

# Some myths and facts about PhD Life and Future

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# Assumptions about the participants

You belong to one or more of these following categories

- Already registered for PhD program, full-time/part-time
- Considering PhD as an option but not clear about the area/institute
- Supervisor assigned/in search of a supervisor
- Completed/registered for the course work
- Not in the final stage of writing PhD thesis

What we shall not discuss

- Research methodology topics or specific research topic/technique

# Objective: Better informed about PhD process

## Protocol: Ask-Me-Anything (AMA)

(Disclaimer: I am not an expert, sharing my personal opinions formed by my personal experiences)

- Open discussions and debate
- No right or wrong Question or no one right answer

Good source: AMA Talks on PhD clinics by ACM India on YouTube

# Understand characteristics of PhD

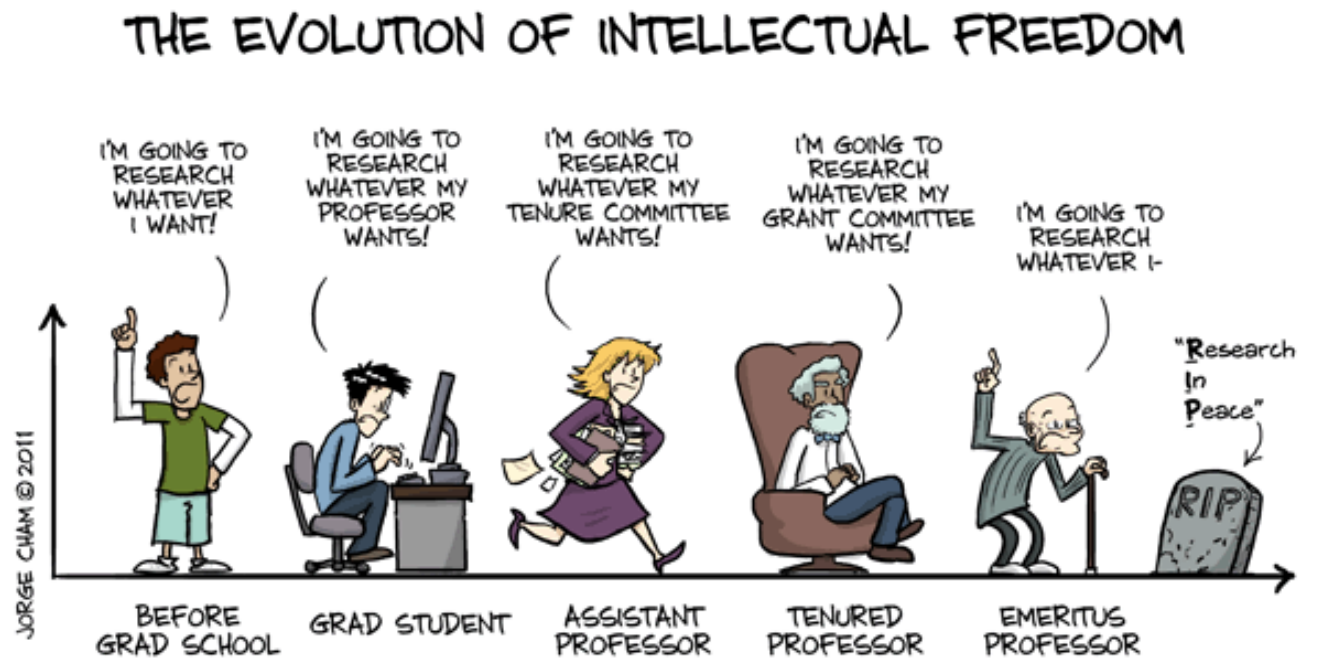
- It is a research degree and not like other degrees
- Each PhD experience is unique and there is always a story behind
- Unfortunately there is no uniformity in structure or outcome
- It is a personal journey of discovery of one's potential
- Good to listen to others but need to discover things that work for you
- The efforts are no less than that in a athletic competition or a startup
- Remember - Inherently talented geniuses don't need PhD to innovate
- It is 80% hard work 20% inspiration

# Sarcasm in PhD

- A lonely and miserable journey
- PhD is more of a lifestyle choice than a career

Visit <https://phdcomics.com/>

- PhD is boring
- Some PhD acronym
  - **Ph**inally **D**one
  - **P**iled **h**igher and **D**eeper
  - **P**ersonal **h**ygiene **D**isorder
  - **P**retty **h**eavy **D**rinker



# What background is required to do research?

- Anybody with right aptitude and attitude can do research
- However, academic research has a format and style
- Formal qualification is desired but may not be sufficient to do research
- Passion and creativity is more important than formal qualification
- Aptitude is what helps you to get into PhD program (hard skills)
- Attitude is what helps you to graduate from PhD program (soft skills)

# List of skills desired from PhD students

## **Soft Skills**

- Passion
- Commitment
- Discipline
- Determination
- High Energy
- Self-learning
- Patience
- Trust

## **Management Skills**

- Time Management
- Risk Management
- Open-mindedness
- Professional Relationships
- Autonomy
- Critical Reflective Thinking
- Decision-making
- Conflict Resolution

# Following are not the reasons to pursue PhD

- Higher pay expectation
- Convenient choice, not knowing what to do next after masters
- Stop gap arrangement for writing competitive exams
- For fashion more than the passion
- Academics looks safe and comfortable as against the real world



# Academic v/s Industrial research

- Practical problems are hard, often many problems come rolled as one
- Slicing and dicing the problem is a challenge and requires experience
- In academic research we look for clean, elegant solutions
- Practical problems are sometimes solved with “juggad”
- Often theory gets invented after the problem solution is in sight
- Focus and approach is different in academic v/s Industrial research
- In academic research, on getting stuck you can redefine the problem

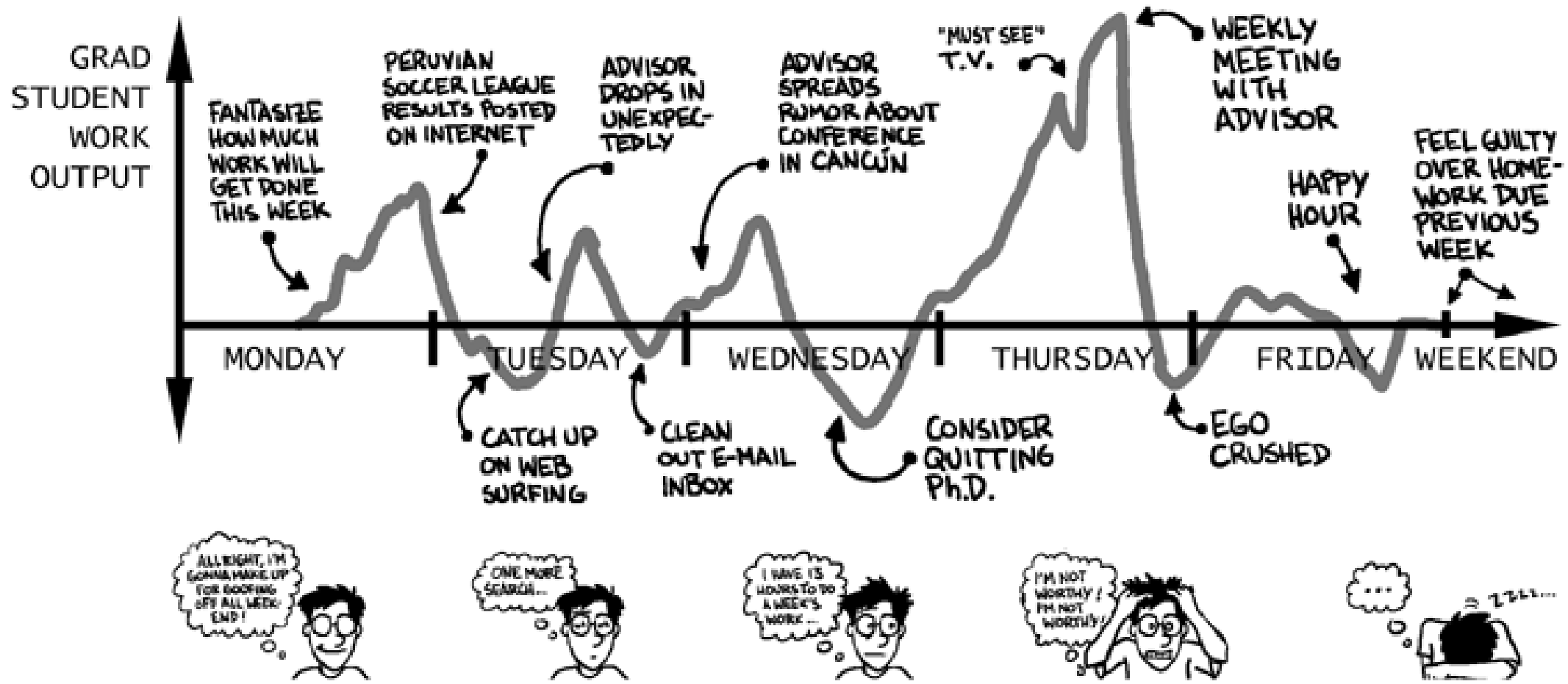
# Some facts about the PhD degree

- It is an entry qualification for doing independent research
- It is a training/initiation into research career and not a lifetime work
- It is an essential qualification for an academic career in the University
- It is unrealistic to expect your PhD research to be path breaking
- Requirement of publication as part of PhD is a necessary evil
- PhD guides look for good PhD students and market themselves subtly
- Three stages - Initial, Middle and Final. Each stage typically 1-2 years

# Challenges faced in the initial PhD phase

- Relearning fundamentals and fixing the misconception bugs helps
- Do not hesitate to register for some math courses to clear fundas
- In choosing a problem of the right size, experience matters
- To begin with, you work in an area rather than a specific problem
- Problem first approach is like putting cart before the horse
- Waterfall model does not work in research

# What PhD means in the middle stage



# Middle phase..

- Starts when you have completed coursework/comprehensive exam
- Broad area is defined and you have collection of papers to read
- Understanding a research paper in depth requires efforts
- Forming a study circle by teaming up with people in the lab helps
- Look for opportunities to explain and express your thoughts to others
- It is a good idea to be able to reproduce published work
- Participate in healthy debates and discussion, it is not a waste of time
- Attend talks on diverse topics not necessarily related to your research

# Middle Phase...

- Build a routine and make it a habit to write into a diary regularly
- Read papers by navigating through citation/references like a graph
- Take notes and write in your own words what you understand
- Use others as sounding boards in order to understand it better
- Use Facebook, Twitter, Podcast, YouTube to follow other researchers
- Avoid outward spiralling in this phase by stricter time management
- To glance quickly and to classify a paper based on the gist, is a skill
- Consistency of practice is the way forward to achieve your objective

# Things to remember and things to avoid

- Writing is hard. It is an iterative process and consumes lot of time
- Be aware of writer's Block, you are not alone
- How everything else appears more interesting than writing
- Use writing as a tool to improve your thinking process
- Read-Write-Rewrite to improve your drafts. ChatGPT can help
- Timely feedback from a colleague or a supervisor is a great help
- Do not wait for sizable results, communicate incremental progress
- Use conferences to get an early feedback on your work in progress

# Final phase of PhD

- It is natural to experience boredom/lack of motivation at some point
- Crucial phase and loosing momentum can lead to a do or die situation
- There are days when progress is fast and days when nothing happens
- You are likely to know more than your supervisor about the problem
- Acquire humility, there is so much to know that you don't know yet
- You are likely to face a race against time to complete PhD
- Start thinking about your next move
- Take help of your PhD supervisor in getting your next job/position



# Life skills expected at the end of PhD

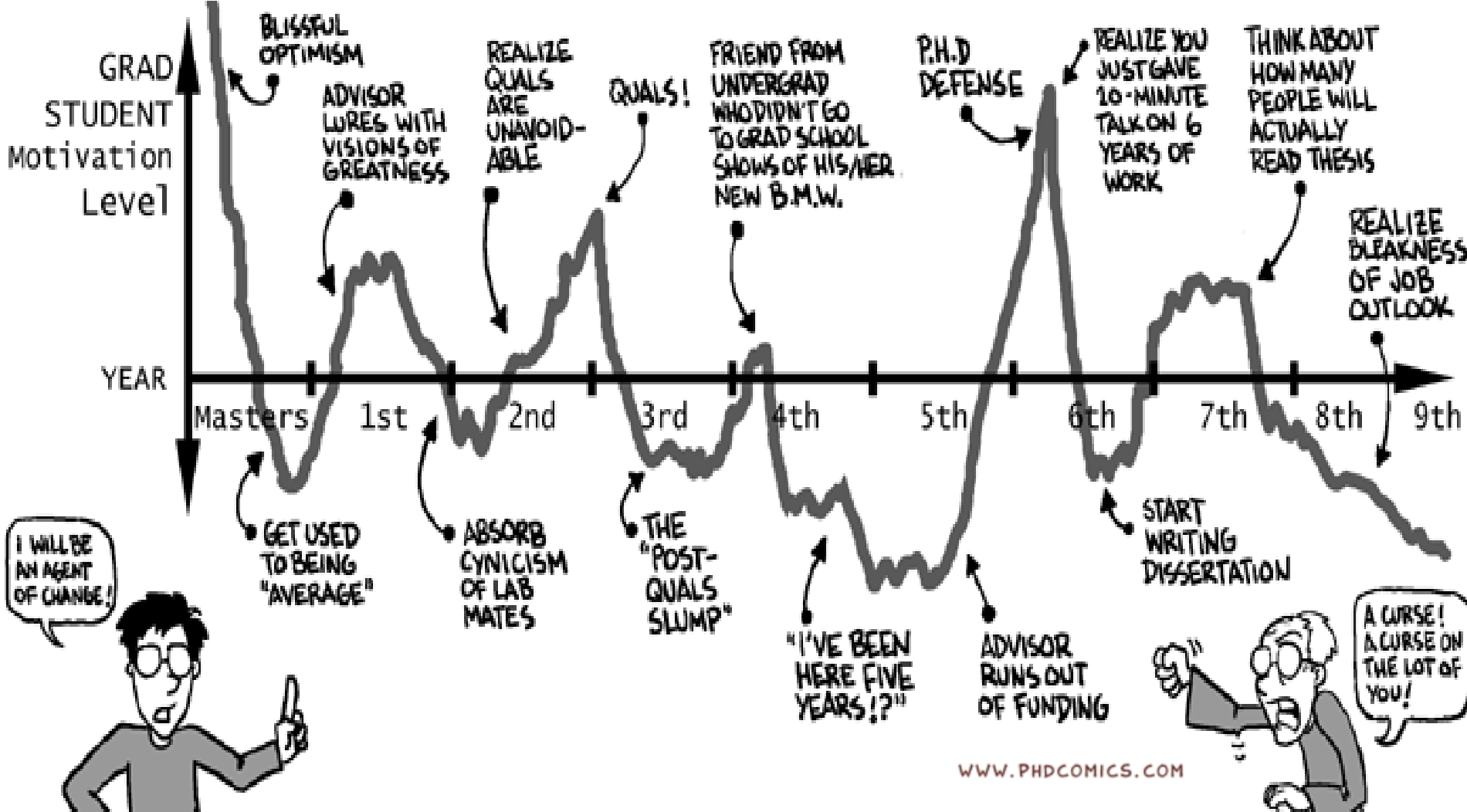
- Broad subject knowledge and deep insight into particular area
- Ability to dive deep into an area and to do independent research
- Good communication skills both oral and written
- Ability to write grant proposals and secure funds
- Networking skill, relationship management and professionalism
- Persuading, negotiating and influencing skills

# Lessons to be learnt during PhD

- You're never going to please everyone
- To succeed, you need to embrace failure
- You need to know when to move on
- Believe that you'll get there eventually
- Do not compare your progress with others
- There is no one pathway to do PhD
- Nor there is a single destination



# Motivation level as years pass by...



# Type of PhD students (Fun Intended)

- The Arrested Developer (Kind, but always busy helping others)
- The Gifted (Pure talent with an air of drama surrounding them)
- The Phantom (invisible but the mystery continues)
- The Show Pony (PR manager but social butterfly)
- The Interminable Scholar (vital member but a procrastinator)
- The Tortoise (plods through with a slow and steady pace)

# Types of Supervisors (Fun Intended)

- The Authoritarian supervisor (can help to fast-track your PhD)
- The Democratic supervisor (avoids influencing your decisions)
- The Big Picture supervisor (support grand ideas, averse to details)
- The Small Picture supervisor (more time for small details)
- The Renowned supervisor (many students but little time for them)
- The Unknown supervisor (Who has yet to make a name for herself)

# What next after PhD?

- Post-doctoral position (6 months – 5 years)
- Faculty position in an academic institution
- Industry job in R & D
- Independent Consultant/Freelancer/Youtuber
- An Entrepreneur
- Government job in policy making,
- Consulting firms writing/evaluating grant proposal/reports
- ...

सफ़र में धूप तो होगी, जो चल सको तो चलो  
सभी हैं भीड़ में, तुम भी निकल सको तो चलो

यही है ज़िंदगी, कुछ ख़ाब चंद उम्मीदें  
इन्ही खिलौनों से तुम भी बहल सको तो चलो

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