

# Resources for PhD students

— MM Impulse talk by Azul Fatalini —

# Sketch of the talk

## Introduction

Why I wanted to talk about this

What is a resource anyway

Philosophy of this talk

## Resources

Math (learn and write)

Organization (time and material)

How to Ph.D. (motivation and mental health)

**To see the information of these slides in a list format [click here.](#)**

# INTRODUCTION

# Why I wanted to talk about this

- My personality and personal experience.
- I don't use all the things I mentioned and definitely not at the same time.
- I included answers of the poll from other PhD students in Münster..
- **WARNING:** This is a very overwhelming talk.

# What is a resource anyways?

- Resources: *Useful stuff*.
- Where to find them: PEOPLE. But also: apps, books, programs, etc. But also: Mailing lists, events, institutional stuff.
- **People, people, people:** friends, colleagues, advisor, people at conferences, the internet is also made by and full of people.

# Philosophy of this talk

- PhD is difficult enough so don't try to reinvent the wheel.
- Things are too hard already, get help! **Directly or indirectly.**
- Many answers are just out there!

# RESOURCES

Math



# Learn Math

<a href="#"><u>ArXiv</u></a>	Free distribution service of articles. Mailinglist by area. Also: you can download the source file (.tex) from an article submitted there.
<a href="#"><u>MathOverflow</u></a> & <a href="#"><u>Math StackExchange</u></a>	Question and answer sites for professional mathematicians and people studying math, respectively.
<a href="#"><u>Connected Papers</u></a>	It shows you related papers to one specific one in a visual form.
<a href="#"><u>Coursera</u></a> , <a href="#"><u>Youtube</u></a>	To find Math talks and courses in video format. There are many websites for this.
<a href="#"><u>Terence Tao's blog</u></a>	Discussion on many topics of Math around his research, but there is also a section called "Career Advice".

# Type Math

<a href="#">Latex</a>	Find the way you like it. <a href="#">Texstudio</a> , <a href="#">Overleaf</a> , etc.
<a href="#">Mathpix</a>	The inverse function of Latex. You upload a pdf or image and returns the tex script.
<a href="#">deTexiFy</a>	Draw a symbol in Detexify and it will tell you how to write it in Latex.
<a href="#">Lyx</a>	Alternative to Latex with a graphical interface.
<a href="#">Mathematical Writing</a>	Style of Math writing. It's overkill, but the first 8 pages are very useful.
<a href="#">Grammarly</a>	It helps with writing in English, great for emails.
<a href="#">iLovePDF</a>	Website to convert pdf to whatever and whatever to pdf. Also reorganize pages, etc.

# Communicating Math

[How to give a good maths talk](#)

Fun slides by Euan Spence.

[How to write Mathematics by Almos](#)

A reflection (22 pages).

[How to write mathematics badly](#)

Recorded talk by Jean Pierre Serre.

People

Strategies: watching talks, practicing talks with others

# Organization

# Organizing time and tasks

Calendars	<i>"Sometimes it also helped me to put "time to work on my project" explicitly in my calendar not to get overwhelmed by seminars and stuff".</i>
Planners	Paper or digital.
<u>Forest</u> / <u>Pomodoro</u>	Apps to help stay focused.
Task/project manager	To-do list, Google tasks, <u>Trello</u> , <u>Notion</u> (overkill), etc.

# Organizing material

For paper: folder, tags, indexing	Think about how or if you want to organize your printed papers or notes/thoughts (by topic, chronologically, etc).
For digital material: folder, tags, names	Same. Regarding your choice, try to make advantage of your decision.
Apps for taking notes	Typed: <u>OneNote</u> , <u>Evernote</u> , <u>Obsidian</u> (overkill). Digital handwriting: <u>GoodNotes</u> for iPad, etc.
Reference manager	Mendeley/Zotero/etc are very useful for many people probably not in Math. Having one tex file with all the references.

# How to PhD

(Besides Math)

# General information and advice

<a href="#"><u>The A to Z of the PhD Trayjectory</u></a>	It's overkill, but it has everything. By Eva O. L. Lantsoght, professor in Physics.
<a href="#"><u>PhD and Productivity</u></a>	Youtube channel, she is a Ph.D. Candidate in Computer science, a lot about organization, sometimes it's too much.
<a href="#"><u>Andy Stapleton</u></a>	Youtube channel, former academic in Chemistry, a bit more chilled
<a href="#"><u>How to PhD</u></a>	Podcast.
<a href="#"><u>What do math grad students do all day?</u></a>	3 pages, fun. Reflection by Prof. Yasha Berchenko-Kogan, when he was a Math grad student.
<a href="#"><u>The illustrated guide to a PhD</u></a>	Short and fun slides by Prof. Matt Might.
<a href="#"><u>Resources for Graduate Students in Mathematics</u></a>	Another list like this one, by Mark Tomforde, professor in Math.



# Motivation and mental health

Psychotherapy	
Doing outreach or teaching	
Outreach videos	3blue1brown, Numberphile, etc
Math memes	
Breaks!!!	<i>"Coffee breaks or work in the office with someone I like"</i>
<u>Overcoming the second year slump</u>	Slides by Euan Spence.

# Motivation and mental health

<a href="#"><u>Women in STEM</u></a>	Comprehensive overview of studies about the challenges that women and people of color face in science.
<a href="#"><u>Thesis Whisperer</u></a>	Blog by Prof. Inger Mewburn about Ph.D. trajectory and mental health.
<a href="#"><u>Burnout: The secret to unlocking the stress cycle</u></a>	<i>"This book is for women (or anyone) who has felt overwhelmed and exhausted by everything they have to do, yet still worried they weren't doing enough."</i>
<a href="#"><u>Managing your Mental Health during your PhD</u></a>	"Survival guide"

Conclusion

# Conclusion

- If **ONE** of this resources helps you at some point of the PhD, that's success of this talk :D
- If you want to **collaborate** with the list or want to comment about some item, let me know!

Many answers are just out there!

Thank you for your time!