

RESEARCH PROJECT SEMINAR

PhD Program in Climate Change and Sustainable Development Policies

Why this Seminar?

A PhD is not just about producing a thesis... It's about becoming a researcher.

This seminar exists to support that process: to help you navigate the complexity of designing rigorous research, making defensible choices, and communicating your work with confidence.

Every session is designed around the challenges you will most likely face.

Faculty

João Pedro Gouveia

- MSc in Environmental Engineering
- PhD in Climate Change and Sustainable Development Policies
- **Areas of interest:** Energy welfare, energy poverty, renewable energy communities, building energy efficiency, just energy transition, and climate change mitigation and adaptation solutions.
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Ana Delicado

- PhD in sociology
- Senior Research Fellow at ICS ULisboa
- **Areas of interest:** social studies of science and technology, environmental sociology, energy, risk
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Climate change research sits at the intersection of the natural and social sciences.

Learning to think across disciplinary boundaries is itself a core research competency you will need throughout your research work.



Course Objectives

Designed to support doctoral students across all stages of thesis development — from design and implementation to defense preparation

- Cultivate a comprehensive research culture encompassing:
 - Problem/issue formulation
 - Critical bibliography review and reference management
 - Methodology definition (across natural and social sciences)
 - Data analysis and presentation
 - Scientific writing (articles and monographs)
 - Promotion of scientific collaboration
 - Application of results and societal engagement
- Provides a space for students to present their thesis topic and challenges, with collective problem-solving support from the group

Your Research Roadmap

From day one, the work in this seminar is anchored to a real output: a research project structured around the FCT Doctoral Studentship application format.

This includes your state-of-the-art, objectives, methodology, ethical challenges, and timeline. The final evaluation is not an exam — it is a draft of something you will actually need.

Module 1 – Introduction and epistemological issues

Date	Lecturer	Title	Topics
6 th March	Pedro Prista (ISCTE-UL)	Process Methodology and epistemological issues	<ul style="list-style-type: none">• The design and construction process of a Research Project• Clarification of the intriguing question and its background• Identification and critical review of relevant bibliography.• Formulation and justification of the problem and identification and demonstration of the relevance of the research object.• The planning of work and the calibration of the plan in relation to the resources that can be mobilised• The critical monitoring of the processes of construction and execution of the project.• Some operational concepts: Theorem and hypotheses. Observing and measuring. Experimentation. Explanation and cause. Proof and evidence.

Module 2 – Methodological issues

Date	Lecturer	Title	Topics
13 th March	Júlia Seixas (NOVA FCT)	Research methodologies in environmental sciences	<ul style="list-style-type: none">• Environmental systems: components, relationships and boundaries. Spatial and temporal scope of research.• The scientific process in environmental sciences: basic sciences vs applied sciences.• Scientific method: from observation to hypothesis; from hypothesis to its confirmation or refutation.• Limits of application to environmental sciences. Methodologies and methods in environmental sciences: descriptive and normative. Numerical observations and quantitative analysis tools. The interface with social sciences.• Prospective methods: extrapolation vs. envisioning.• The role of non-scientists in environmental science research.• The normative value of sustainability in environmental science research.

Module 2 – Methodological issues

Date	Lecturer	Title	Topics
20 th March	Ana Delicado (ICS-UL)	Research methodologies in social sciences: potential and limitations	<ul style="list-style-type: none">• Qualitative and quantitative methodologies: characteristics and procedures• Interviews and fieldwork. Surveys (construction, application, and data analysis)• Participatory Science and Citizen Science methodologies• Research examples
27 th March	Maria José Roxo (FCSH-NOVA)	Fieldwork methodologies	<ul style="list-style-type: none">• Basic elements• Landscape description and analysis

Module 3 – Scientific work techniques

Date	Lecturer	Title	Topics
10 th April	Maria José Roxo, Henrique Cerqueira (FCSH-NOVA)	Cartography	<ul style="list-style-type: none">• Graphic semiology basics• Map analysis
17 th April	Ana Delicado (ICS-UL)	Science communication and ethics	<ul style="list-style-type: none">• Science communication<ul style="list-style-type: none">• Audiences• Formats• Contents• Ethics in research<ul style="list-style-type: none">• Ethics in data collection, consent, and non-extractivism• Ethics in publication and supervision• Codes of ethics• Permits from ethics committees

Module 3 – Scientific work techniques

Date	Lecturer	Title	Topics
8 th May	João Pedro Gouveia (NOVA FCT)	Scientific approach, Outputs and Impact	<ul style="list-style-type: none">• Publications typologies and Peer Review Process• Impact Metrics, Open Access• Scientific Integrity: Plagiarism, authorship, conflict of interests• Research Communication Activities, Scientific Profiles (ORCID; Research Gate, Google Scholar)• Applying to Funding and Funding Sources
15 th May	Jussara Rowland (ICS-UL)	Generative AI in Doctoral Research: Practices, Challenges, and Implications	<ul style="list-style-type: none">• What is Generative AI?• GenAI in Higher Education• GenAI in Scientific Research• A reflexive approach to the use of GenAI
22 nd May	João Pedro Gouveia, Ana Delicado	Follow-up seminar	Practical example of a doctoral project application – doctoral candidate(s) or recent PhDs to be invited

Module 4 - Evaluation

Date	Lecturer	Title	Topics
29 th May	João Pedro Gouveia, Ana Delicado, tutors	Presentation of projects, discussion and evaluation	Students present their research projects
5 th June			

Evaluation

- Presentation of research projects through PowerPoint, following FCT Studentships for Doctoral Studies structure: 29th May and 5th June
- Submission of the revised version of the PowerPoint: 26th June (general), 17th July (working students)

FCT Studentships for Doctoral Studies

- Abstract and keywords
- SDGs
- State of the art
- Objectives
- Detailed Methodological description
- Risks and Ethical Challenges
- Timeline
- Bibliographic references

Practical matters

- All PowerPoint presentations will be made available in Fenix, together with other support material
- You can reach us any time by email
- If necessary, we'll create Zoom sessions for participation online

Let's now hear from you!

Preliminary ideas for the research project, methodologies you intend to use

Guiding Questions:

- What is the core question your research is trying to answer — and why does it matter *now*?
- How did you arrive at your topic — was it curiosity, a gap in the literature, a real-world problem, or something else?
- What do you already know about your methodology, and what still feels uncertain?
- Where do you feel most confident in your project — and where do you feel most lost?
- What does "success" look like for you at the end of this PhD?
- Is there a tension between what you *want* to study and what is feasible given your resources and timeline?
- Have you identified who else is working on similar questions — collaborators or competitors?
- What is the biggest risk to your project right now?