



Designing A Successful

DPhl

A WORKSHOP FOR GRADUATES, BY GRADUATES

Department of Physics, University of Oxford

$U_{ef} = \frac{U_m}{2}$ $E = h\nu$ $\Delta t = \frac{\Delta t}{\sqrt{1 - \frac{v^2}{c^2}}}$ $4\pi r^2$ $X_L = \frac{U_m}{I_m} = \omega L = 2\pi f L$ $F_g = \frac{m_1 m_2}{r^2}$
 $\vec{B} = \mu \frac{NI\sqrt{2}}{2\pi r}$ $v = \frac{nh}{2\pi r m_e}$ $\phi_E = \frac{E_e}{\rho_0} = k \frac{q}{r^2} \phi$ $T = \frac{4n_1 n_2}{(n_2 + n_1)^2}$ $g = \frac{c}{r^2}$
 $K = \frac{\rho^2 \ell}{2m}$ $m_o = \frac{M_m}{N_A} = \frac{M_r \cdot 10^{-3}}{N_A}$ $m = N \cdot m_o = \frac{Q}{ve}$ $\frac{M_m}{N_A}$ $E = \frac{E_c}{a} \int_{-a/L}^{+a/L} \sin(\omega t + \phi) dy$ $k = \pm \sqrt{\frac{2m}{\hbar^2} (E - V_0)}$
 $\lambda = \frac{h}{\sqrt{2eUm_e}}$ $R = \rho \frac{\ell}{S}$ $E = mc^2$ $\omega = 2\pi f$
 $f_o = \frac{1}{2\pi} \sqrt{\frac{g}{\ell}}$ $\psi(x) = \sqrt{\frac{2}{L}} \sin \frac{n\pi x}{L}$ $\beta = \frac{\Delta I c}{\Delta E}$ $\phi_e = \frac{\Delta E}{\Delta t}$ $\frac{\omega_1}{x} + \frac{\omega_2}{x'} = \frac{\omega_2 - \omega_1}{r}$
 $\oint_C \vec{B} \cdot d\vec{\ell} = \mu \iint_S \vec{J} \cdot d\vec{S}$ $\vec{S} = \frac{1}{\mu_0} (\vec{E} \times \vec{B})$ $E = \frac{1}{2} \hbar \sqrt{k/m}$ $\phi = \frac{2\pi \sin^2 \theta}{\lambda}$ $\oint \vec{D} \cdot d\vec{S} = Q^*$
 $v_k = \sqrt{\frac{3kT}{m_o}} = \sqrt{\frac{3kTN_A}{M_m}} = \sqrt{\frac{3R_m T}{M_r \cdot 10^{-3}}}$ $E_k = \frac{\hbar^2 k^2}{2m}$ 1 AU $W_2 = U_o I t$

Why choose a DPhil?

Intro

What we are going to cover in this workshop ...



1 SUPERVISION

How to manage your supervisor relationship.



2 YOUR DPHIL

Picking your research topic and being aware of deadlines.



3 WRITE & SHOW

The benefits and ways of keeping track of your work.



4 IT'S A JOB

Try to work regular hours and remember to take holidays.



5 STAYING FOCUSED

Tips to stay motivated and avoid unhelpful distractions.



6 SPEAK UP

Ask questions, you are here to learn. Don't struggle in silence.



7 KNOW YOUR OPTIONS

Flexibility exists, use it if you need to.



8 HEALTHY MINDS

Ideas for keeping a good work-life balance.



**How often do you
meet with your
supervisor?**

1 Supervision

Be prepared to take initiative...



For details on your and your supervisor's rights and responsibilities:

<https://www.mpls.ox.ac.uk/graduate-school/information-for-postgraduate-research-students/introduction>

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1 Supervision

Be prepared to take initiative...

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- Prioritise and manage your tasks in collaboration with your supervisor.

The screenshot shows the Asana interface for a project named 'Bu2Dst0h'. The top navigation bar includes 'My Tasks', 'Inbox', 'Dashboard', a search bar, 'Help', 'Upgrade', and 'University of Ox...'. The project name 'Bu2Dst0h' is displayed with a star icon and a dropdown arrow. Below the project name, there are tabs for 'List', 'Conversations', 'Calendar', 'Progress', and 'Files'. The 'List' tab is active, showing a list of tasks. On the left, there is an 'Add Task' button and a list of tasks, each with a checkmark and a right-pointing arrow. The tasks include: 'Variable questions', 'S1 retraining', 'S1 Application', 'Check all yield ratios are OK', 'Neutral BDT retraining', 'Neutral BDT application', 'Helicity Angle', 'Relative peak heights', 'Get MC efficiencies for signal modes (and backgrounds)', 'Toy Study', 'Fit background modes', 'Sculpting effect of pi0 neutral BDT', 'Process 2017 data', and 'Partial Pi0 2D Fit'. On the right, there is a detailed view of a task: 'Bach PT: play around with triggers so see if we can make this distribution'. This task is marked with a checkmark and has a light blue highlight. Below the task list, there is a comment box with the placeholder text 'Write a comment...' and a 'Followers' section showing 'AR' and a plus sign. At the bottom right, there is a 'Following' button with a bell icon.

<https://asana.com>

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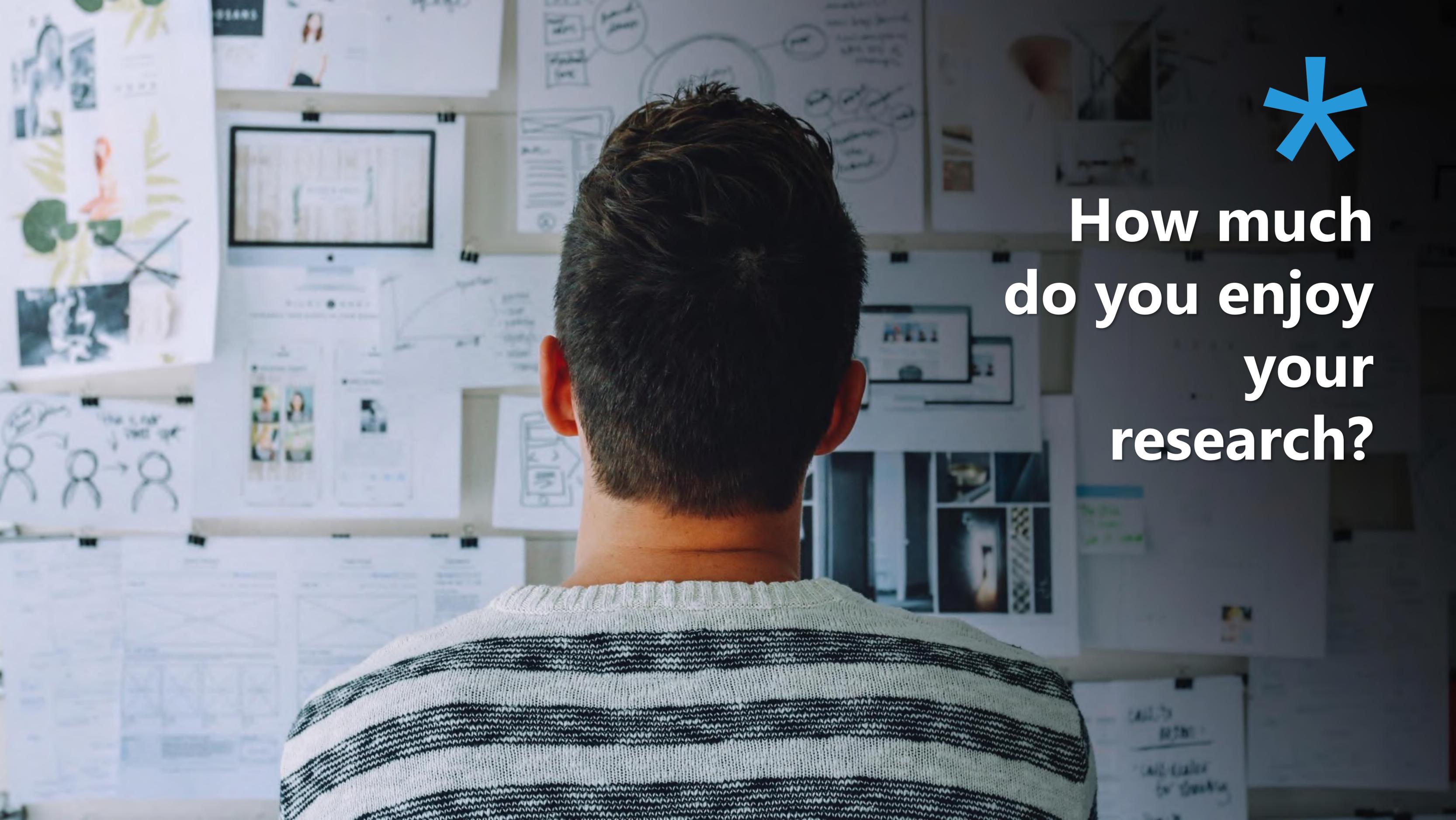
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For a list of people you could go to if you are having problems with your supervisor, see our resources slides.

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**How much
do you enjoy
your
research?**

2 Designing your research topic

Protect your interests and enthusiasm!

- **What if you don't feel you have the right project?**

It is easy to become disillusioned with a project, particularly if you didn't choose it explicitly.



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- **Or even the right area of research?**

You may want to work with another supervisor, with different research interests or supervising style. Or even a different department!



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All projects vary based in length and difficulty so comparison is often meaningless.



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All projects vary based in length and difficulty so comparison is often meaningless.

- **Don't suffer in silence!**

Don't be afraid to tell your supervisor your concerns.





**How do you
keep track of
your work?**

3 Write and show as you go

Be proactive to make sure you know what research you are doing (and have done) ...



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EVERNOTE



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EVERNOTE

- Week on week: Presentations / Summaries



- Completed Projects: Write-up



L^AT_EX





goals this month

- 0 les en lock uit
- 0 mediteren & doe aan yoga
- 0 meer positief & stress less!

NOVEMBER

M	D	W	D	V	Z	Z
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			



Do you know how
much holiday you
are entitled to?

4 It's a job

Remember to strike a balance

Different structure to undergrad:

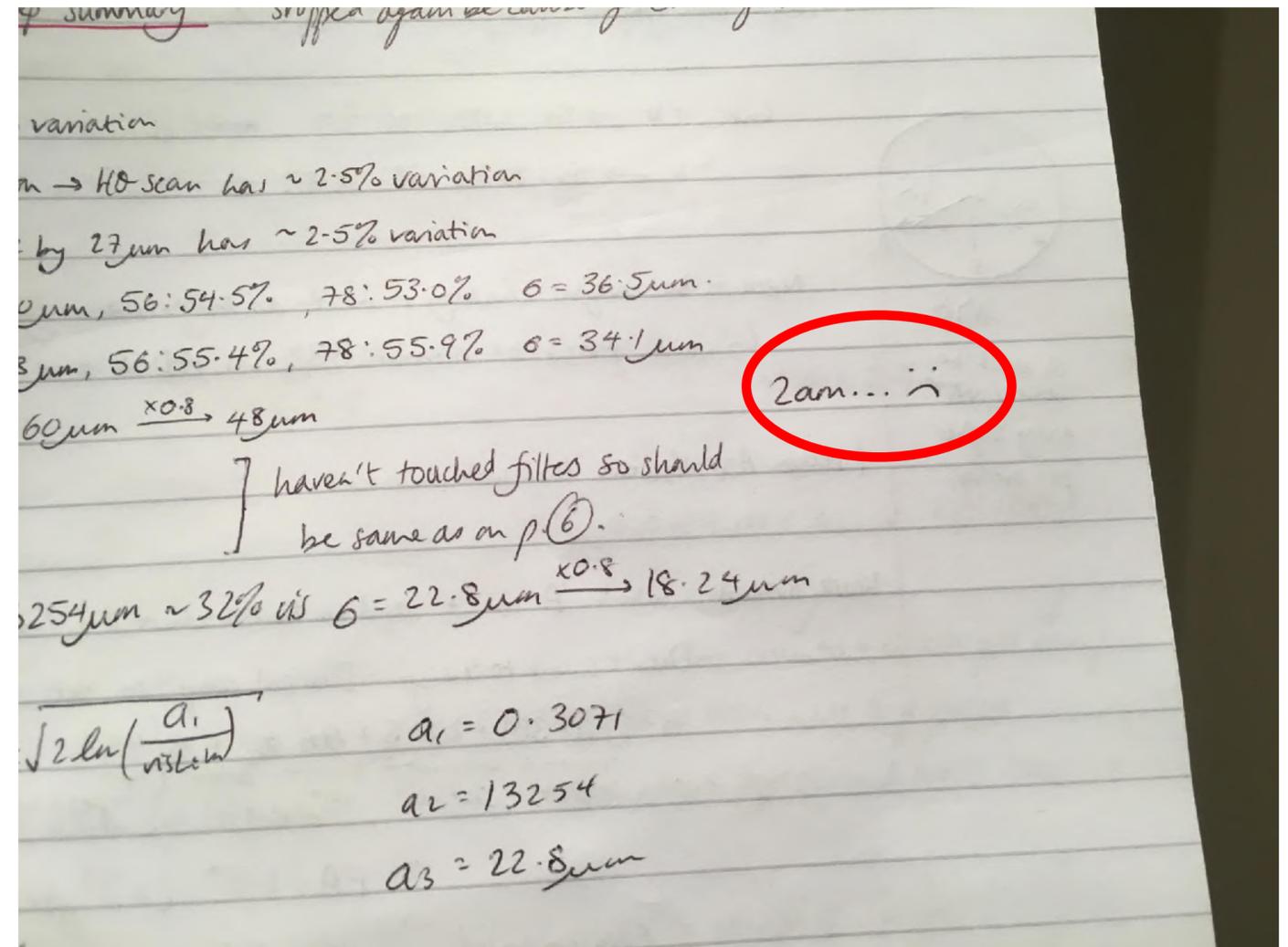
A DPhil has less well defined deadlines.

You have more control over your working hours, but it can be hard to know when to stop working.

Be aware of how long you work!

Establish a routine (if that helps):

Routine helps avoid overworking and makes it easier to mentally break up the day.



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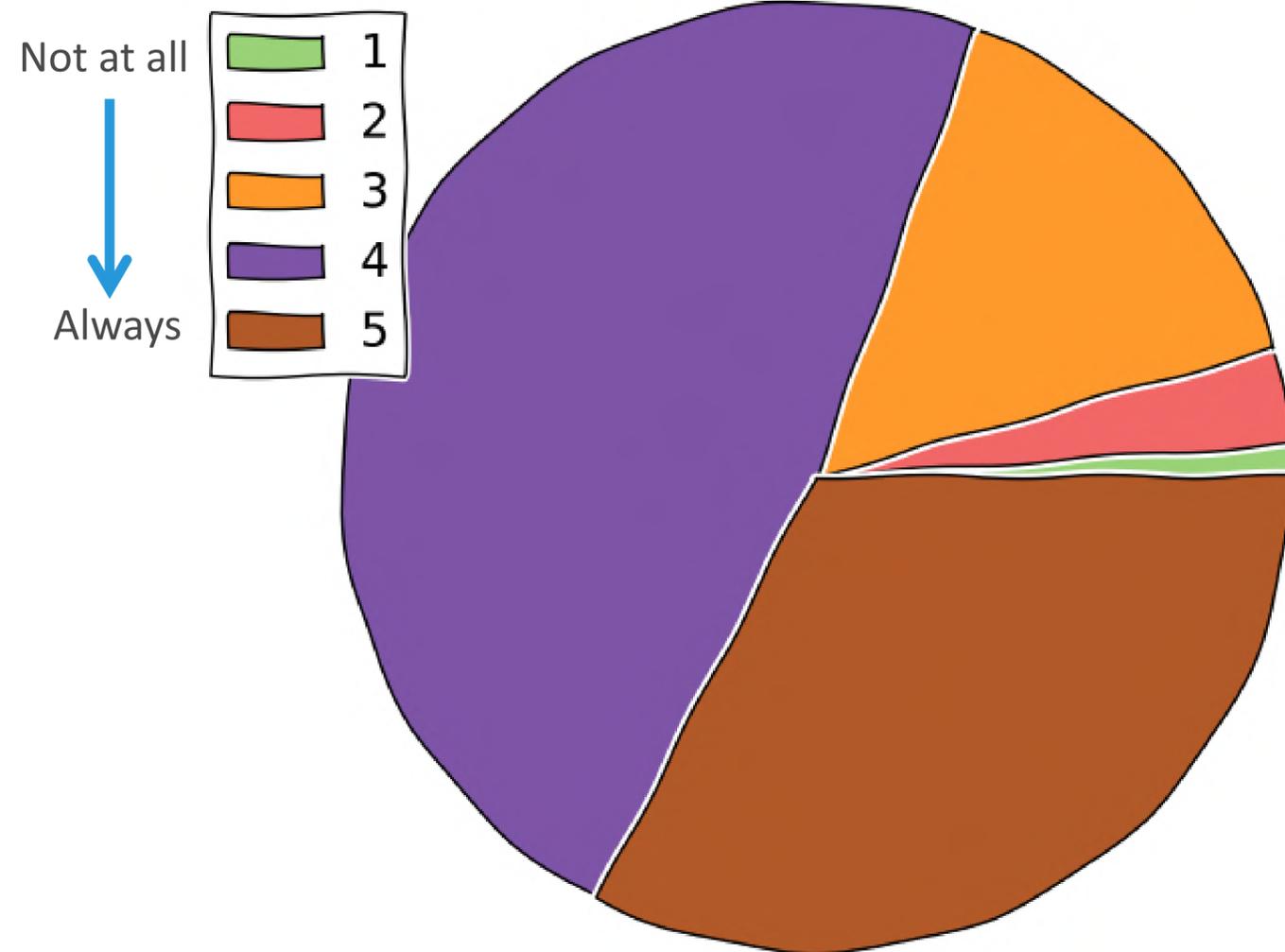
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Find time to switch off! You will be more productive with a fresh mind.

How often is your mood affected by how well your work is going?





S O C I A L
M E D I A



How do you
procrastinate?

5 Staying focused

Being a DPhil student requires self motivation, which can be tough to maintain.

Everyone procrastinates!

- Checking social media is rarely satisfying
→ **take an actual break.**
- Often we procrastinate because the next task feels overwhelming
→ break down your project into **smaller tasks.**
- Your **schedule** is **flexible**
→ work when you're engaged.



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If your procrastination gets out of control...

- Try browser **apps** like Leechblock or a Pomodoro timer.
- If you consistently feel like you're struggling to motivate yourself, you may benefit from **counselling.**



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Staying focused on your main goals:

- It's ok to turn down requests for collaboration.
- Think about the skills that will be important for your next job.





Speak up



6 Speak up

Have perspective. Physics isn't everything!

Confidence:

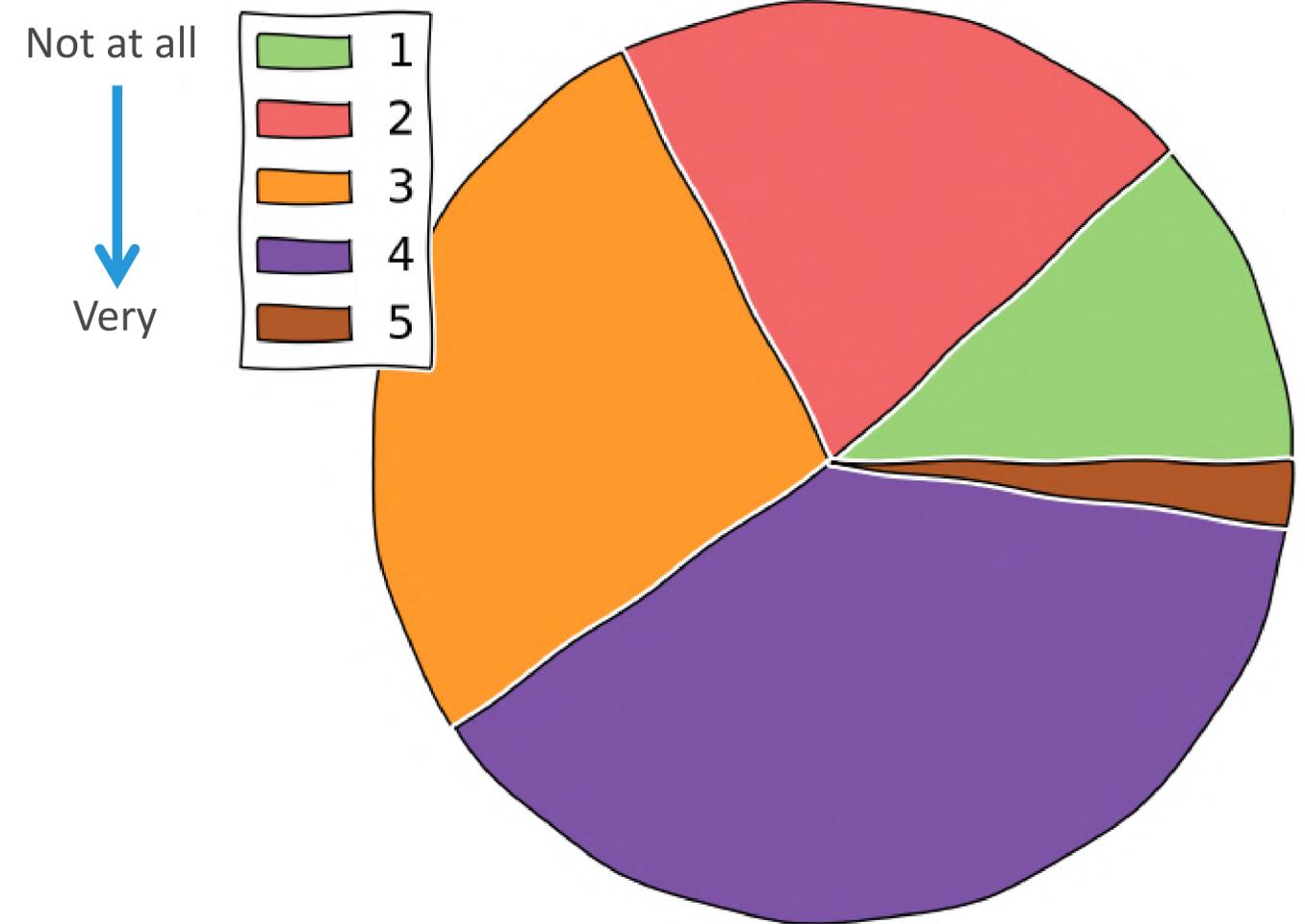
Imposter syndrome.

Ask questions:

Choose the right person to ask.

Don't be afraid to ask for help; it is not failing, but a sensible aspect of time management.

How confident do you feel in your work and understanding of the field?



Many people feel overwhelmed by the breadth of the field

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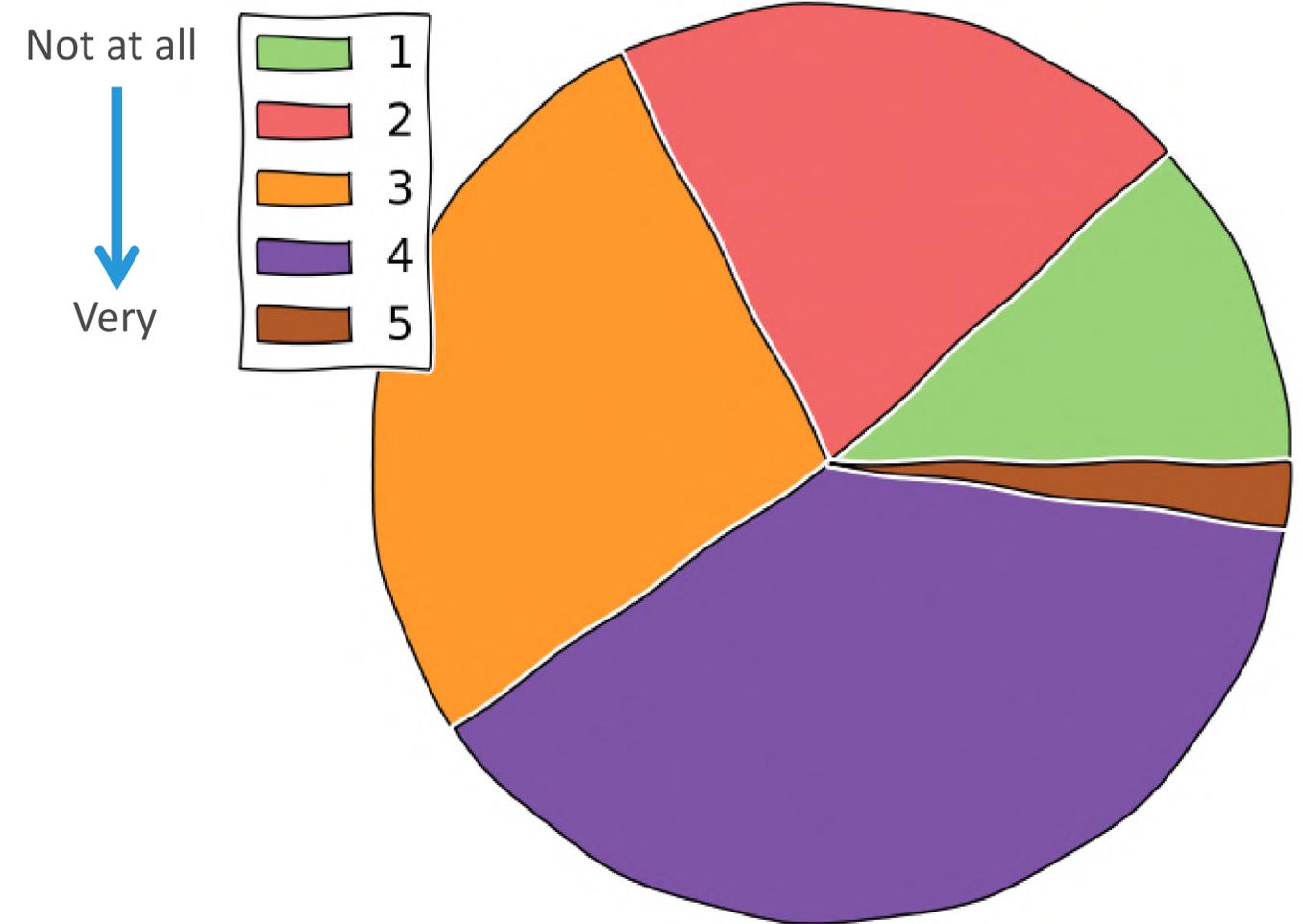
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Mental Welfare:

- Peer support
- University Counselling Service
- College

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Many people feel overwhelmed by the breadth of the field



**Do you know how much
funding is available for
you to travel?**



7 Be aware of your options

Remember: It's *your* DPhil...

- **Travel money**
 - College
 - Funding allowance
 - Other institutes, e.g. IOP



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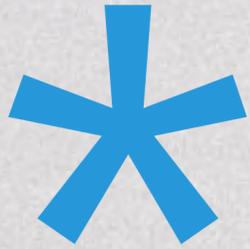
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If things become difficult, be aware that **part-time** study and **suspension**/retrospective suspension are always options.

For a list of people you could go to if you are having problems and want to discuss the possibility of suspending/switching to part-time study, see our resources slides.





What uplifting activities do you do in your typical work day?



8 Keeping a healthy mind

Carve out time for uplifting activities...

ELLEN'S TYPICAL DAY

Wake up (not early morning)

Check news and social media

Breakfast

Cycle to work

Check work email and more news

Meet with supervisors

Lab work: building the instrument

Lunch

More email + news + social media

Lab work or write bit of thesis

Chat with office mates / eat a snack

Cycle home

Dinner with partner

Hockey training

Couch with cats and book / TV / game

Last-minute 'wait I have to finish this'

Bed

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8 Keeping a healthy mind

Carve out time for uplifting activities...

- Think about what **activities** make you **feel good**.
- Spread them out across the day.
- **Don't drop them** when things get harder.
- Carving out time for other activities is NOT procrastinating.





Resources

People, societies and services to go to for advice and support:



Director of Graduate Studies

Your DGS is the first person to go to with academic concerns, supervisor problems or assessment worries. Find your DGS here: www.mpls.ox.ac.uk/files/graduate-school/dgscdtdirectors.pdf



College Advisor

Some college advisors are more engaged than others, but don't hesitate to ask them for help with issues you cannot raise with your supervisor or DGS.



Sub-department Admin / PA

Secretaries in your sub-department can often point you in the right direction. They know everyone, and will have a good idea of who can help.



MPLS Graduate School

MPLS deals with all your official admin and have important info on their website to help navigate your DPhil. www.mpls.ox.ac.uk/graduate-school



Student Health & Safety Rep

Jeff Lidgard is your physics graduate rep this year. Contact him if you have concerns about your work environment at jeffrey.lidgard@physics.ox.ac.uk



College welfare support

Beyond your assigned college advisor, most Oxford colleges have Deans, MCR welfare and equal opportunity representatives, counsellors, peer supporters or mentoring schemes. All can offer different kinds of support and advice. Check your college website for details.



Postgrads & other students

The postgrads in your research group will understand the difficulties of a PhD (they've done it!) and can offer valuable advice. Talking with fellow students will always help you feel less alone – you will often find they are experiencing similar problems and thought they were the only one, too.



Oxford Women In Physics Society

A great support network to help promote equality in the department. They also have a fab mentoring scheme, and are happy to organise mentors for anyone, regardless of gender. This can be useful for specific issues, or if you would just like an extra level of informal support to inspire and guide you. www2.physics.ox.ac.uk/equality-and-diversity/women-in-physics-society



University Counselling Service

Seeking help for stress, anxiety or low mood can feel daunting, but the counselling service is there for that very reason– don't wait for things to get really bad before asking for help. www.ox.ac.uk/students/welfare/counselling



Oxford SU Student Advice Service

A space to get more information on everything from money and housing matters, to academic and health concerns. You can book an appointment in person, by phone, or attend a drop in session. www.oxfordsu.org/wellbeing/student-advice



Oxford Careers Service

Advice on finding jobs (obviously), but also great to maintain a sense of direction and set goals with a careers advisors. Your appointment does not have to be job specific; the "I have no idea what I want to do, please help!" chats are often the best ones, and you can have them here. www.careers.ox.ac.uk



University Disability Advisory Service

Advice on disability issues and support for long-term health conditions or mental health difficulties etc. www.ox.ac.uk/students/welfare/disability

Resources

Websites, apps and groups for productivity and healthy minds:



Pomodoro Timer Apps

The Pomodoro Technique can help you power through distractions and get things done in short bursts, while taking frequent breaks. Good apps include: [Tomato](#) and [Be Focused](#).



Focus Website Blockers

When you socialise, shop and watch Netflix on the same computer you work on, it can be easy to get distracted. Improve productivity by blocking websites for timed periods
Free apps: [StayFocused](#) and [SelfControl](#).



Asana

A great online tool to keep track of your work, break it down into subtasks and prioritise, when your supervisor mentions about 10 things you should do in every meeting. [asana.com](#)



Grammarly

A plugin that makes your writing easy to read and mistake free. Useful for everything from everyday emails to research paper and thesis checking. [Grammarly.com](#)



Docear

Reference and notes/ideas management software that couples mind maps to bibliography references. It is a very powerful tool for organising your research and completely free. [www.docear.org](#)



GitHub

Version control software that keeps track of every single change to a project so you can revert to an earlier version at any time. [GitHub.com](#)



Mathematica Tutorial

Short free online course in Mathematica. Aimed at physicists with examples weighted towards things that are useful in the lab. [j-star.org/mathematica_course.html](#)



Sleep Apps

Graduates often struggle to get enough sleep or to sleep at regular times. These apps analyse sleep patterns, wake you up in your lightest sleep phases, or set activity-based alarms. Good apps: [Sleep If You Can](#), [Sleep Cycle](#).



F.lux

Adjusts the display brightness and colour of your computer to the time of the day. Helps reduce eye strain and disruption of sleep patterns. [justgetflux.com/](#)



Headspace

Helps clear your head and train your brain to focus with guided audio meditations. The beginners sequence is free and you can repeat them as many times as you want. [www.headspace.com](#)



Oxford Student Mindfulness Society

Mindfulness is a well-researched means of alleviating stress, anxiety and depression, and promoting well-being. OSMS run weekly evening sessions of guided mindfulness practice in Oxford term-time. Visit: [www.facebook.com/OxfordStudentMindfulnessSociety/](#)



Oxfordshire Mind

A mental health charity that runs free workshops, exercise classes and peer support for anyone struggling with stress, anxiety, depression or other mental health issues. [www.oxfordshiremind.org.uk](#)

Extra Resources

Recommended by attendees in the last workshop:



Facebook News Feed Eradicator Extensions

Safari:

<https://antonosika.github.io/newsfeed-eradicator/>

Chrome:

<https://chrome.google.com/webstore/detail/news-feed-eradicator-for-fjcldmjmjhkklehbacihaiopjklhlgg?hl=en>

Firefox:

<https://addons.mozilla.org/en-US/firefox/addon/news-feed-eradicator/>



Perfectly Prune Your Notifications to Stop Your Phone from Constantly Bugging You

<https://lifehacker.com/5913930/stop-your-phone-from-constantly-bugging-you-by-perfectly-pruning-your-notifications>



Deep Work by Cal Newport

Great book on the methods and mindset that foster a practice of distraction-free productivity at work.



Forest

Forest helps cultivate a personal pattern of time management and saves you from Internet addiction. You can plant a seed in Forest. In the next 30 minutes, this seed will gradually grow into a tree. However, if you cannot resist the temptation and start to browse the websites on your Blacklist, your tree will wither away. Bonus motivation!: Forest is partnered with Trees for the Future, to plant real trees with the virtual coins you earn by growing trees in Forest. <https://www.forestapp.cc/en/>



Habitica

An online task management application in the form of an RPG game. Team up with fellow DPhil students to fight procrastination together!

Contacts

Feel free to get in touch with the workshop organisers ...

Workshop speakers:

 Alex Rollings	alexandra.rollings@new.ox.ac.uk	Particle Physics
 Darsh Kodwani	darsh.kodwani@physics.ox.ac.uk	Astrophysics
 Tom Hird	thomas.hird@physics.ox.ac.uk	Atomic & Laser Physics
 Alex Jones	a.jones14@imperial.ac.uk	Atomic & Laser Physics
 Samuel Garrat	samuel.garrat@physics.ox.ac.uk	Theoretical Physics
 Sabrina Sterzl	sabrina.sterzl@physics.ox.ac.uk	Condensed Matter Physics
 Ellen Schallig	ellen.schallig@physics.ox.ac.uk	Astrophysics

Other workshop organisers:

 Eloise Brown	eloise.brown@physics.ox.ac.uk	Atmospheric, Oceanic & Planetary Physics
 Gabija Zemaityte	gabija.zemaityte@cern.ch	Particle Physics
 Theresa Fruth	theresa.fruth@physics.ox.ac.uk	Particle Physics
 Tunrayo Adeleke-Larodo	tunrayo.adeleke-larodo@physics.ox.ac.uk	Theoretical Physics