Ciências ULisboa

Faculdade de Ciências da Universidade de Lisboa

PhD Support Program

Welcome Session

9th May 2025

Ciências ULisboa

Session Outline

1. **Welcome words** (*Margarida Santos Reis*, Vice-Dean for Research)
2. **Overview of CIÊNCIAS research and PhD programs**

   (*Guiomar Evans*, Vice Dean for Teaching and *Margarida Santos-Reis*)
3. **PhD Support Programme components**:
   a) PhD Countdown Programme (*Cláudio Pina Fernandes*, Psychological Support Office)
   b) Personalised Support (*Cláudio Pina Fernandes*, Psychological Support Office)
   c) ScienceIN^{2}Business (*Inês Neto*, CIÊNCIAS Innovation Centre - TecLabs)
   d) Career Strategy Programme (*Filipa Moraes*, Ciencia Clara)
   e) Soft Skills Programme (*Jorge Marques da Silva*, Professor)
4. **Knowledge Enhancement Policy** (*Fernando Lopes*, Research Support Office)
5. Q & A

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Overview of CIÊNCIAS research and PhD programs

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Motto

What we don't know today, we will know tomorrow

Mission

- expand the limits of scientific and technological knowledge;
- transfer this knowledge to society;
- promote the education of its students through the practice of research and development of a culture of permanent learning, valuing critical thinking and intellectual autonomy.

Ciências ULisboa
Faculdade de Ciências da Universidade de Lisboa

We are

Knowledgeable
Committed
Inclusive
Genuine

We offer

Undergraduate and graduate degrees
Technological Transfer opportunities
Committed citizens

We promise

A committed community to engage, challenge, and equip you for life-long success

We believe in

Social engagement
Challenging limits
Driving innovation
Broadening beliefs

We emphasize

Life-changing research
Engaged learning

Being a researcher @ CIÊNCIAS

3 types of Researchers

- Professors
- Contracted Researchers
- Post-Doctoral Fellows

Main ≠: time devoted to research *vs* teaching and other duties

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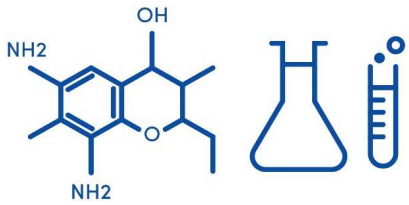
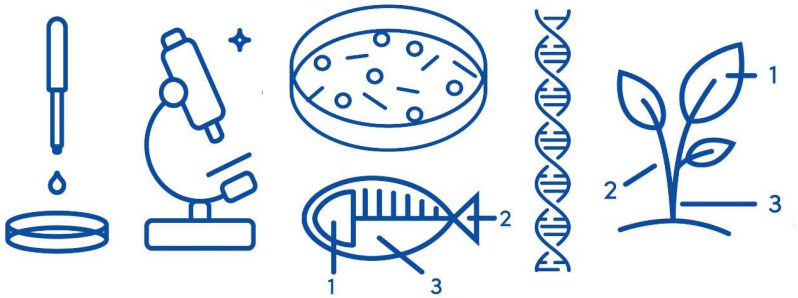
7 scientific areas

Chemical Sciences and Technologies

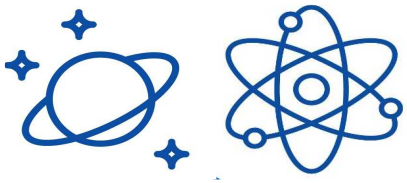


Life Sciences

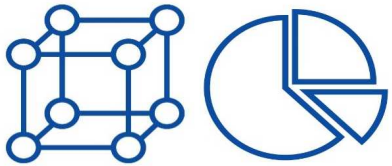


Earth Sciences

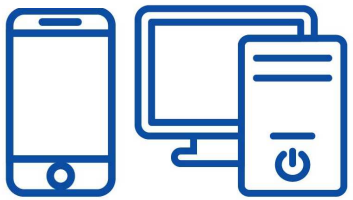
Physical Sciences and Engineering



Mathematical Sciences

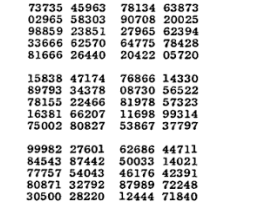


Computer Science and Engineering



History and Philosophy of Science

What we study…



From data mining to artificial intelligence

From molecules to ecosystems

From the Arctic to the Antarctic

From planet earth to the outer world

From theory to practice

Analytical techniques, lab and field experiments, modelling and numerical simulations

… we investigate all over earth

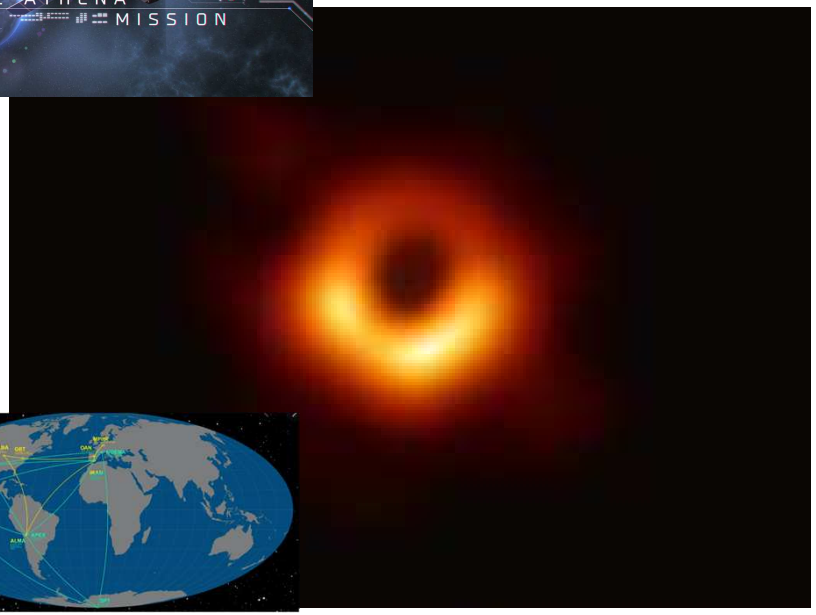
From the deep sea hydrothermal vents to top mountain lakes

Mediterranean Woodlands

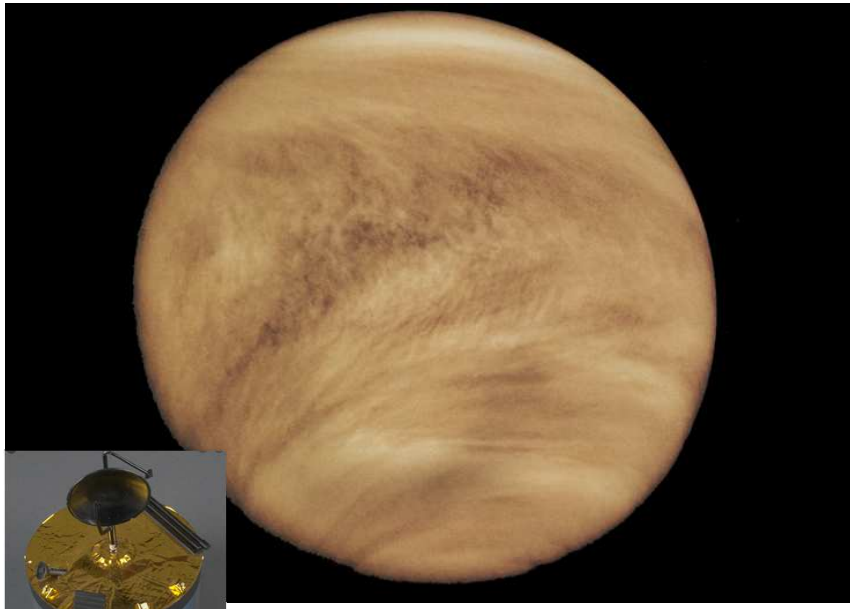
African Savannahs

Tropical Rainforests

…and beyond it



Black Hole – Event Horizon Telescope

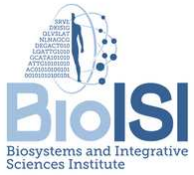


Pioneer Venus Orbiter (NASA)

CIÊNCIAS research environment

13

R&D Units



INSTITUTO
DOM LUIZ

CIUHCT
Centro Interuniversitário de História
das Ciências e da Tecnologia
FCUL | FCT - UNL

>1000

Academics &
Researchers

Ciências ULisboa

…our research performance

DRIVEN BY EXCELLENCE

92% of R&D units rated as **Excellent or Very Good**, well above 75% average at national level

(last evaluation exercise 2023/2024)

≥25% of ULisboa publications and **one of the two highest publication rates per capita**

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Research Impact

/ Atualidade / Notícias /

"World's Top 2% Scientists"

Share Tweet LinkedIn

28 investigadores de CIÊNCIAS entre os mais influentes a nível mundial

CIÊNCIAS sobe em relação ao ano anterior.

23-09-2024

Fonte DCI

World Top 2% Scientists

(ELSEVIER data according to Scopus author profiles)

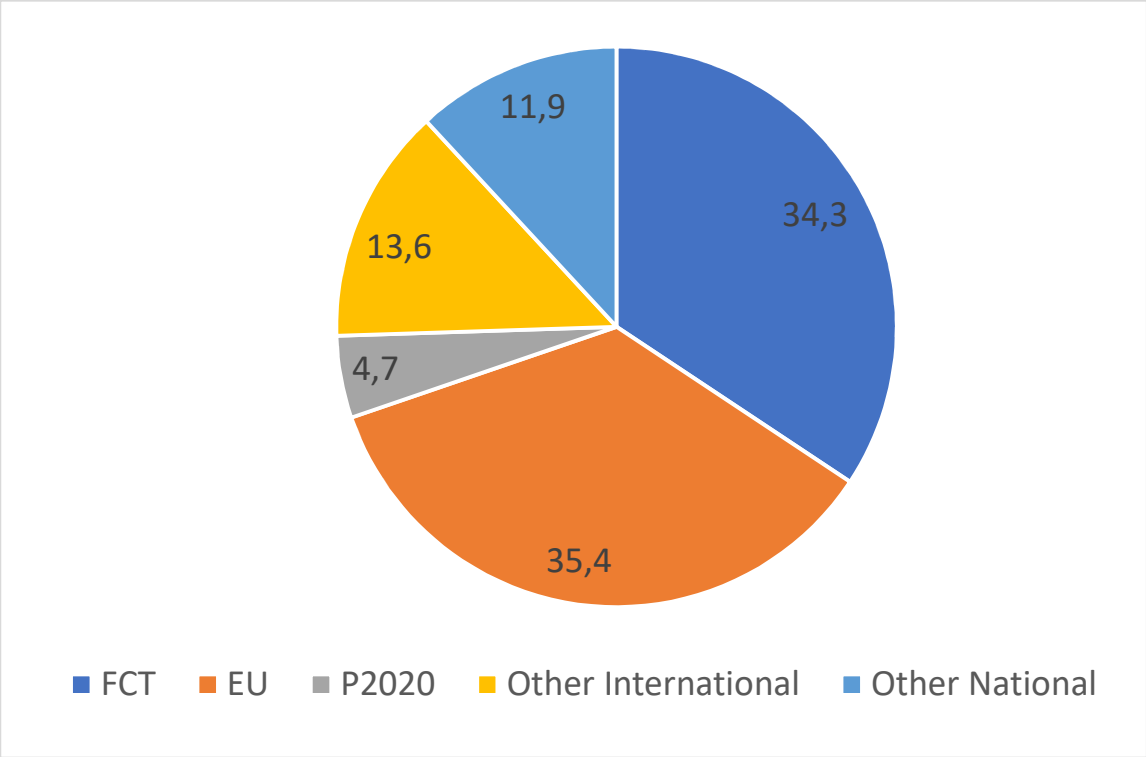
- impact in 2023
- career-long impact

...key performance indicators

2022

468	Funded Projects (national and international)
1242	Scientific articles & reviews published in international journals
>85%	Q1 and Q2 ranks
152	Books (33) and book chapters (119)
11	European Individual Grants: ERCs (6) + Marie Curie (5)
57	European Collaborative Grants: Marie Curie (8) + other (49: Eramus+, Twining, COST actions, LOS-COST, ESA, Societal Challenges)
641	Cooperation Protocols (132 new)

Who funds our research?



468

Ongoing projects 2022

150

New projects approved in 2022

13,72 M€

EU: 4,86 M€
P2020: 0,65 M€
FCT: 4,71 M€
Other international: 1,87 M€
Other national: 1,63 M€

R&D Management

- **Management Institutions of R&D units and projects:**
  - FCUL – R&D Department
  - FCiências.ID – Associação para a Investigação e Desenvolvimento em Ciências

  Despacho D/41/2014 determines who manages Projects.

- **R&D Projects**
  - Subsidies: FCT, Horizon Europe, Portugal 2030, PRR, …
  - Services: Companies, Public Administration, International Organizations, …

  Project management concepts: https://ciencias.ulisboa.pt/node/4177

  Ethics Committee: https://ciencias.ulisboa.pt/pt/comissao-etica-ciencias

  ORBEA (animal welfare): https://ciencias.ulisboa.pt/pt/orbea

- **Host Institution**: FCUL

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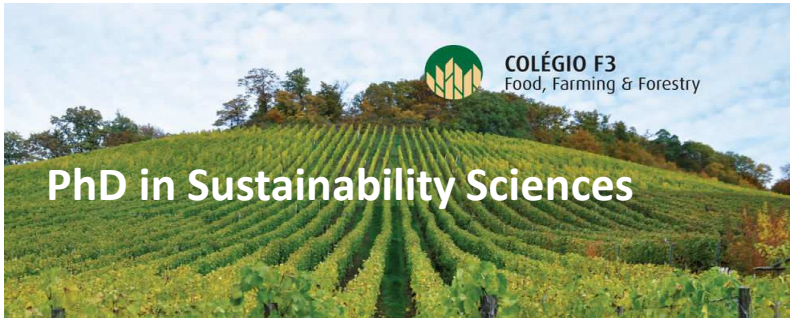
PhD Offer

BioSys-PhD
Biological Systems - Functional & Integrative Genomics

23 PhD Programs

7 in association with other U

2 inter Ulisboa faculties



Academic Acts - 1

A PhD Degree requires:

- Completion of a study cycle (SC) of 180 or 240 ECTS;
- Attendance of 6 to 8 semesters, depending on the duration of the SC, 3 or 4 years;
- “Curso de Doutoramento” (Doctoral Course, curricular part, 1st year), if applicable;
- Preparation and public discussion of a thesis.

CIÊNCIAS has a legal obligation to:

- Register its doctoral students and thesis topics on the RENATES platform;
- Include all statistical information relating to 3rd cycles in the RAIDES survey.

Regulations:

- “Estudos de Pós-Graduação da Ulisboa” (ULisboa Postgraduate Studies);
- “Ciclo de Estudos Conducente ao Grau de Doutor de CIÊNCIAS” (CIÊNCIAS Cycle of Studies Leading to the Degree of Doctor).

Academic Acts - 2

1. Annual Enrolment/Registration – Mandatory Every Year

- Students in their 2nd, 3rd and 4th year:
  - September/October of each academic year;
  - Registration for Thesis and Seminar(s), if applicable.

2. Coordinators/Supervisors/Department

- Students in their 2nd, 3rd and 4th year:
  - Coordinator launches annual evaluations;
  - Sends the Seminar(s) defence minutes.

Academic Acts - 3

3. "Curso de Doutoramento" (Doctoral Course) – maximum of 18 months, Non-extendable!

- Starts in the 1st or 2nd semester of the academic year;
- To be completed within 12 months after the day of enrollment/registration;
- Extension for a maximum period of 6 months.

4. Thesis Registration

- 60 working days after completion of the "Curso de Doutoramento" (Doctoral Course, curricular part);
- Submitted by email or delivered to the Academic Office;
- Validity of registration: 5 years, non-extendable. However, in association courses the deadline may vary (always consult the regulations of each course);
- Supervisor(s) statement.

Academic Acts - 4

5. Doctoral Thesis

- Preparation of the Thesis, in accordance with current regulations;
- Public/Confidential document;
- Provisional/Final document;
- Language (Portuguese/English).

6. Admission to Public Presentation/Discussion

- Submission of the Thesis in accordance with current regulations.

Academic Acts - 5

7. Public Presentation/Discussion

- **Jury**;
- **Acceptance/Proposal for Reformulation** of the Thesis by the Jury;
- **Scheduling of the Public Presentation/Discussion**: logistics provided by the Academic Directorate;
- **Final version of the Thesis**: the Jury may recommend (minor) corrections
- **Honours**: “Distinction”; “Distinction and Praise” awarded by the Jury.

Information and Contacts

CIÊNCIAS Portal

Academic Guide (Chapter 6)

Email: doutoramentos@ciencias.ulisboa.pt

AEPG - Postgraduate Studies Area of the Academic Directorate

Tel. 217 500 549 (Ext. 25322/25347/25369)

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PhD Support Programme

PhD Countdown Programme

Personalised Support

PhD Countdown Programme

Structure of the Programme

- **Main goals:** To develop a more realistic understanding of one's personal working style and to formulate effective strategies that can be integrated into the PhD process.
- **Target group:** PhD students with two or more years of registration.
- **Structure of the Programme:** The programme consists of 10 weekly sessions. Each session is run as a workshop, and the group typically comprises around 12 students.
- **Next edition:** First semester of the 2025/26 academic year.
- **Facilitator:** Cláudio Pina (Psychological Support Service).

GAPsi
Gabinete de Apoio Psicopedagógico

PhD Countdown Programm Contents

Session	Contents
1	Why did I come? Share of expectations about the program
2	Create a personal theory about the problem and define a road map
3	Barrier 1: Avoid the disconfort experience
4	Barrier 2: Difficulties with decision making and commitment
5	Barrier 3: Difficulties with time management
6	Barrier 4: Anxiety and high levels of stress
7	Barrier 5: The external evaluation and control problems
8	Barrier 6: The relationship with supervisor and another support resources
9	Decision-Making, and Accountability in Resource Mobilisation
10	Resolve existing issues outlined in the roadmap

GAPsi
Gabinete de Apoio Psicopedagógico

Personalised Support

Psychological Support Office (**GAPsi)**

The service offers individual psychology counseling

To make an appointment or more information:
Building C4, Level 1, Room 4.1.25 (under the Library)
Tel. 217 500 435 | Ext. 24125
Email: gapsi@ciencias.ulisboa.pt

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PhD Support Programme

POWERED BY Ciências ULisboa

tec labs
CENTRO DE INOVAÇÃO

THE PLACE TO DRIVE YOUR AMAZING SCIENCE INTO A SUCCESSFUL BUSINESS.

OUR MISSIONS

POWERED BY Ciências ULisboa

INCUBATION

INNOVATION & ENTREPRENEURSHIP

POWERED BY Ciências ULisboa

INNOVATION & ENTREPRENEURSHIP

POWERED BY Ciências ULisboa

SCIENCE IN BUSINESS

ECONOMIC VALORISATION OF SCIENTIFIC AND TECHNOLOGICAL KNOWLEDGE

AN INNOVATIVE METHODOLOGY THAT ENCOURAGES AND SUPPORTS THE ECONOMIC VALORIZATION OF SCIENTIFIC AND TECHNOLOGICAL KNOWLEDGE IN HIGHER EDUCATION AND RESEARCH CENTRES WITHIN ULISBOA

POWERED BY Ciências ULisboa

SCIENCE IN BUSINESS

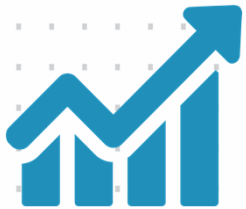
ECONOMIC VALORISATION OF SCIENTIFIC AND TECHNOLOGICAL KNOWLEDGE

LEARNING

SCIENCE IN BUSINESS

SELECTION

SCIENCE IN BUSINESS



EVOLUTION

SCIENCE IN BUSINESS

POWERED BY Ciências ULisboa

The LEARNING stage is divided in formal and non-formal education: the first includes optional courses on entrepreneurship and innovation destined to undergraduate and graduate students; non-formal education consists of workshops on various topics of business, design and innovation that are open to students and the general public.

LEARNING

SCIENCE IN BUSINESS

POWERED BY Ciências ULisboa

SELECTION is a phase of the methodology where we offer two different programs to work with our main audiences: researchers and students.

SELECTION

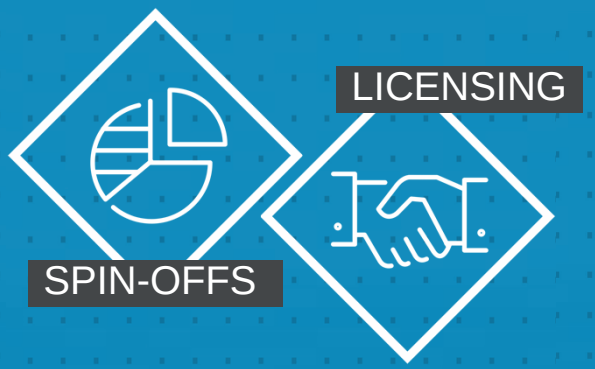
SCIENCE IN BUSINESS

RESEARCHERS AND STUDENTS

IMPACT PROGRAM/CALL FOR PROJECTS

POWERED BY Ciências ULisboa

After the Call for Projects and Summer School, the finalist from both programs enter the EVOLUTION where they have access to Tec Labs ecosystem and support in order to grow their project to the next level.



EVOLUTION

SCIENCE IN BUSINESS

DATA

POWERED BY Ciências ULisboa

36 TEAM APPLICATIONS

4 EDITIONS

6 SPIN OFFS

EMOTAI

delox

UAWLT

nevaro

R-nuucell

KEEPIT

SCIENCE BUSINESS EVOLUTION

POWERED BY Ciências ULisboa

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THANK YOU

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PhD Support Programme

Career Strategy Programme ®

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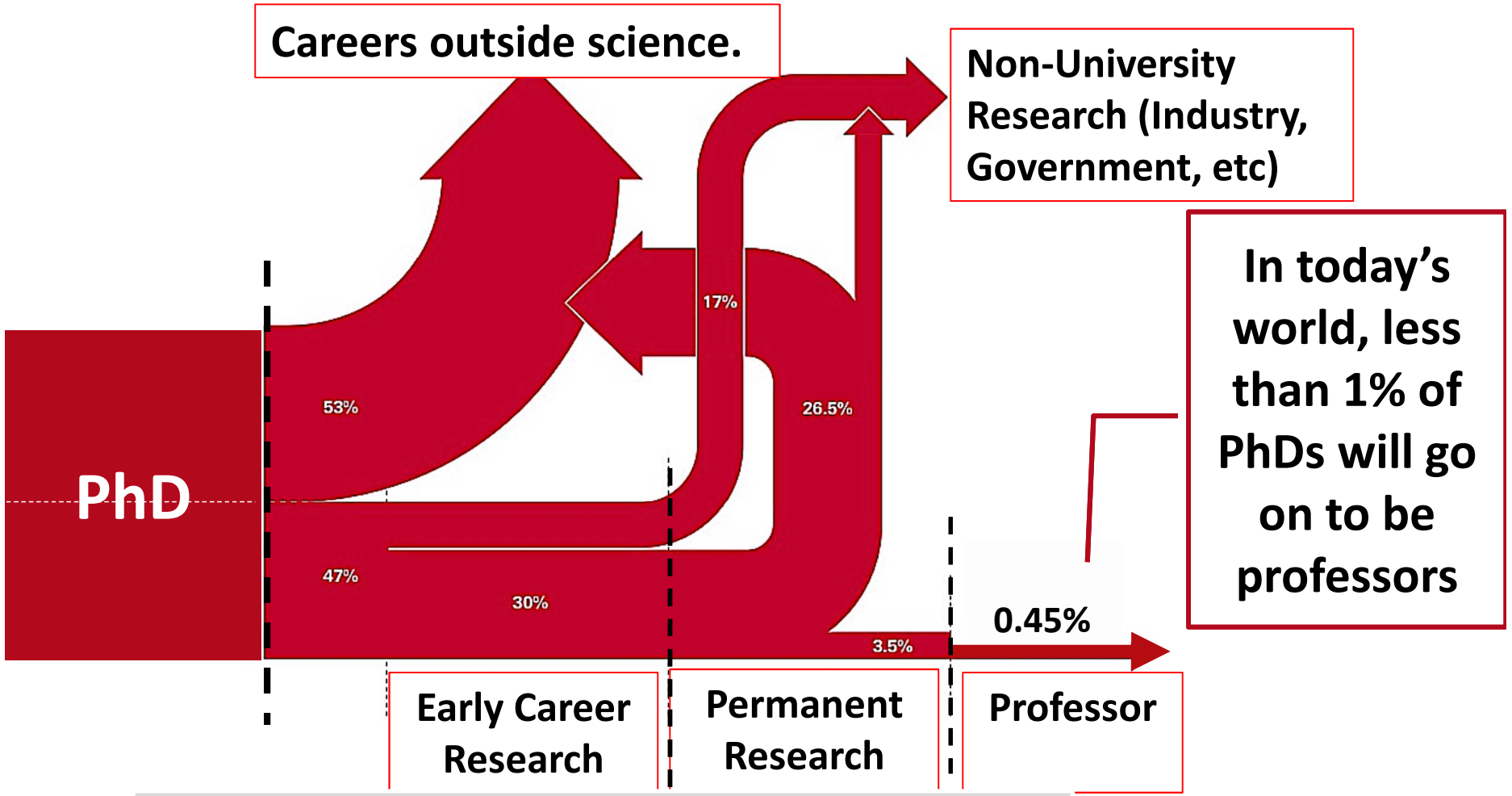

Why it is important to study different career options

"The scientific century: securing our future prosperity". Royal Society Policy Document (2010).

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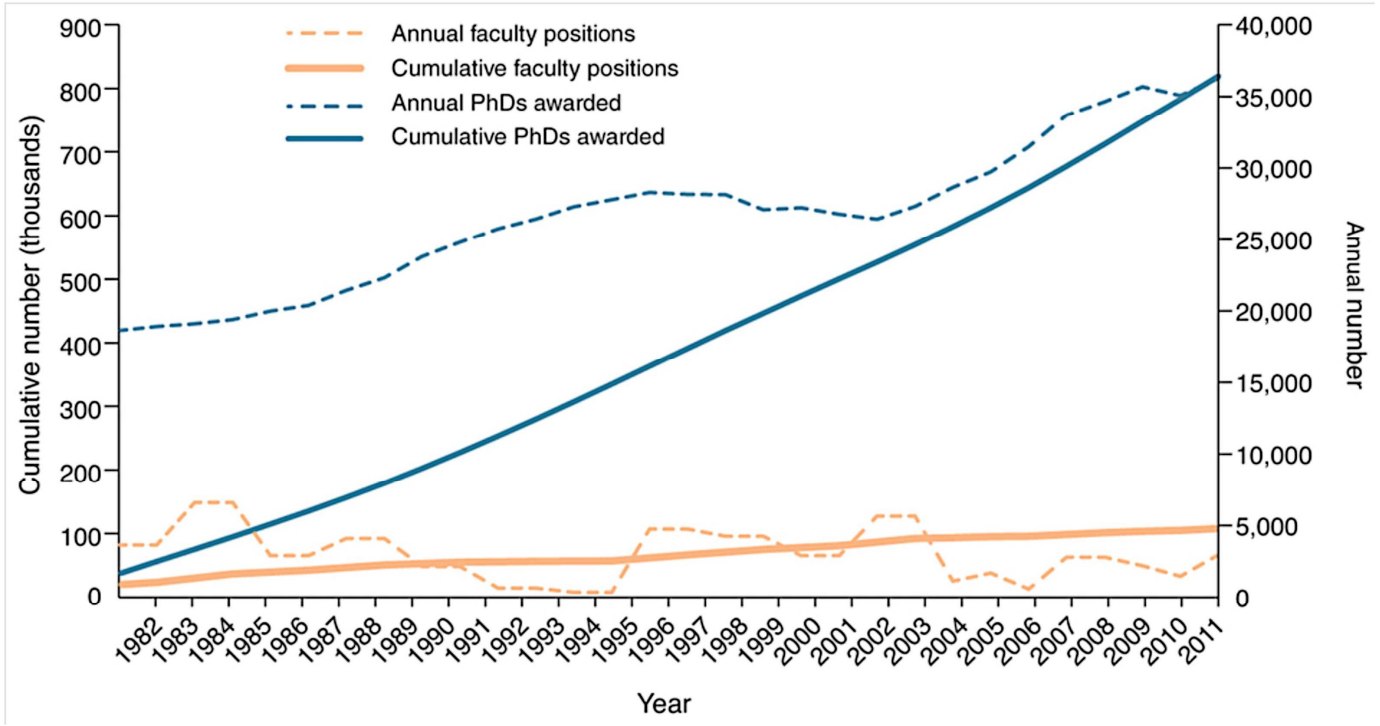
Why it is important to study different career options (USA)

The number of science and engineering (S&E) PhDs awarded annually have been increasing over time but the number of faculty positions created each year, has not changed.

Figure 1: New faculty positions versus new PhDs.

From
The missing piece to changing the university culture
Maximiliaan Schillebeeckx, Brett Maricque & Cory Lewis
Nature Biotechnology **31**, 938–941 (2013) | doi:10.1038/nbt.2706
Published online 08 October 2013



Why it is important to study different career options (USA)

Figure 1: New faculty positions versus new PhDs.

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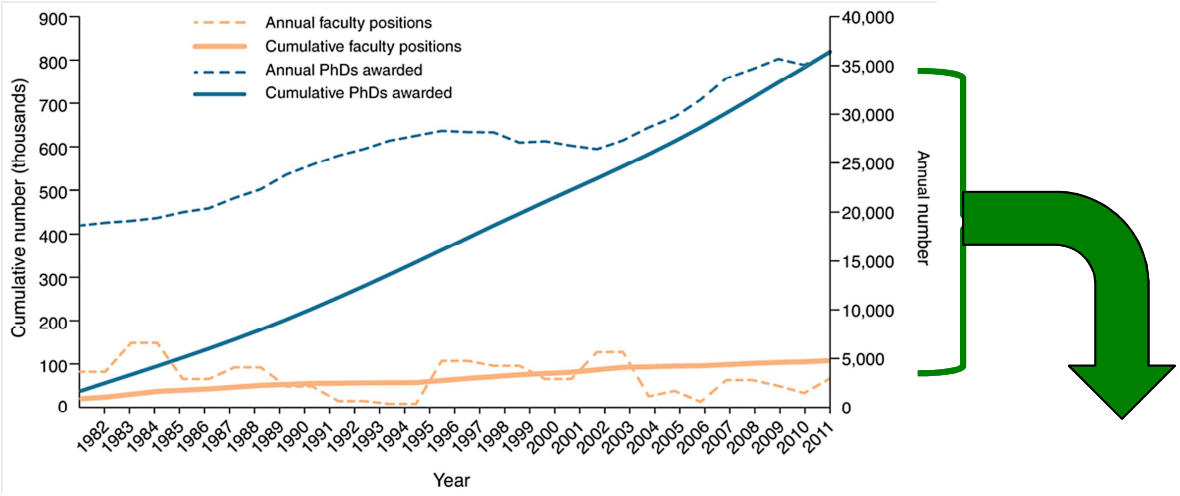
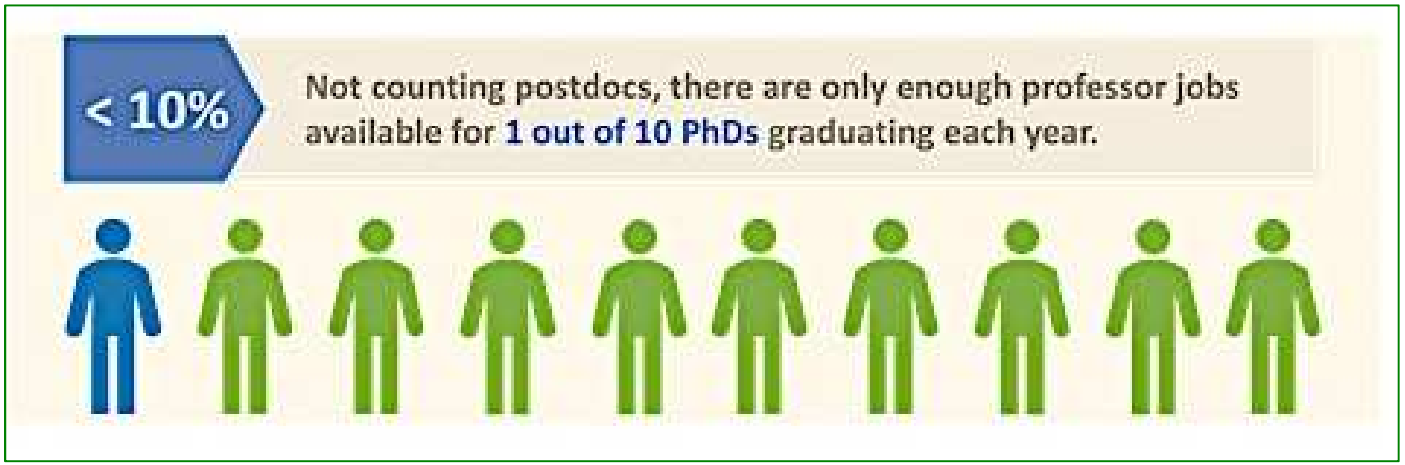
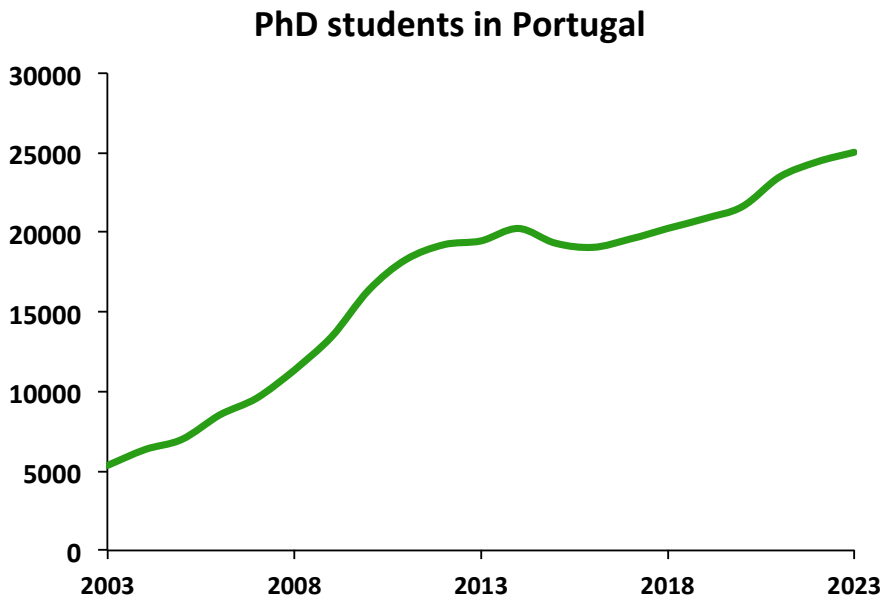


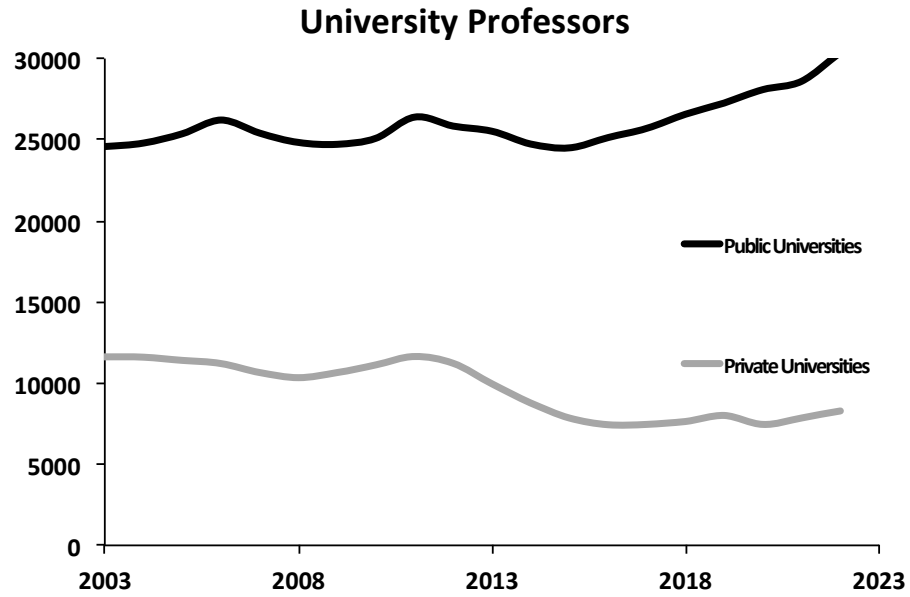


Source: “The Missing Piece to Changing University Culture,” by Maximiliaan Schillebeeckx et al. in 2013.

Why it is important to study different career options (Portugal)

The number of registered PhD students have been increasing over time but the number of faculty positions are not enough to integrate all the Doctorates





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PORDATA

Why it is important to study different career options

International Recommendations to Research institutions (EU[1,2], USA reports[3])

PhD training:

1. Set clear expectations
2. Information of different career paths
3. Provide support for supervisors in: mentoring, active learning techniques and assessment.

Postdoctoral training

1. Period of service
2. Title & Role
3. Compensation & Benefits
4. Career Development
5. Mentoring
6. Data collection

1. European Science Foundation, *Career Tracking of Doctorate Holders: Pilot Project Report*, 2015
2. Europe Science Foundation - *Career Tracking Survey of Doctorate Holders: Project Report,* 2017
3. National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. The Postdoctoral Experience Revisited. Washington, DC: The National Academies Press, 2014.

Why it is important to study different career options

Recommendations to EU Research institutions[1]

PhD training:

1. **Set clear expectations**
2. **<u>Information of different career paths</u>**

5.9 Career orientation and support for job search

Institutional career orientation and support should offer doctoral candidates tools for evaluation and development of their skills, and assist their largely independent job search by raising awareness of their broader career options

1. Europe Science Foundation - *Career Tracking Survey of Doctorate Holders: Project Report,* 2017

Ciência Clara ®
Career Strategy Programme

In this Programme you will:

- **Engage in self-reflection through structured exercises to learn more about your individual <u>strengths, values and interests</u>**
- **Obtain information about a variety of career paths both through independent research and programme events**
- **Foster a supportive environment for self and career exploration with the other members of your peer group**
- **Restructure your CV and build a Linkedin profile in order to submit to feedback from your peers.**

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Creative solutions to empower scientists

Career Strategy Programme ®

2h/week, 10 weeks, 18-28 participants

Training Modules:

Module #1	Module #2	Module #3	Module #4
Personality & Activity Preferences	Interests, Values and Skills	Strengths & Peer Feedback	Transition to Career Exploration

Advanced Workshops

#1	#2	#3	#4
Career Planning, Network Strategies & Linkedin profile	Write a professional and powerful resume	2 Networking events with invited speakers	1 on 1 Career session

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Creative solutions to empower scientists

What was especially beneficial about Ciência Clara Career Strategy Programme?

Testimonials (2nd edition anonymous feedback)

Self-assessment, career paths, improving of CV/Linkedin and tips to do networking
Definitely the peer group session. We were able to discuss with other colleagues about our future and to share some knowledge.
To get to know what I really want, my strengths and my weaknesses
Getting new prespectives

What was especially beneficial about Ciência Clara Career Strategy Programme?

Testimonials (2nd edition anonymous feedback)

It helped me to remember my personal characteristics, which can help me to find a good job and more close to my ideal
Showed me career paths I haven't consider before
To share experiences with other PhD students who have similar experiences
This program made me valorise my academic and professional paths
To get to know Filipa and her experience in taking a different career path after her post doc

What I though specially benefitial about Ciência Clara is that you are exposed to a wide range of fields/interest and paths that you never considered before. I think this course also provides the tool to develop a strong mindset and methods to explore further carreer paths. I would say that this course helped to expand my horizons.

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PhD Support Programme

Soft Skills Programme

Soft Skills Programme

Structure of independent modules, including topics such as:

1. Ethics in Science
2. Bioethics
3. Scientific writing
4. Science communication

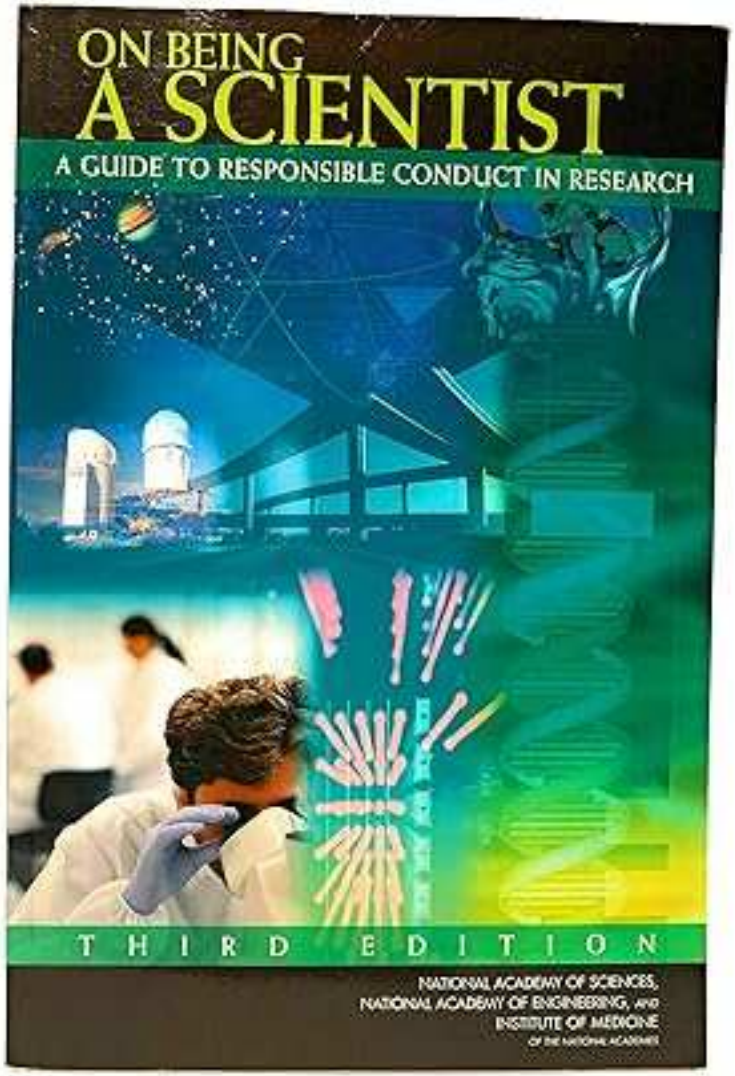
Some modules may have variants depending on the scientific area or may only be relevant to some.

Each module is organized in the form of workshops. Participants will choose, each year, the modules they consider most relevant, and it is recommended that they be taken in the first years of the doctorate.

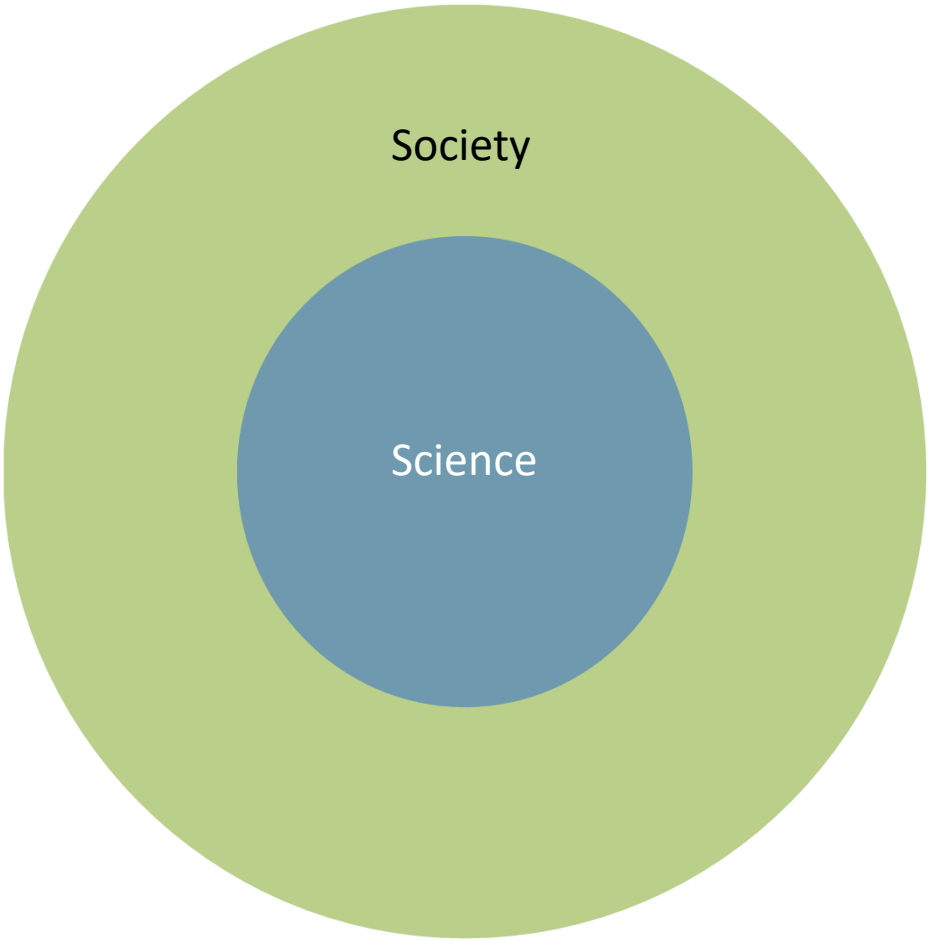
Modules can be organized in collaboration with R&D Centers or within the scope of CIÊNCIAS Doctoral Programs.

Science Internal Ethics

- Data management (e.g., what is an outlier?)
- Limits of image processing
- Authorship (reward)
- Peer-review (reward)
- Plagiarism
- Data sharing



Ethics in Science



External Ethics

Internal Ethics

Science External Ethics

- Bioethics
- Environmental Ethics
- Infoethics

2003:50–61 | ETHICS IN SCIENCE AND ENVIRONMENTAL POLITICS ESEP | Published June 24

PAPER

Ethical issues in ecological restoration

John Cairns, Jr.*

Department of Biology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061, USA

Biological Conservation 275 (2022) 109759

Contents lists available at ScienceDirect

Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

Perspective

Ethics in biodiversity conservation: The meaning and importance of pluralism

The Hastings Center for Bioethics

The Ethics of Deliberate Extinction

nature ecology & evolution

nature › nature ecology & evolution › correspondence ›

Correspondence | Published: 26 February 2018

The science and ethics of extinction

Alexandre Antonelli & Allison Perrigo

Nature Ecology & Evolution 2, 581 (2018)

4015 Accesses | 4 Citations | 23 Altmetric | Metrics

Dire Wolves Have Just Been Brought Back From Extinction — and No This Isn't Some 'Game of Thrones' Fantasy

In a stunning scientific development, the prehistoric canines made famous in the hit HBO show have been announced as the world's first de-extinct animal.

BY DEGEN PENER APRIL 7, 2025 7:31AM

Colossal CEO Ben Lamm with a dire wolf pup. COLOSSAL BIOSCIENCES

frontiers | Frontiers in Bioengineering and Biotechnology

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Exploring the Ethics and Risks of Synthetic Biology

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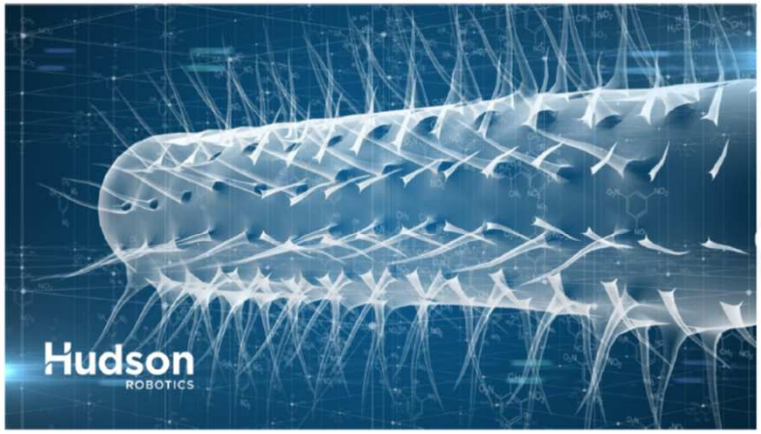
EDITED BY
Kisung Ko,
Chung-Ang University, Republic of Korea

REVIEWED BY
Marietjie Wilhelmina Maria Botes,
University of KwaZulu-Natal, South Africa
Richard Kelwick,
Imperial College London, United Kingdom

The view of synthetic biology in the field of ethics: a thematic systematic review

Ayşe Kurtoğlu*, Abdullah Yıldız and Berna Arda

Department of Medical History and Ethics, Ankara University School of Medicine, Ankara, Türkiye



J Med Ethics. 2010 November ; 36(11): 687–693. doi:10.1136/jme.2010.038232.

Synthetic biology and the ethics of knowledge

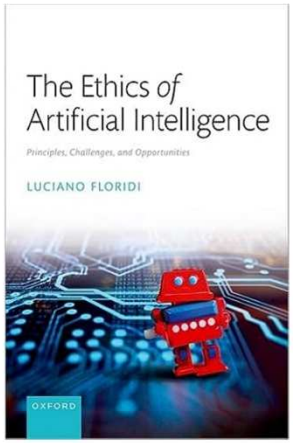
Thomas Douglas and **Julian Savulescu**
Oxford Uehiro Centre for Practical Ethics, Faculty of Philosophy, University of Oxford, Oxford, UK

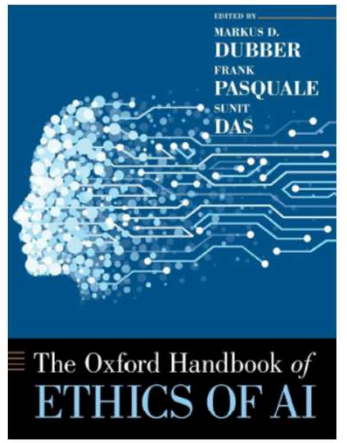
The Hastings Center *for* Bioethics

Ethical Issues in Synthetic Biology

Principal Investigators: Gregory Kaebnick, Thomas H. Murray, and Erik Parens

Funder: The Alfred P. Sloan Foundation



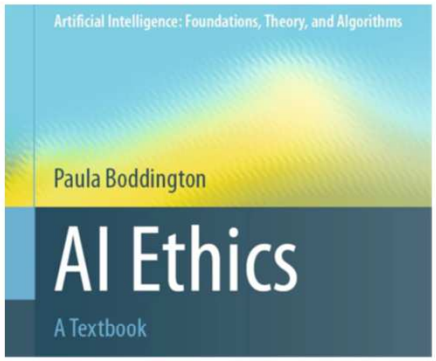


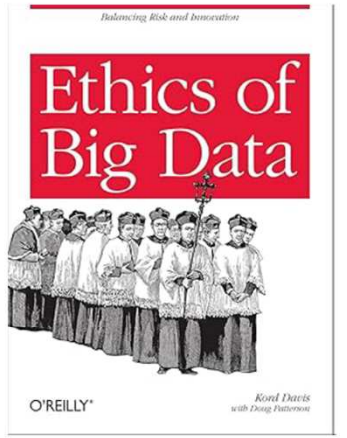
AI and Ethics (2025) 5:1499–1521
https://doi.org/10.1007/s43681-024-00493-8

ORIGINAL RESEARCH

The ethics of using artificial intelligence in scientific research: new guidance needed for a new tool

David B. Resnik[1] · Mohammad Hosseini[2,3]





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ORIGINAL RESEARCH

Ethics & Big Data

Richard Herschel*, Virginia M. Miori
Decision & System Sciences Department, Ervian K. Haub School of Business, Saint Joseph's University, Philadelphia, 19131, USA

Ethical Challenges Posed by Big Data

by EDMUND G. HOWE, III, MD, JD, and FALICIA ELENBERG, BS
Dr. Howe is a Professor of Psychiatry and Medicine, Director of Medical School Programs in Ethics, and Senior Scientist at Uniformed Services University of the Health Sciences in Bethesda, Maryland.

Innov Clin Neurosci. 2020;17(10–12):24–30

Science Writing

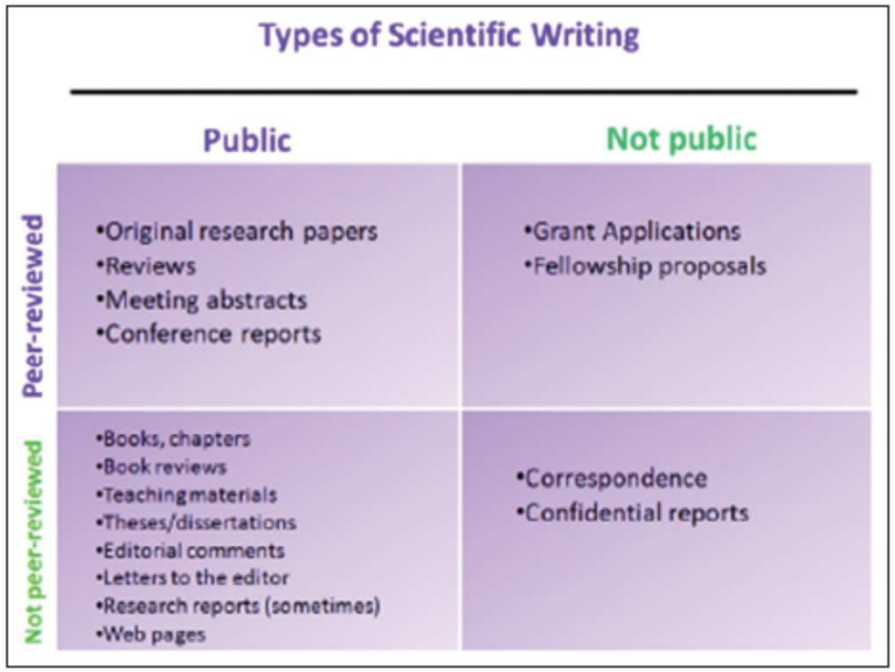


Figure 2: Various types of scientific publications

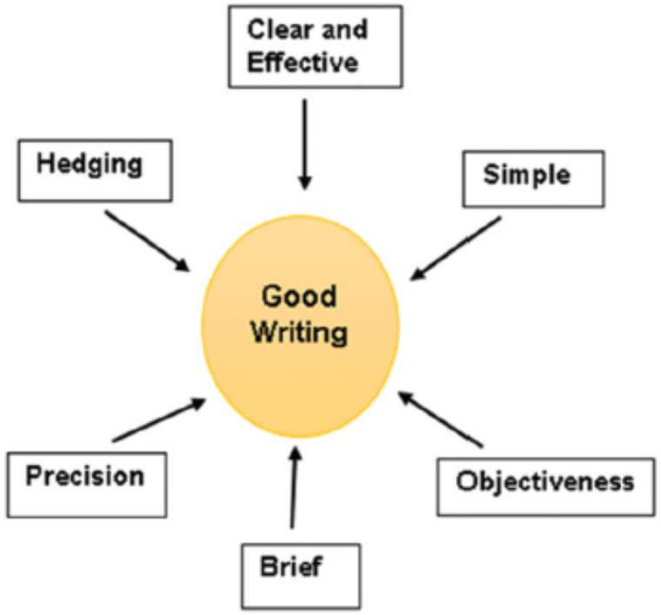
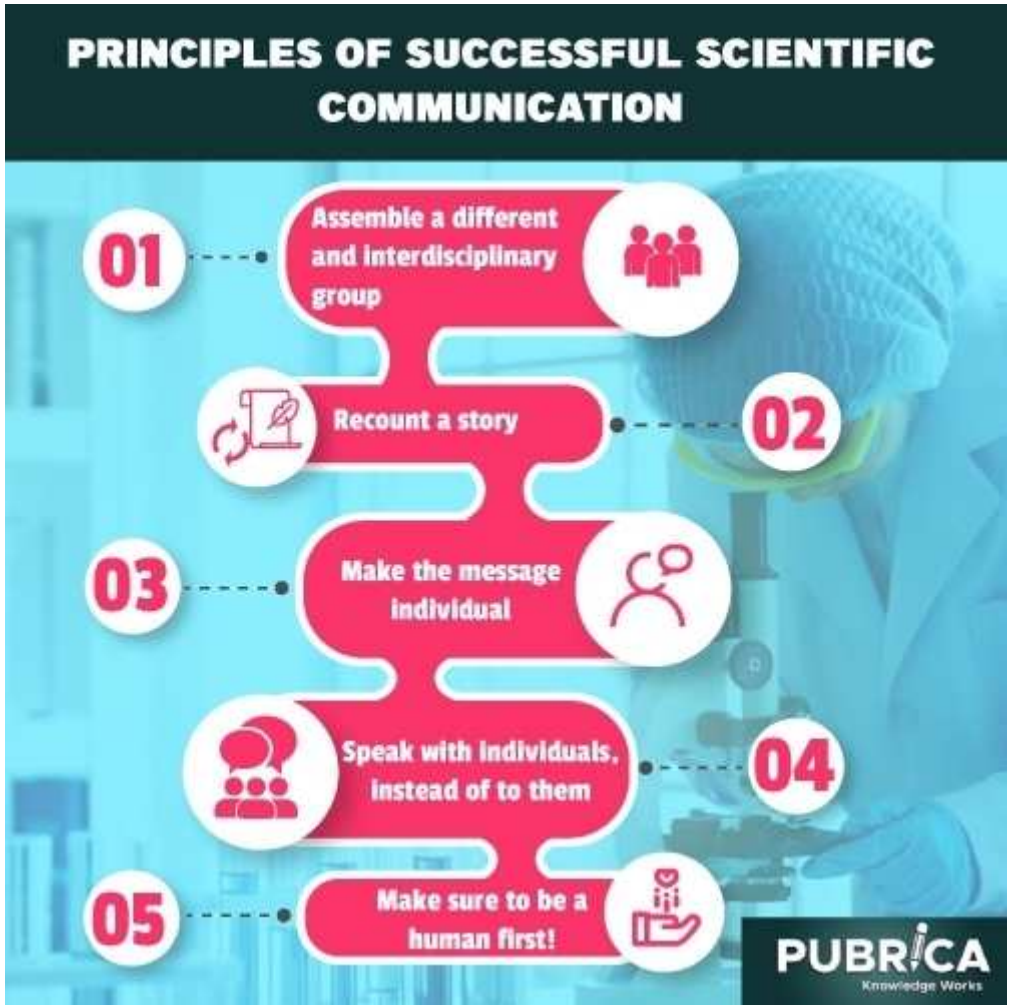


Figure 1: Characteristics of good scientific writing

Science Communication



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PhD Support Programme

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  b) Copyright and Related Rights Code (Decreto-Lei n.º 63/1985, de 14 de março, in its current version).

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- From the delivery of a communication of invention, to the Board of **Ciências**, begins the development of a process with the following phases:

  a) Analysis of the interest of **Ciências** in protecting the invention whose rights it holds;

  b) Decision on the form of protection (patent or trade secrets and execution of registration processes) or assignment to inventors;

  c) Economic valuation of the invention through licensing to third parties or to a spin-off created by the inventors.

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- **Non-Disclosure Agreement (NDA):** an agreement with external entities, public or private, national or international, for the exchange of information, to guarantee the confidentiality and protection of information.

Management of intellectual property of CIÊNCIAS

- More information on intellectual property and technology transfer on the **Ciências** website: https://ciencias.ulisboa.pt/pt/valorizacao-do-conhecimento
- To address or clarify any issue related to intellectual property, please contact:

  Research Support Office:

  Fernando Lopes: falopes@ciencias.ulisboa.pt - Phone: 217500720

  Tec Labs

  Inês Neto: tto@ciencias.ulisboa.pt – Phone: 217500006

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- https://teclabs.pt/
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