ELLIS PHD PROGRAM

Information session for applicants
2023

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WHY ELLIS?

The ELLIS Society
The ELLIS PhD Program

ELLIS FOR EUROPE

European Laboratory for Learning and Intelligent Systems

ELLIS Society

European Laboratory for Learning and Intelligent Systems (founded 2018)

Attract and enable the best minds
Create regional ecosystems around leading AI research
Bring Europe's leading AI hotspots together

Research Programs

ELLIS connects leading experts working on **high-impact problems** that have the potential to drive **breakthroughs** in modern AI. Fellows are organized into **14 programs** ranging from basic research on algorithms to applications in health and climate sciences.

Sites

ELLIS establishes **regional ecosystems** around leading AI research, which serve as international talent magnets and incubators of **innovation**. **40 ELLIS sites** co-operate as part of a **multi-centric AI research laboratory** that attracts the world's best minds.

PhD & Postdoc Program

ELLIS attracts and nurtures **talent**. It offers outstanding young researchers a unique entry point to cutting-edge machine learning research, supporting deep cross-border and interdisciplinary **collaborations** as well as partnerships with top industry labs.

Research Programs

ELLIS connects leading experts working on **high-impact problems** that have the potential to drive **breakthroughs** in modern AI. Fellows are organized into **14 programs** ranging from basic research on algorithms to applications in health and climate sciences.

Geometric Deep Learning

Robust Machine Learning

Interactive Learning

Computer Vision

Robot Learning

Human-centric Machine Learning

Theory & Algorithms

Quantum- & Physics-Based ML

Natural Intelligence

Health

Earth & Climate Sciences

Natural Language Processing

Symbolic Machine Learning

Multimodal Learning Systems

Sites

ELLIS establishes **regional ecosystems** around leading AI research, which serve as international talent magnets and incubators of **innovation**. **40 ELLIS sites** co-operate as part of a **multi-centric AI research laboratory** that attracts the world's best minds.

2

Joined in 2023

Helsinki
Edinburgh
Copenhagen
Manchester
Cambridge
Amsterdam
Berlin
Potsdam
Oxford
Delft
Nijmegen
London
Jena
Leuven
Prague
Saarbrücken
Darmstadt
Heidelberg
Paris
Tübingen
Stuttgart
Vienna
Freiburg
Munich
Linz
Graz
Lausanne
Zurich
Trento
Turin
Milan
Sofia
Genoa
Modena
Barcelona
Madrid
Lisbon
Alicante
Haifa
Tel Aviv

PhD & Postdoc Program

ELLIS attracts and nurtures **talent**. It offers outstanding young researchers a unique entry point to cutting-edge machine learning research, supporting deep cross-border and interdisciplinary **collaborations** as well as partnerships with top industry labs.

3

excellence

effective mechanisms for collaboration

benefitting society and economy

ELLIS PHD PROGRAM

PHD PROGRAM: VISION

attract & support excellent young researchers in ML

metaprogram on top of existing graduate programs
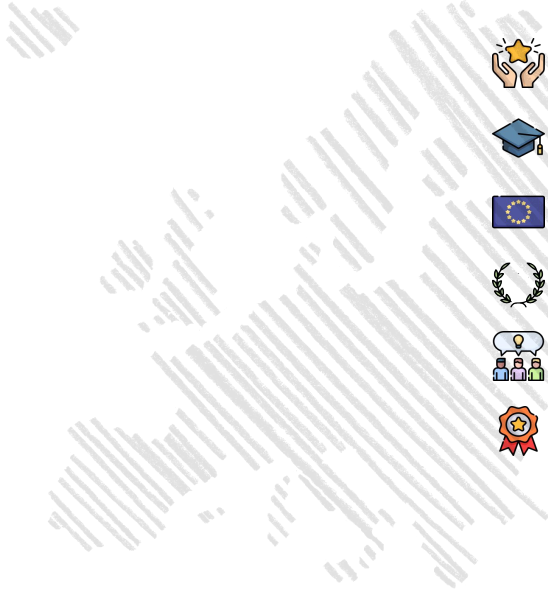
European collaboration

focus on excellence

joint supervision within the ELLIS network

aiming to become the #1 brand in ML

ELLIS PHD COMMITTEE

Chairs

Andreas Geiger

Florence d'Alché-Buc

Committee Members

Christoph Lampert

Bernhard Schölkopf

Josef Sivic

Coordination Office

Lynn Anthonissen
Scientific Coordinator

Jessica Endress
Assistant

Daniel Selinger
Web Developer

New Committee Members

Alex Bronstein

Mario Fritz

Gergely Neu

Ingmar Posner

Torsten Sattler

Siyu Tang

DIFFERENT TRACKS

🇪🇺 **European collaboration**

academic track
- research stay at a top academic institution abroad (min. 6 months)

industry track
- research at a European industrial lab (min. 6 months)

interdisciplinary track *to be introduced soon*
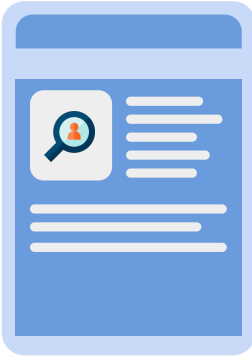
joint supervision within the ELLIS network

1 ELLIS fellow/scholar/unit faculty
　+
1 ELLIS fellow/scholar/unit faculty or member

TRACK REQUIREMENTS

Advisors: 1 ELLIS Fellow/Scholar/Unit faculty + 1 ELLIS Fellow/Scholar/Unit Faculty/Member

Partners:
Academic track: 2 European academic institutions located in different countries
Industry track: 1 European academic institution + 1 European industry player

Work split:
Academic track: min. 6 months at secondary academic partner
Industry track: min. 6 months at the industry partner + min. 50% at the academic partner
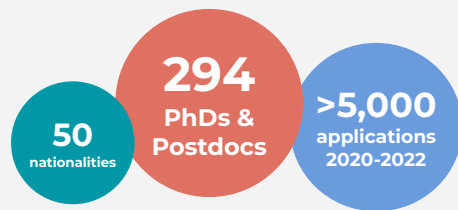
Funding: funding must be provided by advisors

Candidate: Centrally reviewed and shortlisted in *central recruiting*

Focus: excellence in research. Candidates are expected to publish in top venues.

THE PROGRAM IN NUMBERS

Recruitment

50 nationalities

294 PhDs & Postdocs

>5,000 applications 2020-2022

Collaborations

15 countries

230 advisors

102 partners

18% industry track
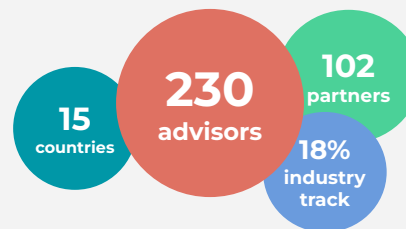
A program with global reach

Country of residence of 2022 applicants (in blue)
(countries in dark blue each account for more than 1% of registrations)
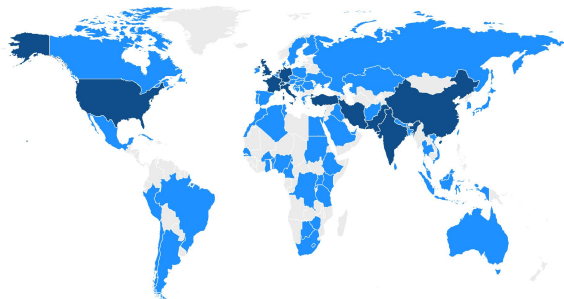
More than 147 years of European researcher mobility

Exchanges in the ELLIS network
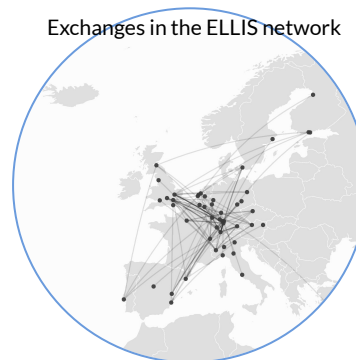
JOIN THE COMMUNITY!

➜ competitive program recognized for excellence
➜ joint supervision by leading researchers
➜ work with the best labs in Europe
➜ access to densely-connected ELLIS network & activities
➜ exchange program & mobility support via our European projects
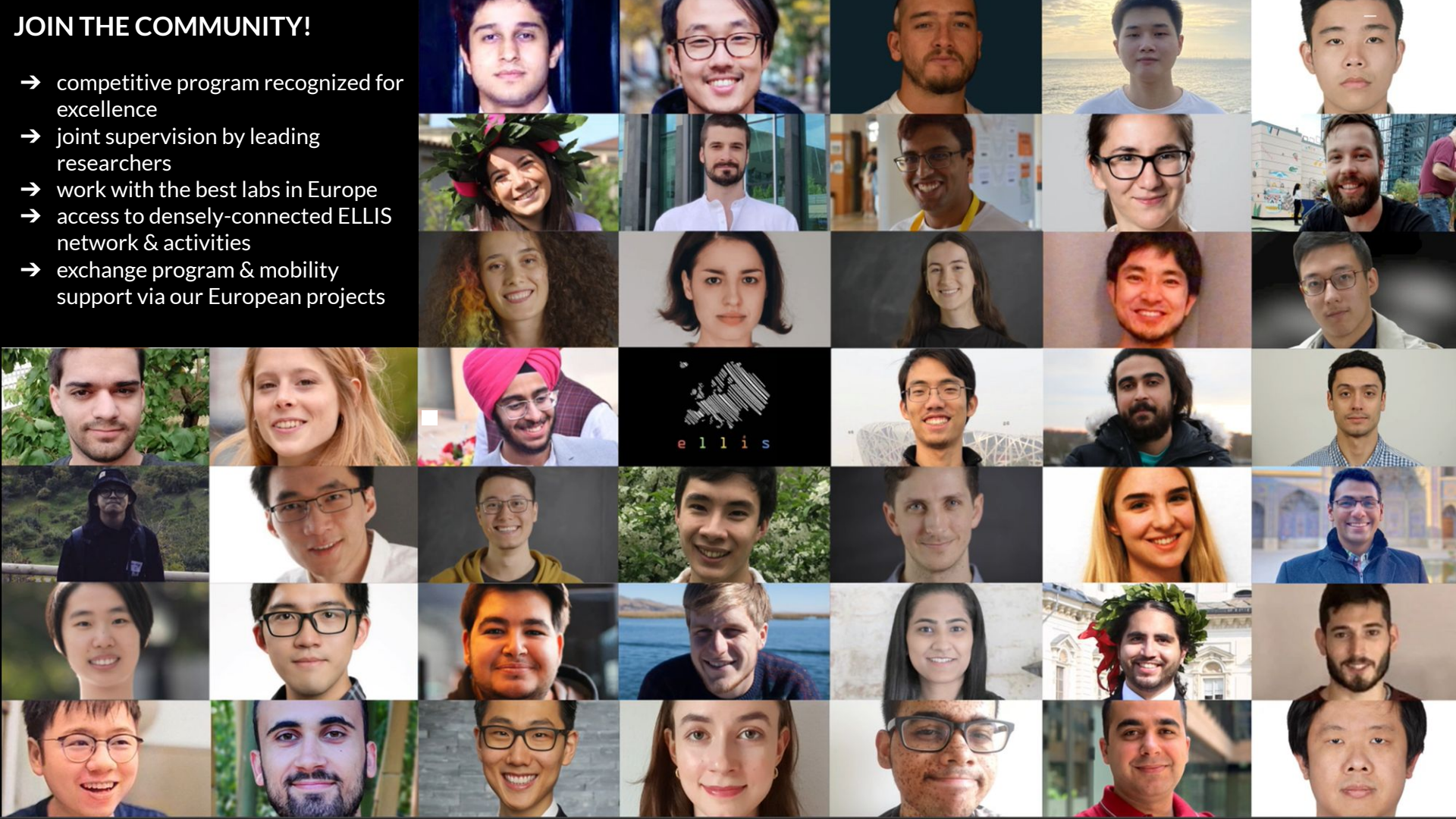
ACTIVITIES

ELLIS Doctoral Symposium
Sep 21 @Tübingen >> Sep 22 @Alicante >> Sep 23 @Helsinki >> Aug 24 @Paris

ELLIS Summer & Winter Schools
e.g. 2023 schools in Cambridge, Manchester, Modena

Mobility funds
Travel support via European projects based on the ELLIS network (ELISE, ELSA, ELIAS)

Reading Groups
Human-Centric Machine Learning
Mathematics of Deep Learning
ellis.eu/reading-groups ⇒ Join now!

& many other ELLIS events
   … at the ELLIS units
   … meet-ups at large conferences
   … small-scale workshops of the Research Program with leading scientists
     in a particular field
   …

HOW TO JOIN?

Prospective PhD student? ⇒ *central recruiting*
(1x year, open PhD positions, single point of entry in EU)

Already started a PhD with an ELLIS faculty? ⇒ *nomination*
(year-round, light-weight process, existing collaborations)

CENTRAL RECRUITING

How to apply
Timeline and selection

USEFUL LINKS

- **Program webpage:** *ellis.eu/phd-postdoc*
- **Call for applications:**
  https://ellis.eu/news/ellis-phd-program-call-for-applications-2023
  ⇒ registration link
- **Portal:** *apply.ellis.eu*
- **FAQs:** *ellis.eu/FAQS*

IMPORTANT NOTES

- **ELLIS Central Recruiting as "single entry point" for top-notch research positions in Europe**
  ⇒ Applicants use our platform to find and be found for PhD opportunities in machine learning and related fields offered by advisors in the ELLIS network. Advisors in the ELLIS network use our platform to indicate to applicants that they are looking for PhD students, and use the platform to find talented students that could be a good match for their labs.

- **ELLIS is a "meta-program"; the ELLIS society does not employ nor fund PhD students.**
  ⇒ If you get an offer, you will be funded through your advisors' resources (nature and amount of funding and benefits may vary depending on country, institution etc.: contract vs. stipend). In some cases, a parallel application to a doctoral school, funding body or vacancy is required in order to be considered for that particular institution.
  ⇒ Hiring process is local; conditions and regulations stipulated by the respective institution; admission requirements of local institutions apply
  ⇒ Ask questions during interviews when in doubt

YOUR APPLICATION: 3 PARTS

Deadline: November 15, 23:59 CET
All application documents must be submitted before the application deadline. Only complete applications submitted by the specified deadlines will be considered.

Tips: Mind the timezone. Don't submit last minute; submit at least a couple of days in advance to avoid any technical issues day of. Remind your referees to submit in time (you can check the status in the portal).

3 components
(1) Application form
(2) Documents
- Motivational letter (max. 2 p.; references can be included on a 3rd page if needed) in which you (1) explain why you want to earn a PhD within the ELLIS network and (2) include a research statement describing past research projects and interests as well as the future direction of your research.
- CV
- Unofficial transcripts (+ English translation)
- (Optional) Additional documents (e.g. thesis, paper, project portfolio)
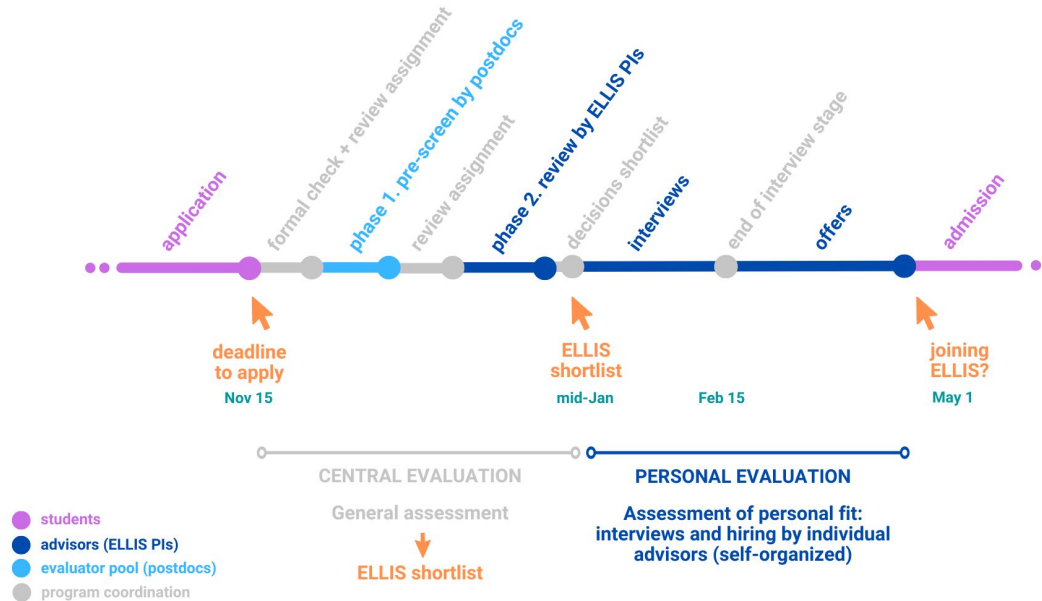(3) References (2-3)
- request your reference letters via the system (min. 2)
- referees receive a link to upload their recommendation - referees have time to submit their reference until November 25, but applicants must request the reference via the portal BEFORE the application deadline on November 15

Columns

FIRST NAME | LAST NAME | INSTITUTION | COUNTRY | RESEARCH AREAS | WEBSITE | GOOGLE SCHOLAR | BSC ACCEPTED? | PARALLEL APPLICATION NECESSARY? | NOTE ON PARALLEL APPLICATION | COMMENTS

Filter

| First name | Last name | Institution | Country ▼ | Research areas | Website | Google Scholar | BSc accepted? ▼ |

| Parallel application nec... ▼ | Note on parallel applica... | Comments |

Overview advisors

Show [50 ▼] entries

Search [   ]   RESET TABLE

⇕ First name	⇕ Last name	⇕ Institution	⇕ Country	⇕ Research areas	⇕ Website	⇕ Google Scholar	⇕ BSc accepted?	⇕ Parallel application necessary?	⇕ Note on parallel application	⇕ Comments
List of advisors		University of Edinburgh	United Kingdom of Great Britain and Northern Ireland	Computer Vision; Deep Learning; Unsupervised Learning	🌐	𝒢	Under Specific Conditions	Yes	For non UK resident stu...	General information ab...
		Politecnico di Torino	Italy	Computer Vision; Deep Learning; Earth & Climate Sciences	🌐	𝒢	No	Yes	There are 3 deadlines e...	
		DKFZ - German Cancer Research Center	Germany	Computer Vision; Deep Learning; Health; Robust & Trustworthy ML	🌐	𝒢	No	No		
		DKFZ - German Cancer Research Center	Germany	Computer Vision; Deep Learning; Health	🌐	𝒢	No	No		
		Technion - Israel Institute of Technology	Israel	Machine Learning Theory; Reinforcement Learning & Control	🌐	𝒢	Under Specific Conditions	No		
		MPI Science of Light & University Erlangen-Nürnberg	Germany	Deep Learning; ML in Science & Engineering; Quantum & Physics based ML; Reinforcement Learning & Control	🌐	𝒢	No	No		
		IST Lisbon	Portugal	Deep Learning; Interpretability & Fairness; Machine Learning Algorithms; Natural Language Processing; Optimization & Meta Learning	🌐	𝒢	Under Specific Conditions	No		
		Czech Technical University in Prague	Czech Republic	Computer Vision; Deep Learning; Machine Learning Algorithms	🌐	𝒢	No	No		

📰 Application Status | ✎ Available Advisors | ✎ Advisor Map | 👤 My Profile | ⏻ Logout

Your application to ellis_2021

Welcome to the online application system of the ELLIS PhD Program.

This portal allows you to complete the three components of your ELLIS application: (1) submitting the application form, (2) uploading your certificates and other supporting documents, and (3) requesting and receiving reference letters. In the Application Status pane on the right, you can check the status of the individual components of your application package. Further information about the participating advisors can be found on the pages 'Available Advisors' and 'Advisor Map'.

Please note that the application form, your supporting documents, and your reference letters must all be submitted and received before November 15th, 2021, 23:59 CET. Only applications that are complete and fully submitted by the specified deadline will be considered.

1. Application form

To fill in and edit your application form, select "Edit application". You can edit the form as often as you like and save data between work sessions. Mandatory fields are marked.

To submit the final version of your form, follow the instructions at the bottom of the application form. After submission of the form, no further changes can be made to this part of the application. You can submit the application form as soon as it is ready; this step is independent of your certificate upload and referees' submissions.

⊙ Application started.

Your application status

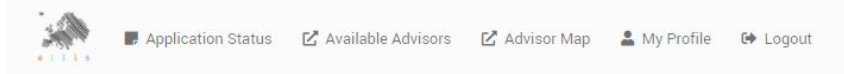| Application form	Certificates	Referees
⊙ Started but not submitted.	✅ Two-page Motivatio... DUMMY_MOTIVATION_...	⊗ R1 not requested.
	✅ Current Resume or ... DUMMY_CV.pdf	✅ R2 received.
	✅ Transcripts submitt... DUMMY_TRANSCRIPT...	✅ R3 received.
✎ Edit application	☁ Manage certificates	➤ Request references

TIMELINE & SELECTION

Important dates

- November 15: Application deadline
- November - early January: **Multi-stage review ⇒ shortlist of candidates**
- By mid-January: students are notified whether they are shortlisted
- January-February 15: interviews (self-organized by Advisors and their teams)
- Late February-March: advisors make offers
- May 1: deadline to inform ELLIS about advisor-student match
- September 15: deadline to inform ELLIS about the co-advisor

- Start in 2024; no common start (decided with advisor); unlikely before April; most will start around Sept/Oct 2024

Admission will be competitive (~5 % acceptance rate)

Timeline phases: application — formal check + review assignment — phase 1. pre-screen by postdocs — review assignment — phase 2. review by ELLIS PIs — decisions shortlist — interviews — end of interview stage — offers — admission

deadline to apply — Nov 15
ELLIS shortlist — mid-Jan
Feb 15
joining ELLIS? — May 1

CENTRAL EVALUATION — General assessment — ELLIS shortlist

PERSONAL EVALUATION — Assessment of personal fit: interviews and hiring by individual advisors (self-organized)

Legend:
- students
- advisors (ELLIS PIs)
- evaluator pool (postdocs)
- program coordination

ADVISORS

Which advisors?
- Table: "Available Advisors" ⇒ who is recruiting?
- Advisor Map ⇒ find similar advisors based on research areas

Notes
- **You can indicate up to 10 "<u>preferred</u>" advisors in the application form. These are <u>preliminary</u> preferences; your "first" choice in the application does not need to be your "first" choice after the interviews. In order to join ELLIS, you must eventually get an offer from one of the advisors in the "Available Advisors" list.**

- Familiarize yourself with their research, read up on requirements, parallel application and their "comments" in the portal and on their websites

- Main goal: for successful candidates to find a match with primary advisor
  ⇒ co-advisors come in at a later stage (decide by Sep 2023); and can be selected from a wider group
    - Primary advisor: academic institution
    - Secondary advisor: academic institution in a different country (Academic Track)
    - Secondary advisor: industry partner (Industry Track)

- **Interviews**: Shortlisted candidates do not automatically get to speak with all of their preferred advisors; advisors decide whom to invite. Advisors you did not list as "preferred" advisor may contact you if they think you could be a good fit. You can interview with multiple advisors. In previous rounds, about one third of the shortlisted candidates got an offer. Some shortlisted candidates did not get invited for interviews.

- **Offers**: If you interview with multiple people and more than one advisor is interested in your profile, it can be the case that you get multiple offers. It can also be a good opportunity for a collaboration as part of our co-advisor model (different country).

CENTRAL EVALUATION

The following criteria address the candidate's **scientific aptitude** based on **CV, transcripts, motivational letter** and **letters of reference**. Top-tier publications are welcome, but not a necessary condition for admission.

- prior academic performance and potential
- track record relative to opportunities, career stage and any systematic differences in metrics for different areas of research
- competence for the selected research area
- uniqueness and quality of the motivational letter/research statement
- contribution to establishing an interdisciplinary and diverse community and culture
- general fit with the ELLIS program and ELLIS vision

Eligibility notes

- Requirements for starting a PhD may differ across institutions/advisors (e.g. eligibility of BSc students, grades/GPA, language tests, etc.); admission requirements of local institutions apply (incl. parallel application if required)

HOW TO REACH US?

ELLIS Society

Website: ellis.eu

ellis.eu/newsletter

twitter.com/ELLISforEurope

facebook.com/ELLISforEurope

linkedin.com/company/ellisforeurope

youtube.com/@ELLISforEurope

Mastodon:
ellis.social/@ELLISforEurope

P&P Office

ellis.eu/phd-postdoc

phd@ellis.eu
general questions, academic
track, mobility fund

Support ELLIS

ellis.eu/supporters/individuals

Q&A

Application components / Eligibility
- Do you need a **research publication** to be accepted? ⇒ No, research publications are not a necessary requirement for admission via central recruiting; they may increase your chances, as they can be evidence of your research potential and independence (depending on venue of publication and your contribution to the paper)
- **Degree**: Do you need a Computer Science degree to be accepted? ⇒ No, this is not an absolute requirement (many of our students have degrees in physics, maths, engineering or related areas). You need to bring the right background and skills for your area of research.
- **References**: Professional references are accepted, as long as the referee can comment on your academic/research abilities (e.g. referees from industrial research labs). 2 references are required; they are an important component of your application. Applications without references will not be processed further.
- There are no age constraints for applications; if you have been away from academia for a long time, make sure to write a strong motivational letter explaining why you want to move back to academia and how you fulfill the academic standards.
- Can I apply if I'm already a PhD student?
  ⇒ Yes, if you are not happy with your current position and want to apply for a new PhD position with one of the listed ELLIS faculty.
  ⇒ If you are already doing a PhD with an ELLIS advisor, then you should join the program via nomination (light-weight process). If you do not fulfill the nomination requirements, you can apply via the central recruiting but only if you are in your first 6 months of the PhD. Note that only advisors in the list of "Available advisors" can accept students via the Central Recruiting. Otherwise, you should join the program via nomination (this can be done at any point during your PhD as soon as requirements are fulfilled).

Contact advisors beforehand?
- It is not necessary to contact the ELLIS faculty before applying. Note that applications are not visible to the faculty before the application deadline. After the closing date for applications, all complete applications will be thoroughly reviewed. The relevant professors will see your application at that stage. Of course, if you have a specific question about the research interests of a faculty member, you should feel free to contact them about this.
- Note: The list of recruiting advisors can be found on the portal. On the portal, you can indicate your preferences for specific advisors. You can select up to 10 advisors from the list. Advisors on the portal have access to all ELLIS applications but can also filter on students who indicated a preference to work with them.

Review

- Will all advisors mentioned in the application review my application, or will the application be passed on according to my selected order?
  - **Central review**: In the first phase, applicants are pre-screened by three evaluators from our pool. Evaluators are appointed by the Advisors (typically postdocs in their labs). Evaluators are assigned based on research areas and advisor preferences (where possible). In the second phase, candidates are reviewed by three of the participating ELLIS PIs to ensure the candidate fulfills ELLIS standards.
  - **Personal review**: Advisors have access to all applications (also students that did not "select" them), but usually only filter on those that mentioned them in their preference list. They will invite candidates they think would be a great fit for an interview. The number of interviews PIs conduct differ, but is usually between 3-5 students for one position.

Selection process

- Can I have multiple interviews to find the best personal fit (assuming that multiple advisors are interested)? ⇒ Yes!
- Can I be selected by multiple supervisors? ⇒ Yes, you may be invited by / get an offer from more than 1 advisor.
- Is the acceptance to ELLIS based on the mentioned professors? ⇒ Shortlisting is determined by your median scores of multiple reviews by experts. Your acceptance to ELLIS is dependent on you getting an offer from one of the advisors in the list of "Available Advisors".
- If I'm not taken by one of the 10 advisors I listed, could I still interview / get an offer from other advisors in the list? ⇒ Yes, this is possible. Be aware that you may not be on their "radar" if you did not list them explicitly in the form.

Parallel application

- Read the notes on the portal and read the information on the website of the local program or university (check if there is a deadline!).

Matching process

- We use a matching algorithm to assign reviewers based on overlap in research areas and the applicants' advisor preferences.
- In previous years, we had an additional matching process for interviews and/or offers that was based on preference lists submitted by applicants and advisors. This has now been replaced by a central review process with a shortlist and self-organized interviews and offers by advisors.

Funding / IP / Entrepreneurship
- ELLIS does not employ PhD students (via the ELISE project we have a mobility fund to support travel for research exchanges). If you get an offer, you will be funded through your advisors' resources. After accepting the offer, the student and the two advisors will sign a letter of intent which specifies the funding plan (among other things). The ELLIS Team cannot give you any details about the amount of funding beforehand because it may differ from country to country and from advisor to advisor. You can ask for more details during the interview.
- IP: Intellectual property rules vary greatly by institution (various types of license agreements) so check the agreements/contracts you sign at the university. The ELLIS Society does not claim any IP.
- Entrepreneurship: Many ELLIS fellows have founded start-ups and are well connected. Partnering institutions typically also have projects/measures in place to foster technology transfer (workshops, partner network, incubators). Check out the advisors' profiles, in particular the sections on Industry & Entrepreneurship.

Working conditions
- Depends on the institution where you are hired (e.g. availability part-time, funding source). ⇒ Ask questions during the interview.
- Work part-time? ⇒ Depends on local regulations. Discuss during the interview.
- UK & Brexit: EU nationals will be treated in the same way as other "international students"; international students have access to specific funding schemes for international students (check with the institution);
https://www.findaphd.com/blog/1863/what-brexit-means-for-masters-degrees-phds-and-other-students

Finding an exchange host
- After admission with the primary advisor; discuss together with the primary advisor.