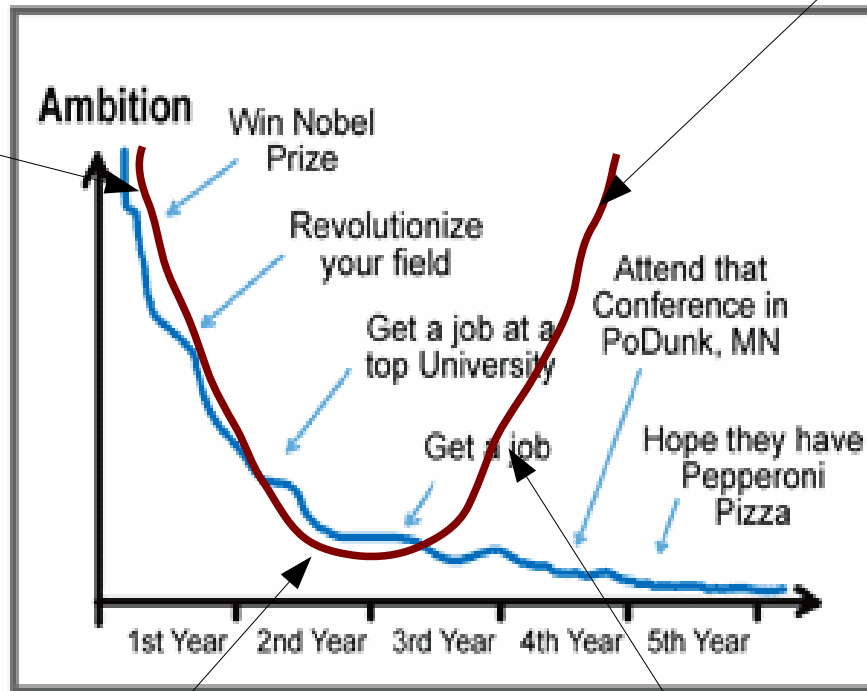
Ph.D Life Cycle

Ph.D Life Cycle in Reality

Advise for new HDR and 1st year students

Your incorrect assumptions:

- Scientific community is full of unsolved problems.
- I should read every single bit written about my area of research.
- My supervisor is a super-hero that will help me whenever I need.
- I have to write at least two good papers in the first year.
- Quality of my thesis is judged by the number of papers I have published.
- I have only three years to write a thesis, press the PANIC button now.
- Its myself and ONLY myself who can help myself.
- I hate this conference/journal, they rejected my paper.
- I can't publish in A* journals, it is just too difficult to publish there.

Correct Assumptions in the 1st year

- I need a plan that navigates me through my 3 years.

- I need to constantly monitor my plan and update it as need be.

- I need to strengthen my Mathematics foundations.

- I need to have exceptional writing/presentation skills.

- I need to do quality research.

- I need to write papers that get people excited.

- I can learn a lot from my supervisor's experience.

- I need to talk to other researchers and build collaborations.

- No matter what people say, I will finish my Ph.D.

- I will welcome any sort of criticism on my work.

Advise for second year students

In the middle of candidature you might face problems like:

- I don't like my research area, it is too saturated, all that needs to be done is done.

- My supervisor is not that helpful. Should I change my supervisor?

- My friends don't talk to me any more, my social life is affected.

- What you can do?

- It is normal to question your research area again and again. It is natural, the more you read, the more you realise how little you know. The key is keep going.

- You should not have any unrealistic expectations from your supervisors. They are there to guide you based on their experience. It is important that you seek help as soon as possible if you feel that your supervisor is not helpful.

- Friends and family play an extremely important role. Make sure that you have some time allocated for socialising.

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Advise for third year students

- You should have the structure of your thesis, that is table of contents, chapters, etc. at the start of third year.
- Thesis writing is a lengthy process, don't leave it to the very end of your candidature.
- Keep an eye on jobs portal. Make up your mind what kind of jobs you are interested in that is industry, research, location, money, etc.
- Scholarship issues:
  - You might only be supported for three years.
  - Plan how will your support yourself (tuition and living expenditure) if your thesis is delayed.
  - Plan to do some tutoring/teaching to save some money for the rainy days, right through your candidature.

Lessons Learned

- Finishing your Ph.D is the beginning not THE END.

- Think of your Ph.D as a research training.

- Train yourself to be able to do research in an area totally orthogonal to your current area of research.

- Train yourself as a problem solver.

- You should have a curious, intellectual mind.

Employment Options

There are many jobs that you can target after your Ph.D, for example:

- Lecturer
- Research Fellow
- Research Scientist
- Industry Positions
- Open your own start-up

Ph.D jobs are generally multi-faceted roles involving:

- Programming/Testing
- Experiment Designing
- Data Collection
- Model Designing
- Surveying

Life as a Research Fellow

- Day 1: I am optimising some piece of code.

- Day 2: I am collecting some datasets for running some experiments.

- Day 3: I am doing some complicated Maths (involving Calculus and Probability) to design some new models.

- Day 4: I am implementing my models and writing scripts to run experiments.

- Day 5: I am debugging my code.

- Day 6: I am frustrated just like a Ph.D student.

- Day 7: I am writing a paper to be submitted to a top conference.

- Day 8: I read a paper and want to implement its technique to see if it really works.

- Day 9: I am lost and feeling completely overwhelmed.

- Day 10: I start again - fresh.

- Day 11: ....

- Day 12: ....

- Day 13: ....

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My Advice

- Improve your Mathematical foundations.

- Do online courses especially on Coursera.

- Always maintain amicable relationships with your peers (especially with your supervisor).

- Train yourself to be a good programmer (hacker) for landing a job in Google, Microsoft, Facebook, etc.

- PhD is a difficult journey and you are likely to suffer, however, perseverance and hard work is the key.

- Never loose faith.

- If you like challenges, you are in a treat of your life time.