PhD Studies

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Outline

• What is a PhD?
• Why doing a PhD?
• Practical info

• A taste of research

• References
What is a PhD?

Definition

• “A doctorate is an academic degree of the highest level.

Traditionally, the award of a doctorate implies recognition of the candidate as an equal by the university faculty under which he studied. …

Research doctorates are nearly always awarded in recognition of academic research that is of a publishable standard (even if not actually published) and represents at least a modest contribution to human knowledge.

It is usually assessed by submission and defense of a doctoral thesis or dissertation, though in some cases a coherent body of published literature can be accepted instead.”

Why Doing a PhD?

Why doing a PhD?

• Necessity for an academic career

• Opportunity to test and develop your intellectual abilities and develop your creativity and self-confidence.

• Could possibly help to start a company
Practical Info

Admission Conditions

• Need to find a hosting laboratory! $\rightarrow$ funding!!
  – Make you known (courses, projects, internship)

• Need good grades!
  – Student in EPFL master
    • GPA $\geq 5.0$ - admission “automatic”
    • GPA $\geq 4.5$ – admission possible with negotiations
    • GPA $< 4.5$ – forget it!

• Admission approved by doctoral committee.
During the PhD

- Qualifier exam after 1 year (most laboratories)

- Courses: 12 credits to be taken
  - At least 2 courses in doctoral curriculum
  - Possibly 1 course in master curriculum

- Publications
  - Conference publications
  - Journal publication

- Final exam
  - Report
  - Defense (PhD director, 2 external professors, 1 EPFL professor)

- Typically 3 – 4 year

A Taste of Research in your Current Projects
Use Frequently Digital Libraries!

1. Search for keywords

2. Access list of articles

3. Access full text of articles

Hint

• In your (semester, master) projects use the digital libraries to understand the state of the art!!!!

• This can save you time and energy!
• This can be fun!
• Build on the others’ work!!!

• A unique chance @ EPFL!
References

PhD @ EPFL

- General Info:
  - http://phd.epfl.ch/page55508.html

- EPFL Rules:
  - http://phd.epfl.ch/page55522.html
General Info on PhD

- Jokes:
  - www.nigels.com/jokes/phd1.pdf
  - www.nigels.com/jokes/phd2.pdf
  - www.nigels.com/jokes/phd3.pdf

- How to finish a PhD:
  - http://se.uwaterloo.ca/~dberry/#FinishingPhD

- Under construction:
  - http://lamswww.epfl.ch/reference/phd/

- ... (many more)

Digital Libraries

- IEEE Digital Library
  http://ieeexplore.ieee.org/

- ACM Digital Library
  http://www.acm.org/dl

- EPFL Central Library
  http://library.epfl.ch/
Beer Froth

- Nicolas Constans, François Graner
  Une petite mousse qui monte
  http://www.graner.net/francois/publis/constans_mousse_biere.pdf

- Winners of the Ig Nobel Prize
  http://www.improb.com/ig/ig-pastwinners.html

- Ann Marie Cunningham
  Beer Foam Physics

- Arnd Leike
  Demonstration of the exponential decay law using beer froth
  http://www.iop.org/EJ/search and search on Leike as author.

- Peter Keusch
  The Tragedy of a Nice Beer Foam Head
  http://www.uni-regensburg.de/Fakultaeten/nat_Fak_IV/Organische_Chemie/Didaktik/Keusch/D-beer_foam-c.htm