Welcome to Oxford

UNIVERSITY OF OXFORD

DEPARTMENT OF MATERIALS

PGR Induction
Michaelmas Term 2025

Aims of Induction Days

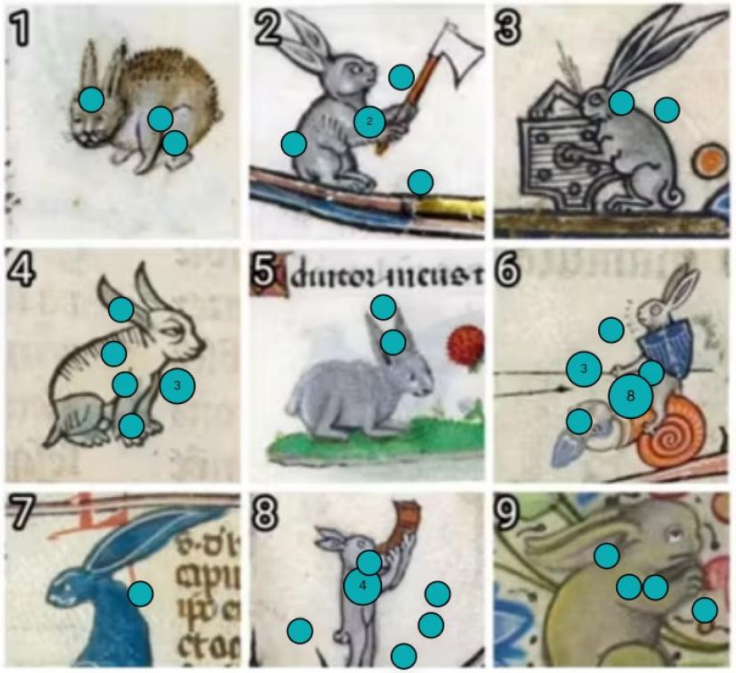
- Welcome you to our community
- Introduce you to people, buildings, and facilities
- Establish shared values and aspirations
- Establish some shared expectations
- Outline degree programmes

Audience Participation Warning!

- Use your device to join our mentimeter session
- All responses are anonymous
- Please join in
- Share what you feel you can
- Keep it respectful

https://www.menti.com/alyap4m9sepa

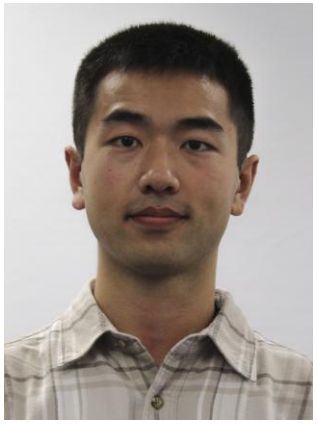
On a scale of medieval rabbit how are you feeling about today's session?



PGR Support Team +

Safa Najjar
Education Support

Dave Armstrong
DGS (admissions)



Yiming Xu
JCCG

Sharmaine Ijada
Education Support

Angus Wilkinson
DGS (on-course)

Ollie Thomas
JCCG

Research Degrees in Materials

- DPhil (PhD) 3.5 years
- MSc by Research 2 years
- Four CDT programs that lead to DPhil
  - Fusion Power
  - Materials 4.0
  - Inorganic Materials Manufacturing - IMAT (led by chemistry)
  - Superconductivity (led by Physics)

What is Research?

(you're here for a research degree, surely you have some idea…)

What is research?

Messing about but you write it down	Figuring out new stuff & telling people about it	Moving forward and testing the domain of human knowledge	innovation
Problem solving	Searching again	The systematic discovery of new information	Generating new knowledge

What is Research?

What is research?

Literature.	Discovering stuff	try and fail and try again	Making Saiful happy
Discovering something new and recording it	Search of new knowledge	Looking to answer unanswered questions	Applying the scientific method to an area you think is cool (and they'll pay you for)

What is Research?

What is research?

Advancing knowledge in your field	Play with some science. Hopefully get results. Bon appetit!	Using the scientific method to enhance understanding of nature	The documentation of novel information
Research	The act of seeking information	Spending money	Knowledge has inherent value

What is Research?

What is research?

More post nominal letters

What is Research?

Definition of **research noun** from the Oxford Advanced Learner's Dictionary

research *noun*

BrE /rɪ'sɜːtʃ/, /'riːsɜːtʃ/; NAmE /'riːsɜːrtʃ/, /rɪ'sɜːrtʃ/ [uncountable] (also **researches** [plural] *especially in British English*) a careful study of a subject, especially in order to discover new facts or information about it

UNESCO: "Any creative systematic activity undertaken in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications."

What is Research?

REF 2021 Research Excellence Framework

Definition of research for the REF

1. For the purposes of the REF, research is defined as a process of investigation leading to new insights, effectively shared.

2. It **includes** work of direct relevance to the needs of commerce, industry, culture, society, and to the public and voluntary sectors; scholarship[20]; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also **excludes** the development of teaching materials that do not embody original research.

3. It **includes** research that is published, disseminated or made publicly available in the form of assessable research outputs, and confidential reports (as defined in paragraph 261).

Why is research important?

(you're prepared to spend years doing research – most be a reason…)

Why is research important?

It allows progress and innovation	Innovation to solve pressing global issues	To push limits further	Climate change
More fun than a normal job	Better payment	Changes the world	Advances the boundaries of human knowledge. Probably helps that there's sometimes money ahead!

Why is research important?

Why is research important?

It improves lives	Progress	Change the world 🌎✨	to make a change and contribute to a better world
The opportunity to enhance everybodys' lives	Personal development	Bragging	Constant variation and changing

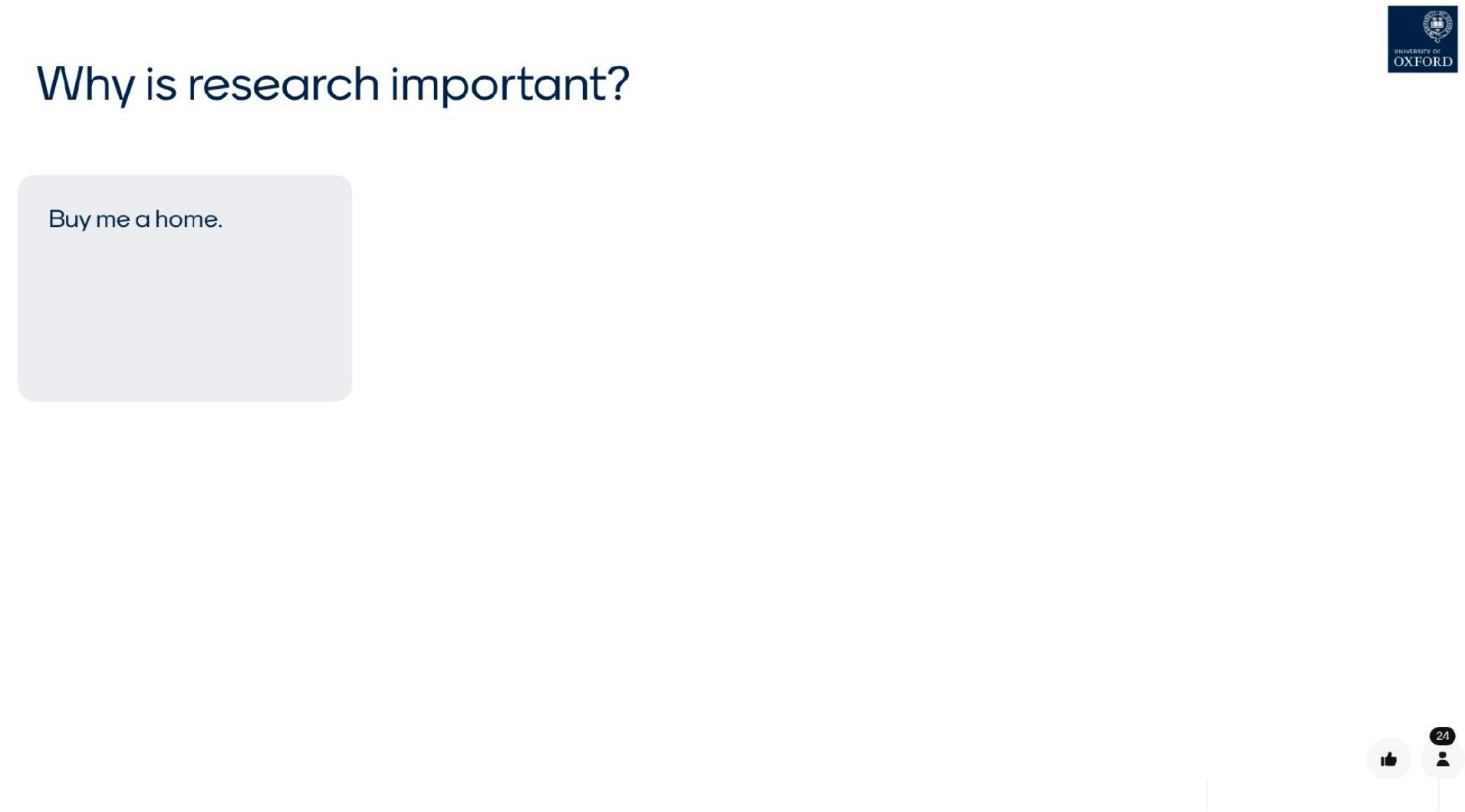
Why is research important?

Why is research important?

Discovery of new knowledge and understanding and facilitating further discovery	Improves understanding of the world around you	Improve quality of life	Advance different aspects of life
It allows you to learn while doing meaningful stuff	Leading to informed decisions	Replying to my emails	Finding me money

Why is research important?

(you're prepared to spend years doing research – most be a reason…)



What are your aspirations?

(short term, long term, career goal, personal goal…)

What are your aspirations?

Not to choke on them	Survival	Improve batteries	Idk
own a vineyard one day	Save the world :)	To retain my sanity	Create a Startup

What are your aspirations?

(short term, long term, career goal, personal goal…)

What are your aspirations?

Hopefully get a job	Figure out as we go along	I want to help create new material that can advance technology and improve people's lives	what is better there to do
Write something that looks like a thesis	Develop the "quantum transistor"	Get to the end	Not sure

What are your aspirations?

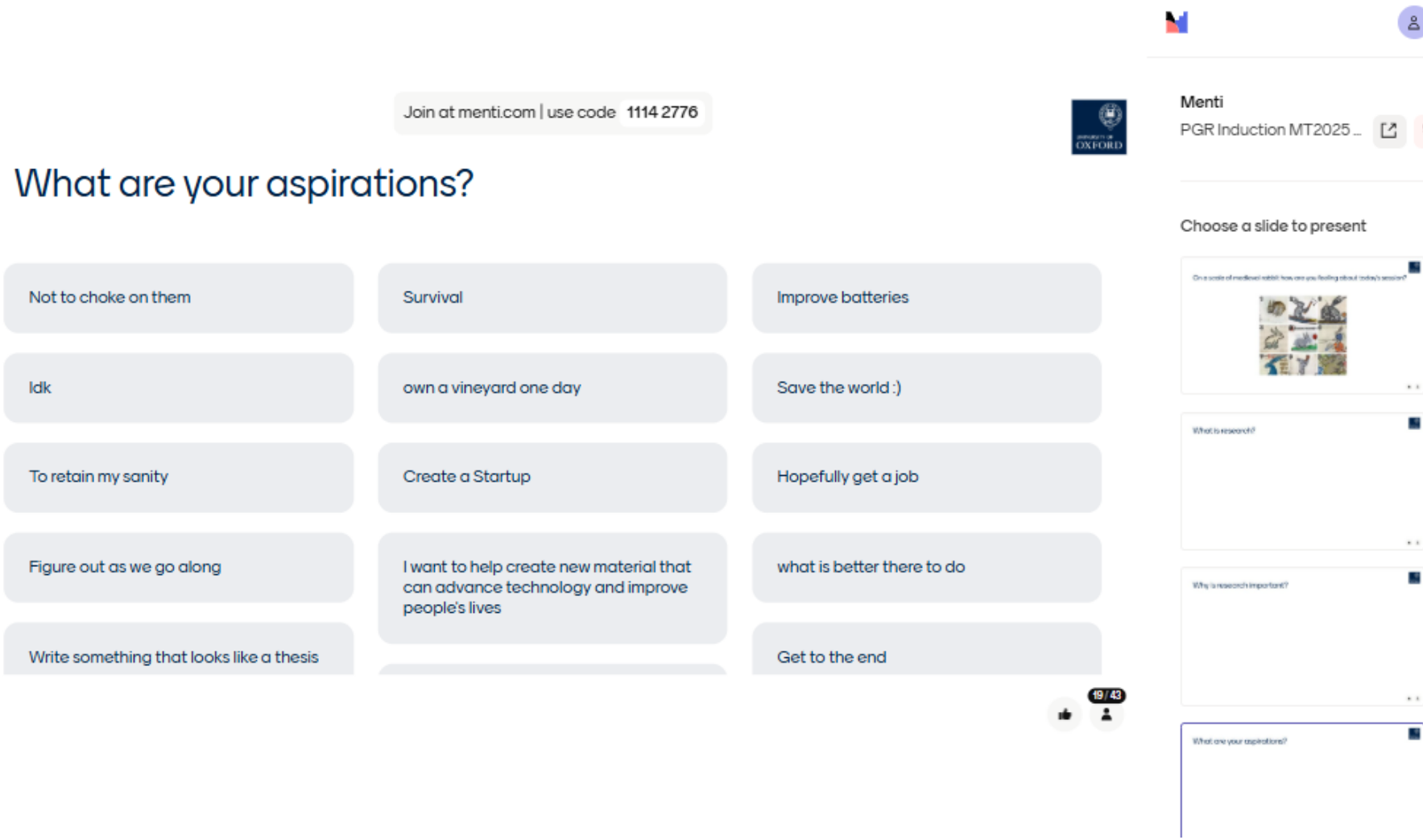
(short term, long term, career goal, personal goal…)

What are your aspirations?

- contribute to more sustainable materials/chemistry
- Contribute to advancing research
- Submit my thesis before the day it is due
- To play around with liquid nitrogen
- Well rounded scientist

What are your aspirations?

(short term, long term, career goal, personal goal…)



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What should you get from a research degree?

What should you get from a research degree?

nice gown	As many skills as possible!	A network	become an actual scientist
Research skills and a degree	Recognition	Become more like my professor	network, knowledge, inspiration

What should you get from a research degree?

What should you get from a research degree?

Skills and the ability to self teach	Definitely the gown	Liquid nitrogen to play with	Ability to do independent research
Understand the process of research, better understand what interests me	Money	Learn some stuff maybe	knowledge

What should you get from a research degree?

What should you get from a research degree?

Ability to do independent scientific research	Become a better engineer	Transferable skills	Skills, training and knowledge for future employment
A DPhil from ✨Oxford✨	Prospects	synchrotron to play with!	honestly, I am not sure about that

What should you get from a research degree?

What should you get from a research degree?

Guidance

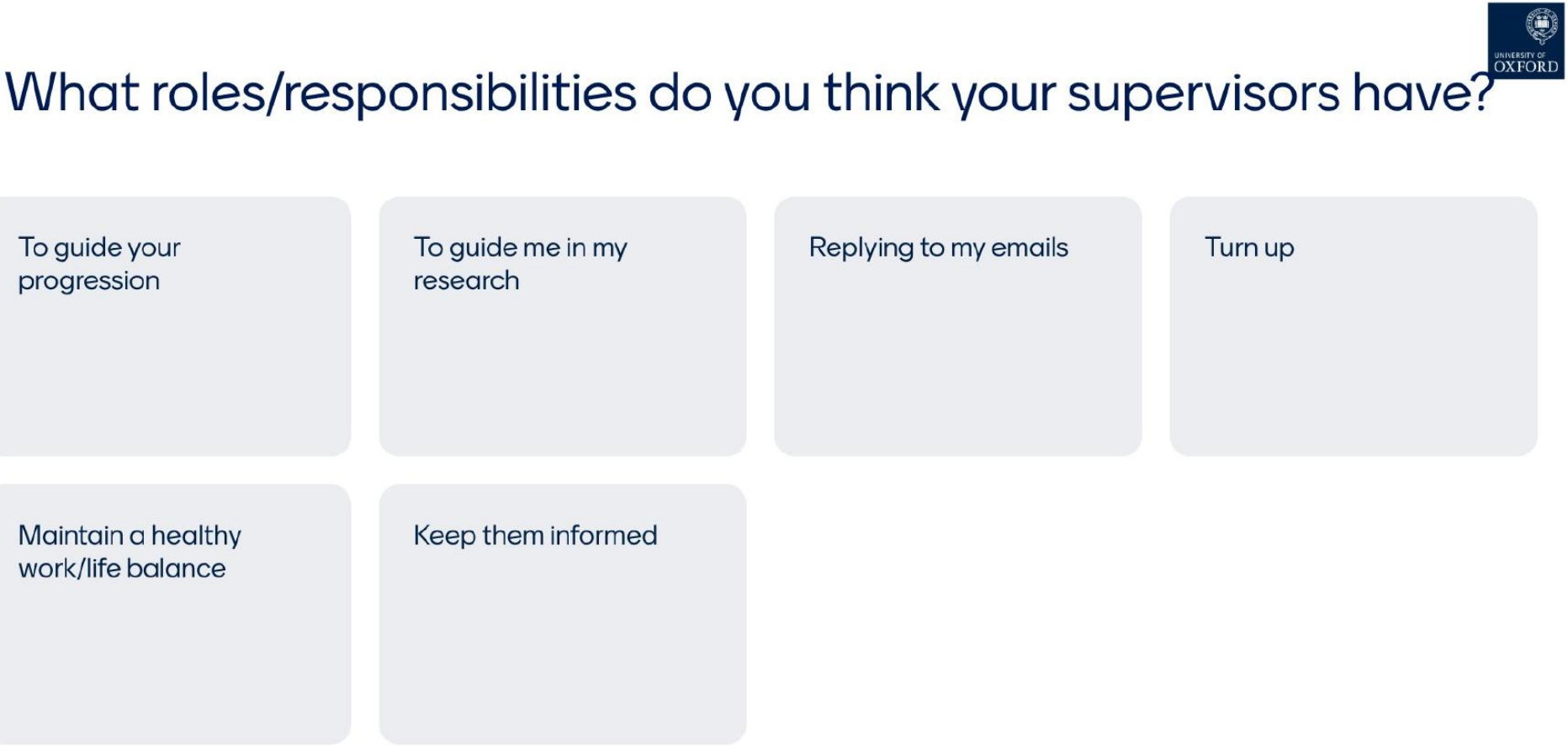
What roles/responsibilities do you think your supervisors have?

What roles/responsibilities do you think your supervisors have?

Bring me to synchrotron	To know what i don't know	Supervising	High level guidance
guidance	Provide a safe working environment	Guidance, networking, money!!!	Guidance

What roles/responsibilities do you think your supervisors have?

What roles/responsibilities do you think your supervisors have?



What roles/responsibilities do you think research students have?

What roles/responsibilities do you think research students have?

Research	To keep going despite the difficulties	Produce research. Don't die.	Try and get useful results
Turning up	Producing research	Communicate and ask questions. Do the work to meet the milestones	Turn up, do the work, (occasionally) be overworked and take the night shift

What roles/responsibilities do you think research students have?

What roles/responsibilities do you think research students have?

Dedication, research integrity	read, work in the lab, bring ideas, be an active member of the group	Overwork	Learn and do work
To effectively communicate and manage their own project	Seek guidance when needed	Flag if things dont go as planned	Maintain a healthy work/life balance

What roles/responsibilities do you think research students have?

What roles/responsibilities do you think research students have?

Don't drink liquid nitrogen	Do the thing	All nighter	To not drink the liquid nitrogen
Fulfilling my dream	Transfer, confirmation, thesis, viva, corrections!	A meaningful contribution to scientific knowledge	

What do you need to do to be awarded your research degree?

What do you need to do to be awarded your research degree?

A viva	Survive viva	3 papers as first author	Write a thesis
Sleep	Publish papers	Meaningfully progress research and complete the milestones	Dissertation

What do you need to do to be awarded your research degree?

What do you need to do to be awarded your research degree?

Thesis	Thesis and viva	visa and thesis	Produce new knowledge
annual reports	Elope	Transfer of status, confirmation of status and viva voce and thesis	Sufficient results

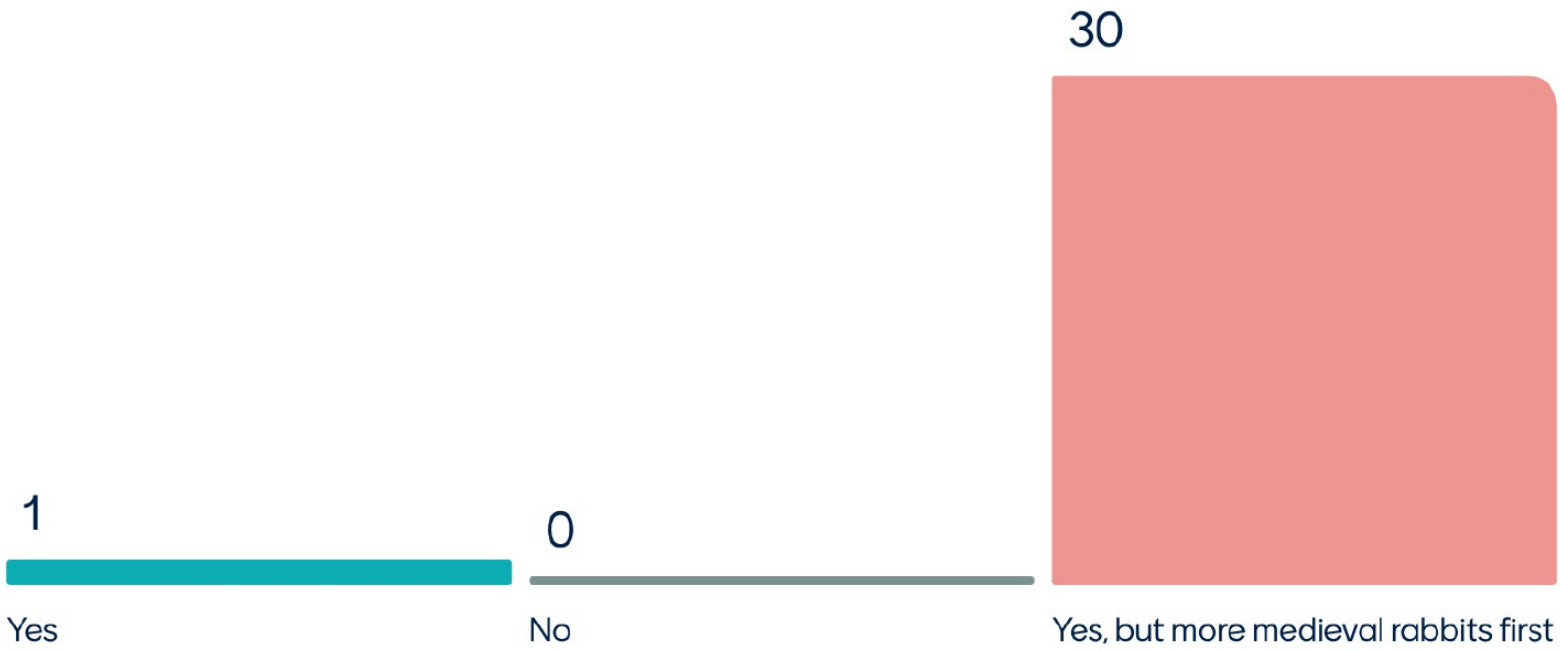
What do you need to do to be awarded your research degree?

What do you need to do to be awarded your research degree?

Use a lab notebook

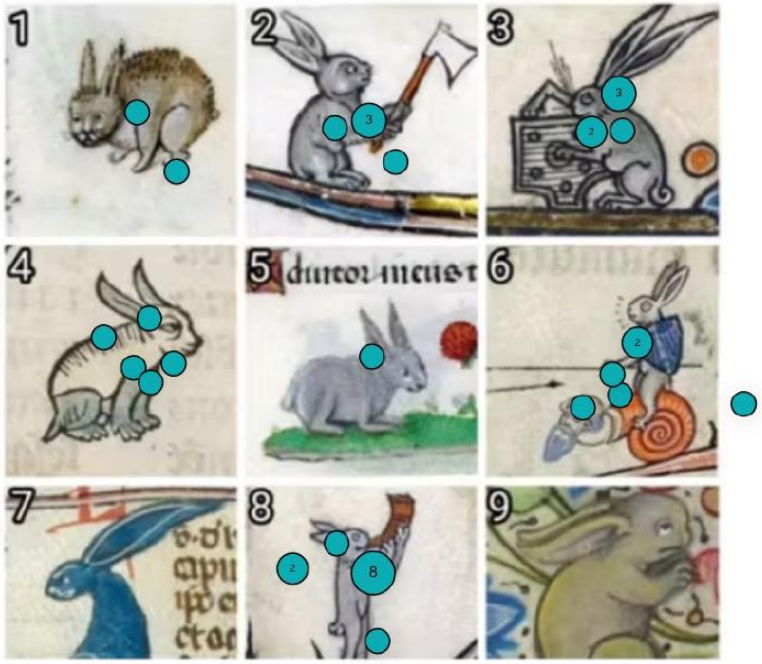
Gant Chart

Would it help to hear what Oxford, and the Department think?



Need to change medieval rabbit?

Need to change medieval rabbit now?



Criteria for awarding a DPhil

The examiners must be satisfied that:

- the candidate possesses a good knowledge of the particular field of learning within which the subject of the thesis falls
- the candidate has made a **significant and substantial contribution** in the particular field of learning within which the subject of the thesis falls
- the thesis is presented in a lucid and scholarly manner
- in their opinion, the thesis merits the degree of Doctor of Philosophy
- the candidate has presented a satisfactory abstract of the thesis

Criteria for awarding a MSc(Res)

The examiners must be satisfied that:

- the candidate possesses a good knowledge of the particular field of learning within which the subject of the thesis falls
- The candidate has shown **competence in investigating** the chosen topic
- the candidate has made a **worthwhile contribution** in the particular field of learning within which the subject of the thesis falls
- the thesis is presented in a lucid and scholarly manner
- in their opinion, the thesis merits the degree of Master of Science by Research

How do we keep you on track?

- Next session will look at progress checks to support you getting to and through the final exam

Milestones & Progression

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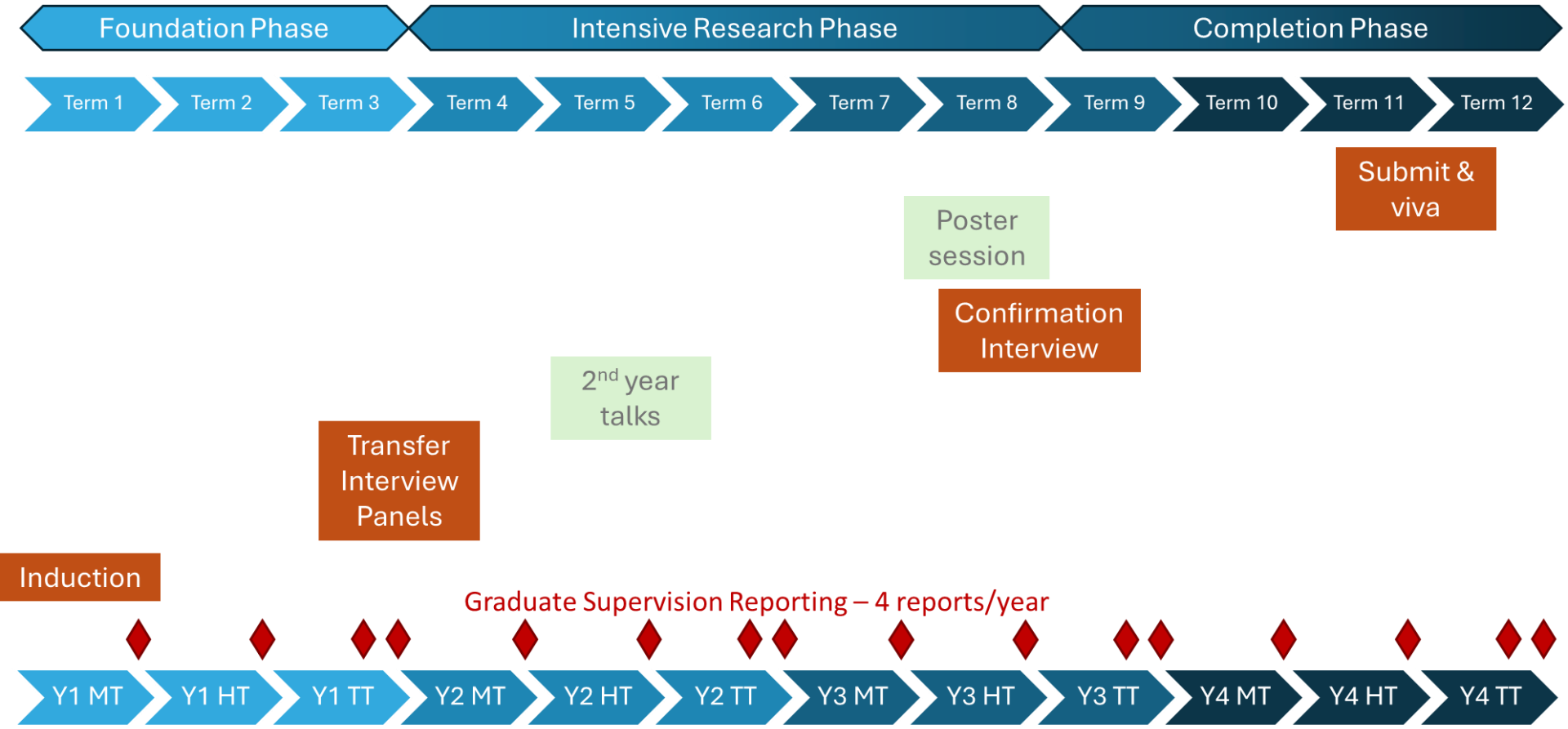
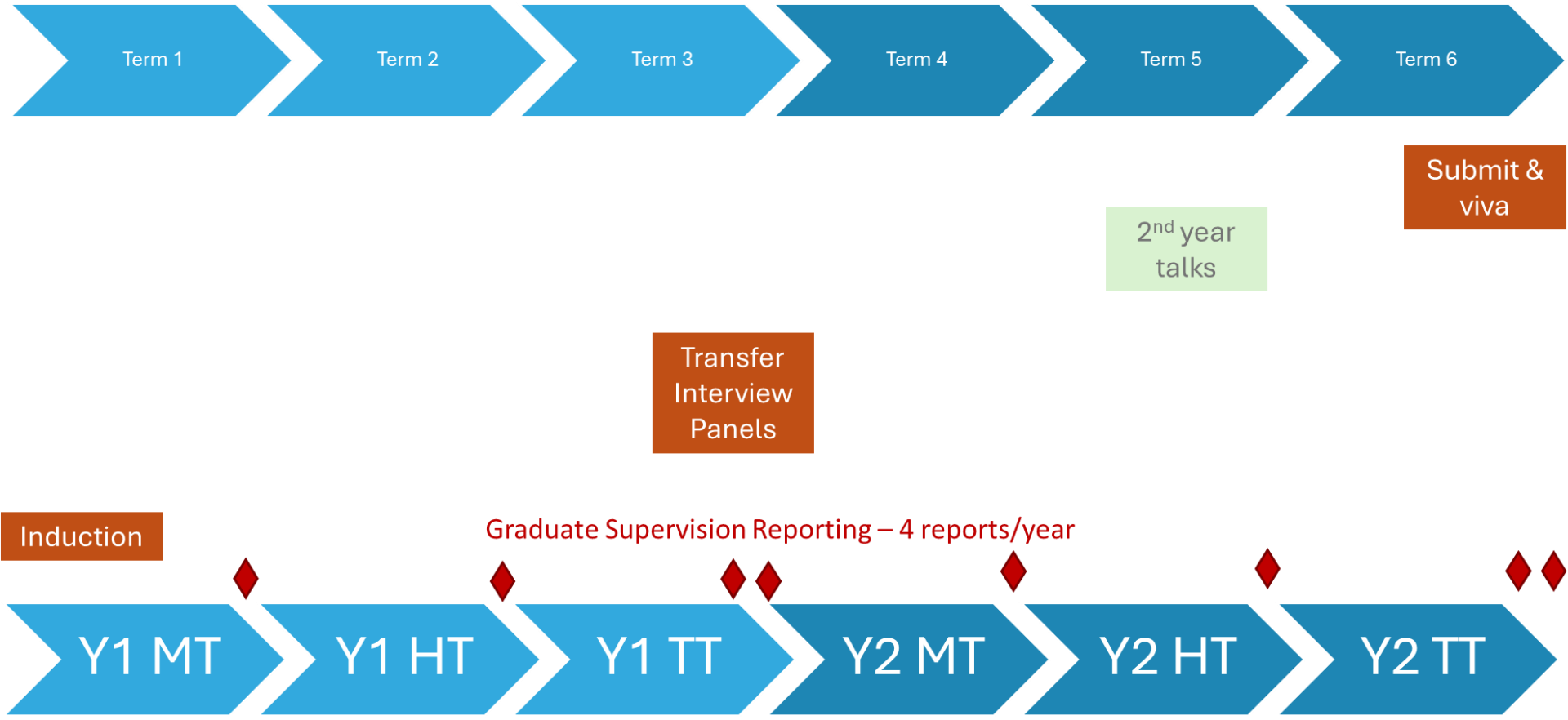
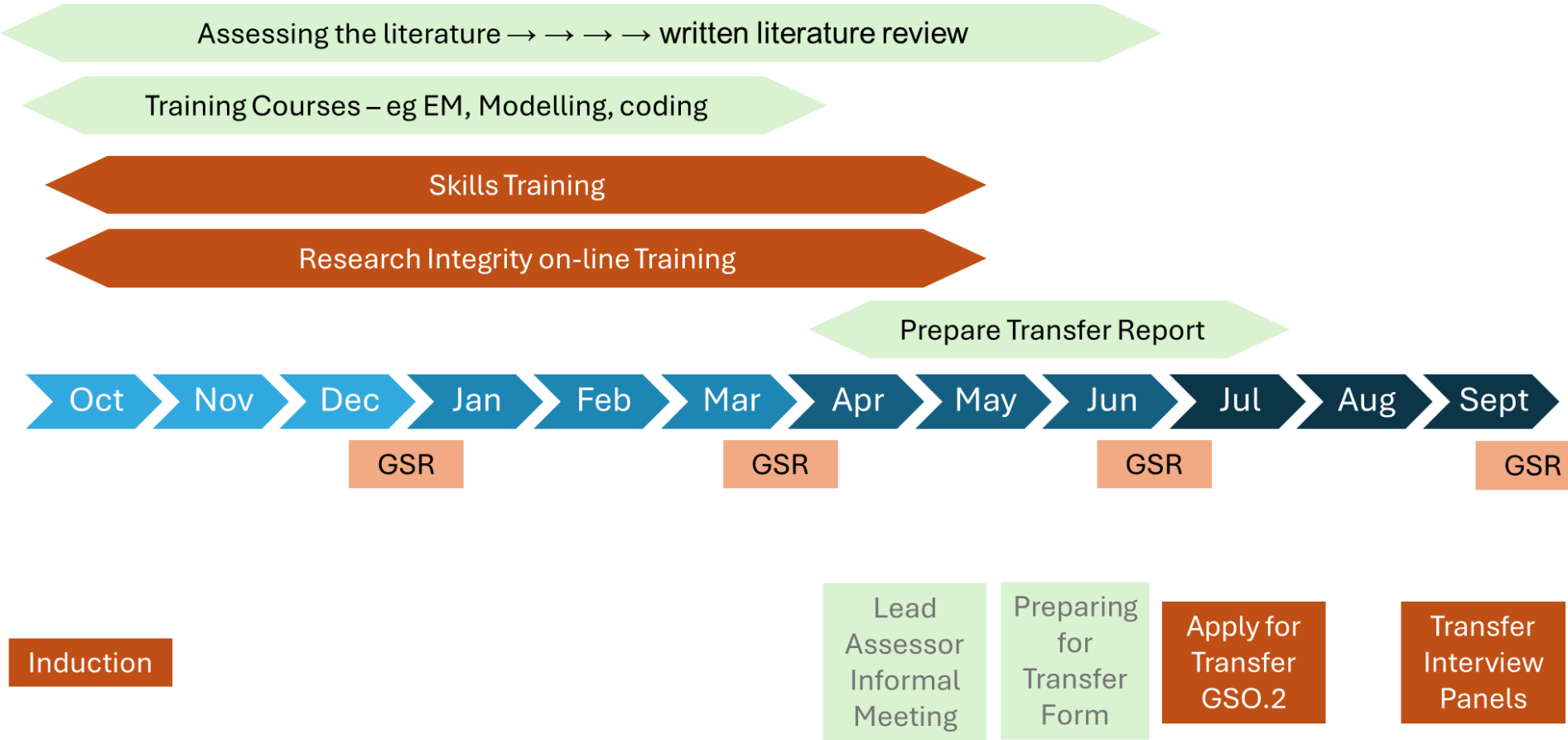
Timeline for a DPhil



Timeline for Masters by Research



Timeline for Year 1



Transfer of Status

- All graduate research students are admitted to Oxford as a Probationer Research Student (PRS)
- Transfer of Status is a progress check after which your status changes to Postgraduate Researcher (PGR)
- Transfer of Status is best viewed as a chance for independent constructive feedback on your project and progress with it

We have just changed our process for Transfer of Status (advice for other year groups might not be correct)

Purpose of Transfer

Transfer is designed to check:

- the scope and significance of your project
- your knowledge of the existing literature
- the new science and research questions
- identified training and engagement with it
- your ability to express the key scientific concepts
- any research progress you have made to date

- training in transferable skills for researchers

Components of Assessment

Research Integrity Training

Skills Training Portfolio

Research Project Report

Interview

Research Integrity Training

Why do we insist on research integrity training?

Idk	Chatgpt	To keep the unis reputation	To protect the uni and the students
It's important	It is important that we can trust new research findings	To ensure integrity in research	avoid plagiarism

Research Integrity Training

Why do we insist on research integrity training?

- Research in good faith
- Ensure research produced is trustworthy
- So you don't do smth wrong accidentally
- Maintain confidence in science
- We need to know the mechanical/ fracture properties of research

Research Integrity Training

- All researchers should consider how their work might affect others (collaborators, wider research community, society more generally)
- Researchers have responsibilities
- Must understand good practice vs misconduct
- Legal responsibilities vs ethical imperatives

- **Research Integrity: Introductory Core Course 2.0**
  Must complete and achieve a score of at least 80%

You could get on with this straight away…

Skills Training Portfolio

What general skills training do you think researchers should have?

Presentation skills	Public speaking	communication	Knowledge dissemination
Communication, teamwork, people management	Science communication	popularisation	Communicating to funding bodies

Skills Training Portfolio

What general skills training do you think researchers should have?

Writing, critical thinking, teamwork, and problem solving	Communication	Project planning	Critical thinking
Reading	Time management	Creativity, having ideas no one has had before	Funding applications

Skills Training Portfolio

More on this after the break!

Very helpful to hear what you think would be useful and interesting – we will always listen to good ideas

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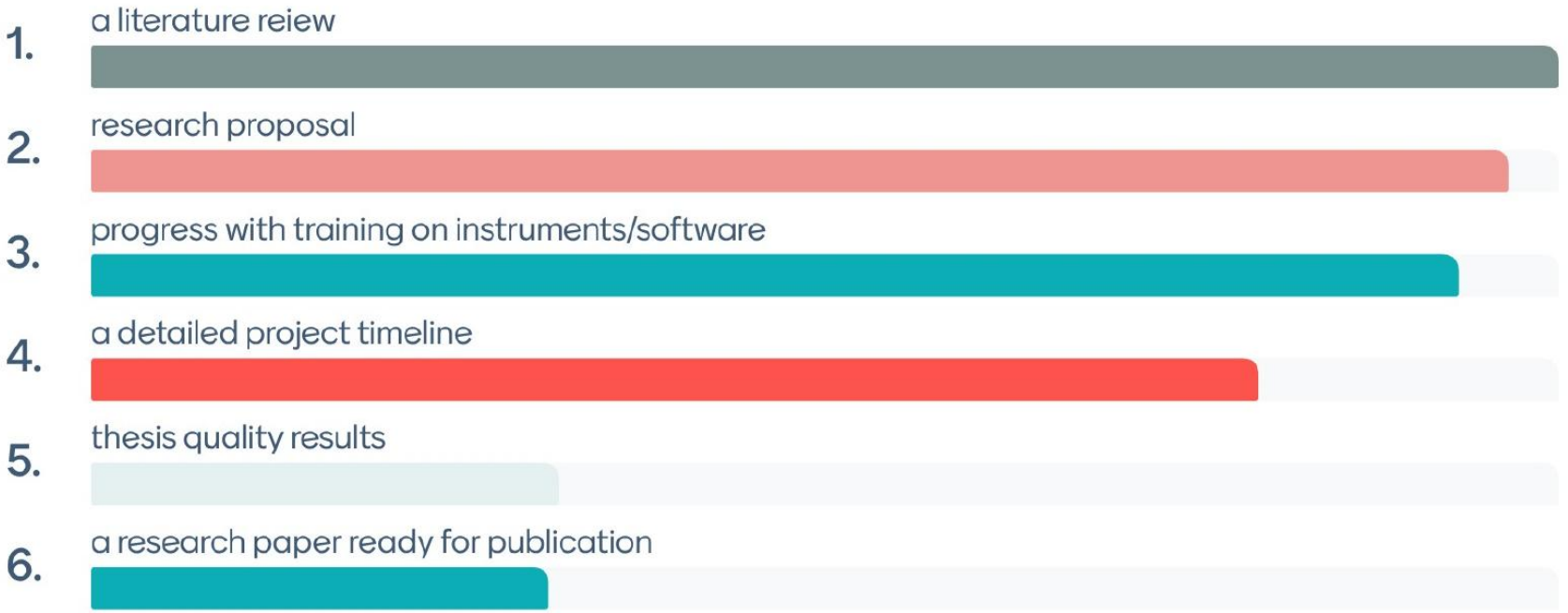
Research Project Report

What will be most important for you to show in your year 1 report?



Research Project Report

- Literature Review (≤1,500 words)
- New Science – Research Questions (≤1,000 words)
- Training & Progress (≤1,000 words)
- Project Management & Planning (1 page + Gantt chart)

- *Convince us (and yourself) that you have a project that is impactful and achievable, and that you are engaging with it*

Reports due in before 31st August 2026

Interview

Why do we interview each you as part of Transfer?

To test our ownership of the project	Scare	So you know not everything is ChatGPT	To check first hand if things go right
Viva practice	People are easier to understand than paper	To ensure we can communicate science	To see if we can present our ideas logically and truly understand what we are proposing

Interview

Why do we interview each you as part of Transfer?

To make sure your work isn't ai generated	Hear you communicate your understanding in person	Practice communication skills	To provoke thought and assess understanding in the moment
to train us in interview process	Make sure the project is on track and you can achieve your goals	To practice for the viva and test that we did the research ourselves	Deeper understanding of why concerns exist and help us mitigate them

Interview

- Two independent assessors (assigned by DGS)
- Panel chair and DGS also present
- 5 minutes presentation from you
- 15-25 minutes discussion

- *Convince us (and yourself) that you have a project that is impactful and achievable, and that you are engaging with it*

Interviews 22nd-24th, 29th-30th September 2026

Transfer of Status - outcomes

- Assessor write a report → feedback

- Transfer achieved
  - No follow-up or conditions
  - After written response to clarify some points (~2 weeks)
  - After some other follow-up action (≤2 months)

- Second attempt at transfer required
  - Typically, 1 term later
  - Update report & second interview
  - Can elected to swap from DPhil to MSc(Res) degree

Transfer of Status

Are you worried about any aspects of Transfer of Status?

Prediction for last question…

- You're not alone
- You have a year to get ready - practice
- You smashed it in admissions interview

Confirmation of Status

- 2nd formal check on progress (DPhil only)
- 8th / 9th term of study (HT/TT 2027/28)
- Short progress report (500-1000 words)
- Thesis outline
  (indicating completed/remaining work)
- Timeline – Gantt chart
- Interview with two independent assessors

Thesis and Viva Voce

- Thesis: 40,000 word DPhil, or, 25,000 word MSc(Res)
- Viva with two independent examiners (at least one external to Oxford)

- DPhil: "…a **significant and substantial contribution** in the particular field of learning… which might reasonably be expected of a capable and diligent student after **3 or at most 4 years** of full-time study."
- MSc(Res): "…a **worthwhile contribution** to knowledge or understanding in the field of learning… which might reasonably be expected of a capable and diligent student after **2 years** of full-time study"

Time for a break...

Join at menti.com | use code 1114 2776

before we break - are there any questions?

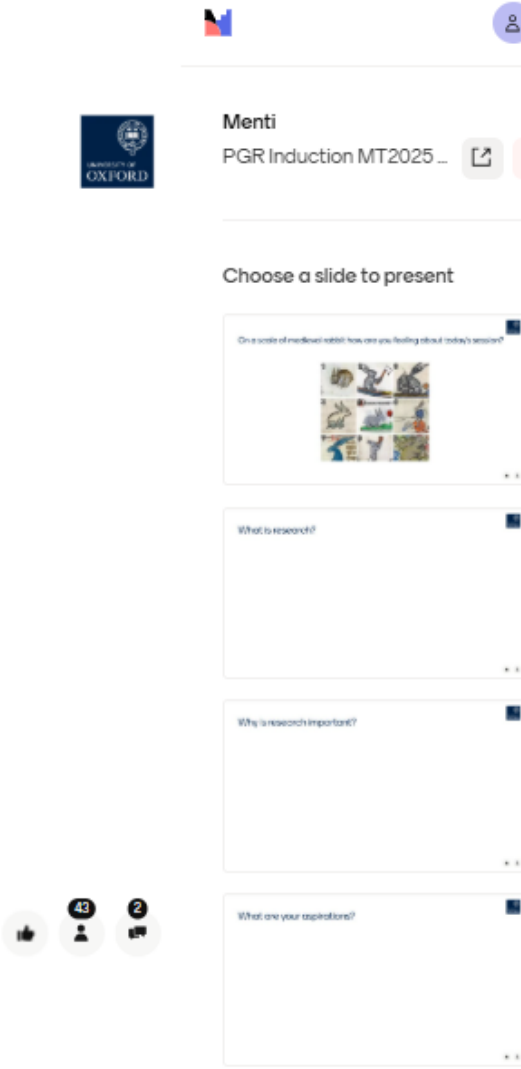
1/2

Asked on Do you have any questions so far???

Any more rabbits coming?

2

Press ENTER to mark as answered



Skills Training Portfolio

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Transferable Skills

- There will be many specific techniques that you will need for your particular projects
- Additionally, there are many more general skills and knowledge that all researchers benefit from
  - Writing
  - Presenting
  - Teaching
  - Project Management
  - People skills
  - Keeping a lab book – or diary
  - Peer review
  - Chairing, contributing to committees

Skills Training Portfolio

- At least 20 hours of activities that improve your general researcher/transferable skills
- At least 5 departmental research colloquia
- Need to record for each:
  - Title of course/workshop/seminar
  - Date and time (including duration)
  - The organiser/facilitator
  - Three bullet points reflecting on skill/knowledge gained

Pro-forma for recording portfolio will be shared with you

What Can/Cannot be included?

Can be included in Skills Training Portfolio	Outside scope of Skills Training Portfolio
Courses from the Graduate Training Framework (esp Your Successful DPhil)	Research Group Meetings
MPLS courses on Public Engagement with Research	Undergraduate Lectures
MPLS courses on Inclusive Practices	EM Training on microscopes
Information Skills (see dept lecture list)	Induction Day Sessions
Teaching Skills (see dept lecture list)	Research Integrity: Introductory Core Course 2.0
Departmental Research Colloquia	Paid Teaching Assistant roles
Other research colloquia	Other paid departmental roles

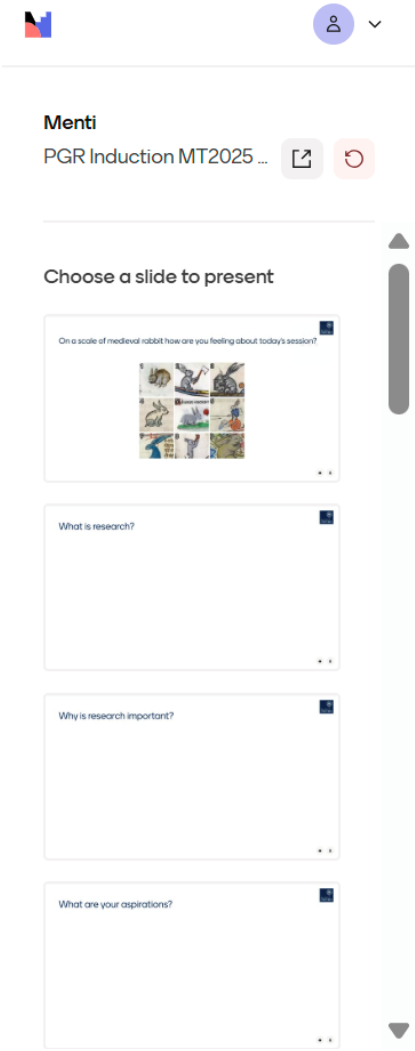
These list are NOT exhaustive – check with PGR Support Team

Be creative!

- Research Data Oxford
- Bodleian Libraries iSkills workshops
- Volunteer for Discover Materials
- Become a Beyond Boundaries scientist

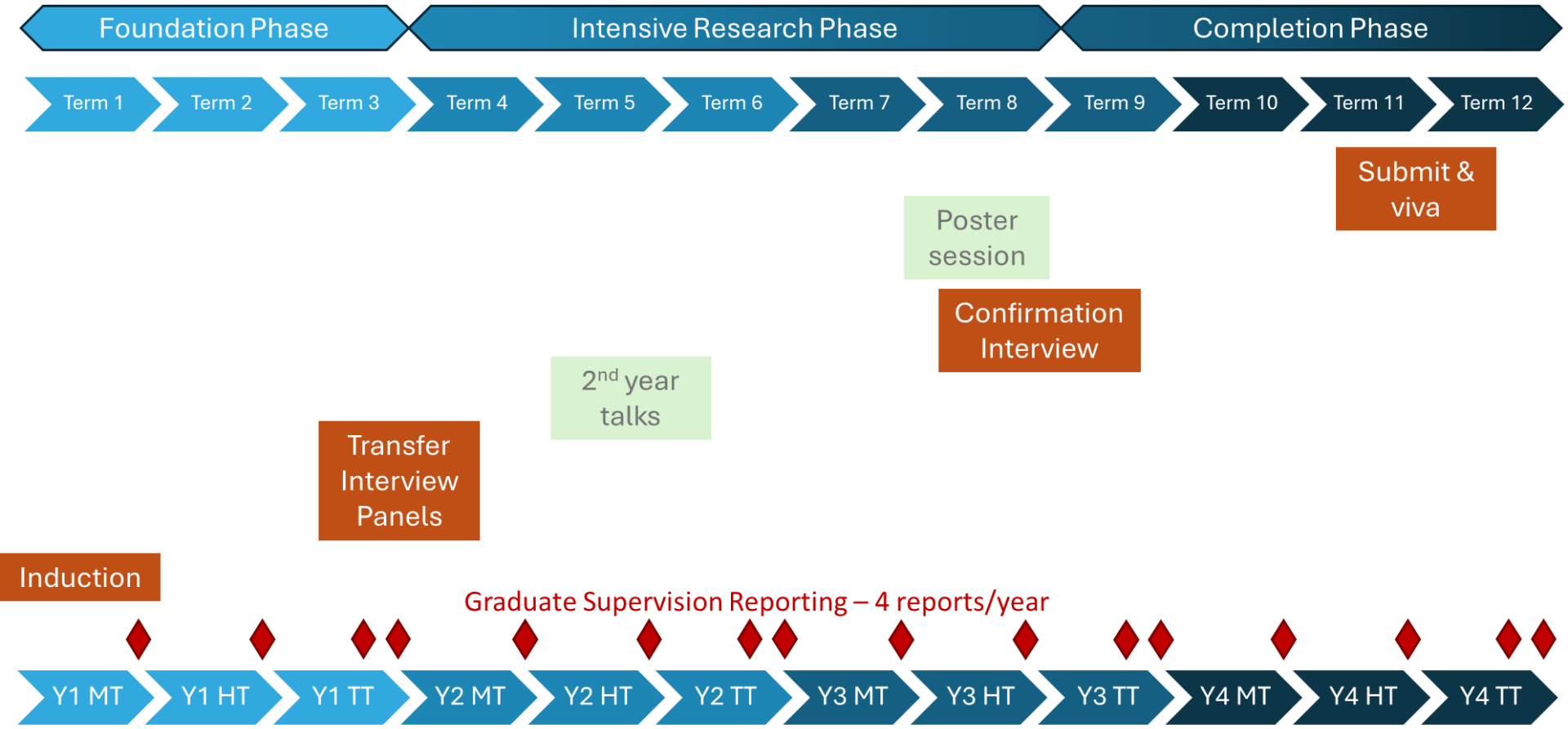
- Want to run your own workshop – talk to us…

Any Questions?



Recap

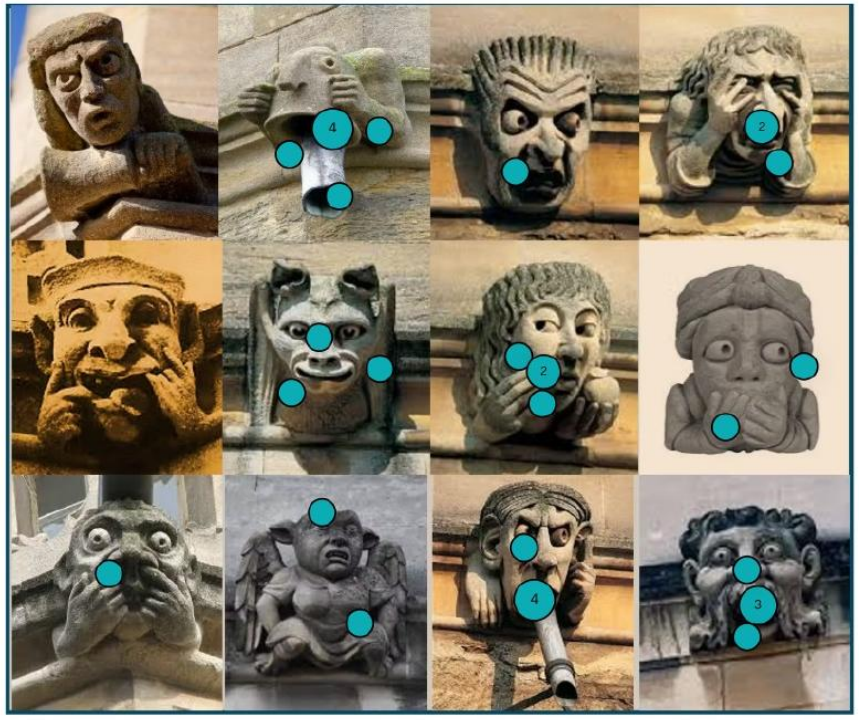
Timeline for a DPhil



How are we all doing today?

(wrong answers only)

on a scale of gargoyles how do you think today will go?



Supporting your research journey

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Academic Structure

- Supervisory Team
- Departmental Advisor
- Director of Graduate Studies
- Education Support Team
- Joint Consultative Committee for Graduates (JCCG)
- Materials Graduate Studies Committee (MGSC)
- College Advisor and College Tutor for Graduates
- MPLS Grad School team & Grad School Committee
- University Education Committee & Pro-VC(Education)
- The Proctors

Supervisors

- Primary or Lead Supervisor
  - Guide you in determining research proposal and carrying it out
  - Arrange appropriate safe laboratory space and/or computational access
  - Regular meetings – sounding board for your ideas
  - Signs off all eVision (and other) forms
- Co-supervisors
  - More support with the science!
- Deputy Supervisor
  - Will step in as primary supervisor if primary supervisor is away/incapacitated (can be co-supervisor)
  - Primary supervisor will organise

Advisors

- Department Advisor
  - An academic in the department you can go to for advice if you feel you need to speak to someone outside your daily supervisory team
  - Assigned by DGS
  - Unlikely to have specific/detailed technical knowledge
- College Advisor
  - An academic in your college – a source of advice from outside the department
  - Assigned by college
  - Unlikely to have specific/detailed technical knowledge
  - Should check-in with you from time to time
- PGR Support Team

Disability Advisory Service

- advice on disability issues (mental & physical)
- facilitates support
- Student Support Plan
- Can support/advise on issues including:
  - sensory or mobility impairments
  - long-term health conditions
  - specific learning difficulties
  - autistic spectrum conditions
  - mental health difficulties

Adjustments to Assessment Arrangements

- Application for Adjustments to Assessment Arrangements (GSO.19) form on eVision
- Not seen/signed-off by supervisor or college – just DGS

Graduate Reporting System

- Four times per year – emails will prompt you
- Reports from You, supervisors, possibly DGS
- Seen by You, supervisors, college advisor, DGS
- Suggestions of what to include on GSR
  - General sense of progress
  - Attendance at scientific meetings and conferences
  - Visits to/from collaborators
  - worries about resources (e.g. computing or in the lab; inability to attend conferences, etc.)
  - Progress with training (or concerns about slow response to training requests)
  - Concerns about wellbeing – but speak in confidence to DGS or someone

Graduate Reporting System

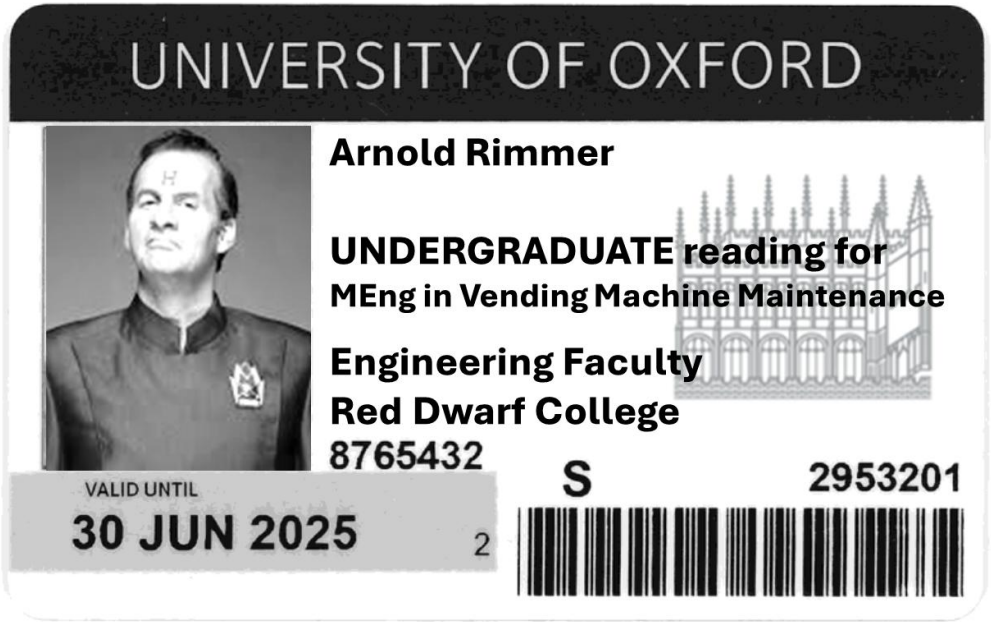
- Concern flags – use them
- Not unusual to have minor concerns at some point
- Minor/major concerns are **not** indicative of ability to complete a degree – but indicates issues requiring attention

Minor concerns – Satisfactory progress is being made, but minor issues have been identified where further action may be required to keep progress on track

Major concerns – One or more factors are significantly affecting progress, and further action is required now to keep progress on track

Severe concerns – Progress is being seriously affected by one or more factors, and a meeting with the Director of Graduate Studies should be held as soon as possible to discuss further action to get progress back on track

Your University Card



- University Card – AKA ‘swipe card’ or ‘Bod Card’
- You need it for access to buildings & individual rooms
- Also acts as an ID card around the University
- Do not loan your card to others

IT Facilities & Rules

- Wired connections need MAC address to be registered with our IT Team
- eduroam wifi
- Talk to your supervisor about PC provision
- Back-up you stuff!!!!!!!!
- Keep anti-virus software up to date

- Be aware of Oxford's IT rules and do not break them

Second-year talks

- Hilary Term Week 7
  - 15 minute presentations (often PowerPoint)
  - 5 minute Q&A
- Hetherington Prize awarded by Department for best talk in terms of communication of science.

Third-year posters

- Hillary Term
  - Scientific conference poster, or
  - Public understanding of science poster
- Prizes from Rolls Royce plc and Ironmongers' Company

Conference/Study Travel

- The Department expects that every student should have the opportunity to attend at least one conference
- Students are not expected to cover the cost of this (or other work-related travel themselves)
- Make funding arrangements **in plenty of time**
  - consult your supervisor
  - try College, conference, University and other sources

- Department has some funding available (up to £1,200)
  - Talk to your supervisor about how to use it
  - Apply well ahead of time
  - make attempts to leverage dept funds

- Routine travel (e.g. to sponsor) should be funded from grants

David Cockayne Centre for Electron Microscopy

- We have very strong electron microscopy facilities
- The staff supporting them are great too!
- Talk to your supervisor about what training you need
- Complete the DCCEM Access Request form

Health & Wellbeing

- We have (physical) First Aiders in each building
- Security Services can also be called (out of hours)
- Mental Health First Aiders too
- Quite/private spaces in 21BR & Hirsch Building
- FAs and MHFAs are trained volunteers

- Bodleian Libraries – wellbeing spaces
- College Welfare Teams
- University Counselling Service

University Counselling Service
DPhil Workshops

- DPhil Overview: Thurs 23 Oct (Wk 2), 11:15-12:45
  - emotional well-being, and mental health support and resources in Oxford – aimed at new DPhil students
- Workshop 1: Thurs 30 Oct (Wk 3), 13:00-14:00
  - Getting started – work-life balance & emotional wellbeing
- Workshop 2: Thurs 13 Nov (Wk 5), 13:00-14:00
  - Getting on – professional relationships & dealing with crises
- Workshop 3: Thurs 27 Nov (Wk 7), 13:00-14:00
  - Getting finished – preparing emotionally for submission, viva and life beyond your degree

All work and no play…

- Working all the time is NOT productive
- Overwork crushes creativeness, removes any sense of fulfilment, and degrades your mental health
- Have an interest/hobby outside your work

For me wildlife photography is one…

UNIVERSITY OF OXFORD

DEPARTMENT OF MATERIALS

PGR Induction
Michaelmas Term 2025

Baking, sports, gaming, music??

Away from coding, outside the lab, what's your thing?

Sleep	Hiking	Literature.	Theatre, rowing and rocks
4	Painting	Ballroom dancing	Running

Baking, sports, gaming, music??

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Hiking!	Cooking, reading, knitting, hiking	Rock climbing	Travel!
Archery	Running	Dancing	Sports

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Away from coding, outside the lab, what's your thing?

Running	music	football and spin classes :)	Trading
Broadcasting / video work	Movies	Reading	Darts

Baking, sports, gaming, music??

Away from coding, outside the lab, what's your thing?

Rowing, going to talks	sleeping	sewing	Choir singing
Camping	Graphic Design	Jewellery making	badminton & musical

Baking, sports, gaming, music??

Away from coding, outside the lab, what's your thing?

sleep	Literature	Travelling	Trading
Reformer Pilates	Cycling 100k and sleep for the rest of the day	Padel .... Desperate to find mate!	

Equality Diversity & Inclusion

Why we care & why you should too

ishtar.ro/shutterstock

- The underlying concept of fairness should be motivation enough… but also
  - Solving complex multifaceted problems needs creativity
  - We learn more by discussing with folk with different backgrounds and viewpoints
  - Good ideas are easier to voice if we feel we belong
  - Bring your whole self (if you can) – your ideas will enrich others experience
  - Be considerate & respectful – you will learn more if others feel able to contribute

Enjoy your time in Oxford!

ox.ac.uk

- Science is a team sport – look after the players
- Make time for yourself, for fun, and for rest (let your mind refresh & reset)
- Make time for those around you too

Working hours

- MPLS guidance is an average of 40 hours/week
- Maximum is 48 hours averaged over 17 weeks (UK Gov working time directive)
- Religious/cultural, caring responsibilities considered too

Leave

- MPLS guidance is that DPhil are entitled to (at least) 30 personal days a year in addition to Bank Holidays