ENACT AI Cluster

AI doctoral scholarships 2025

Version of May 12, 2025

The ENACT AI Cluster is a program supported by Université de Lorraine, the University of Strasbourg and their partners (CNRS, Inria, Inserm, Nancy University Hospital, Strasbourg University Hospitals) and funded by the French government (via ANR under France 2030), the Grand Est Region, Métropole du Grand Nancy, Eurométropole de Strasbourg and companies, which aims to make Grand Est a European leader in AI training, research and innovation. The research part intends, among other objectives, to triple the number of doctoral students in AI in all disciplines by 2030, with a stronger focus on 3 themes of excellence (natural language processing and multimodal LLMs, AI for engineering and scientific discovery, digital health), and to increase interdisciplinarity, internationalization and relations between the Lorraine and Strasbourg university sites.

1. Call rules

This call aims to award half-scholarships and full scholarships for doctoral students in AI, provided by France 2030 via ANR, the Grand Est Region, Université de Lorraine (science clusters and ISite LUE) and the University of Strasbourg (doctoral schools and ITIs). The table below summarizes the source and number of scholarships to date. The actual number of scholarships and their splitting between half-scholarships and full scholarships will depend on the nature and quality of the applications received, with priority given to half-scholarship requests.

2025 funding sources	Number of scholarships in 2025
France 2030	5 to 9 full scholarships, splitable into up to 18 half-scholarships
Grand Est Region	10 half-scholarships
Universities	1 to 3 splitable, full Université de Lorraine scholarships 1 to 3 splitable, full University of Strasbourg scholarships
Total	**10 half-scholarships + 7 to 15 splitable, full scholarships**

All disciplinary fields are eligible (Science and Technology, Life and Health Sciences, Human and Social Sciences, etc.).

PhD students will be registered and attached to a doctoral school at Université de Lorraine or the University of Strasbourg. The main PhD supervisor must hold an HDR degree at the beginning of the PhD and belong to one of the research entities listed in Appendix 1, i.e.:

- belong to one of the 18 listed laboratories, regardless of their employer, including if it is not an ENACT partner (AgroParisTech, CentraleSupélec, ENGEES, ICAM, INRAe, INSA Strasbourg),
- or be employed by one of the other 3 listed entities (Nancy University Hospital, Strasbourg University Hospitals, IHU Strasbourg), regardless of their laboratory.

Joint supervision with a foreign institution (a.k.a. cotutelle) or with another entity from the Lorraine or Strasbourg site, listed or not in Appendix 1, are encouraged. Prospective PhD supervisors and co-supervisors are encouraged to inform enact-interdisciplinarite@univ-lorraine.fr about their scientific needs in order to be put in touch with members of other research entities who can meet these needs and co-construct an interdisciplinary PhD subject in response to the call.

Priority will be given to:
- candidate quality;
- the 3 themes of excellence in Appendix 2: it is planned to allocate 80% of the budget to these 3 themes and 20% to emerging subjects or other themes of excellence that are considered as structuring by the institutions;
- PhDs co-supervised by two entities from the Lorraine and/or Strasbourg sites, to which it is planned to allocate up to 35% of the budget;
- cotutelles with foreign institutions, to which it is planned to allocate up to 20% of the budget;
- half-scholarships requested in complement to existing half-funding[1] (obtained from, e.g., ANR, Europe, a company, a foreign institution, etc.) as opposed to full scholarships meant primarily for the Humanities and Social Sciences;
- proposals relying on research infrastructures labeled Infra+ or CoRTecS;
- ecologically-aware proposals, which control and reduce computing costs within their theme or which are applied to the ecological transition.

Doctoral contracts should start between September and December 2025.

A full scholarship covers the PhD student's salary during the first 3 years and €10k of operating costs related to the PhD. A half-scholarship covers half of the PhD student's salary during the first 3 years and €5k of operating costs related to the PhD. Except in special cases, the doctoral contract will include a teaching component. PhD subjects involving a strong engineering effort, such as the creation of a large dataset or the training of a large multimodal AI model, will also receive support from the ENACT AI Engineering Pool currently being set up and privileged access to national computing resources, as much as possible.

2. Managing institution

See French version of the call.

3. Schedule

March 14: Deadline for submission of all AI-related PhD subjects at the following URL:

https://enquetes.univ-lorraine.fr/index.php/416987?lang=en

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[1] Except in the case of cotutelle with a foreign institution, the results of the PhD belong entirely to the managing institution, including when the existing half-funding was obtained from a company.

for centralized display on this website and dissemination on the appropriate European channels (Euraxess, etc.). The topics will be shared with the relevant clusters/DSs and LUE/ITIs.

PhD supervisors must also submit their subject on the platform for candidates (ADUM for the Lorraine site and Amethis for the Strasbourg site), no later than March 14, and disseminate it within their community. It is recommended to do this as soon as possible to attract good candidates.

April 28: Deadline for selecting candidates and submitting funding applications to ENACT at the following URL:

https://enquetes.univ-lorraine.fr/index.php/897262?lang=fr

Applications will be shared with the relevant clusters/DSs and LUE/ITIs.

May 9: Application review by the ENACT Ethics Committee.

May 19–28: Preselection, interview and ranking of candidates by three committees and notification of PhD supervisors and candidates. The committees will include representatives from ENACT's research governance and from the clusters/DSs and LUE/ITIs providing half-scholarships:

Committee 1. May 19: Interview and ranking of preselected candidates for a full scholarship combining half-funding from the AM2I (CRAN, LORIA) or EMPP (LEMTA) clusters or LUE and half-funding from the Grand Est Region or France 2030 — the preselected candidates and their PhD supervisors will be notified by May 2 at the latest;

Committee 2. May 27: Interview and ranking of preselected candidates for a full scholarship combining half-funding from the MSII or SVS doctoral school or ITI Healthtech and half-funding from the Grand Est Region or France 2030 — the preselected candidates and their PhD supervisors will be notified by May 7 at the latest;

Committee 3. May 28: Interview of the remaining preselected candidates and ranking with the supplementary lists resulting from Committees 1 and 2 — the preselected candidates and their PhD supervisors will be notified by May 15 at the latest.

The interview is held by videoconference for all candidates. It includes a presentation by the candidate on their most advanced research work (for instance, the work done in the M2 internship) and the PhD project, followed by a discussion between the candidate and the committee. The presentation material in PPT or PDF format must be sent at least 3 days before the interview to:

benjamin.hernaire@univ-lorraine.fr

The PhD supervisors are invited to attend the interview via videoconference. Their presence is not mandatory and they may not intervene, except to provide factual information at the committee's request. Presentation and discussion times, as well as the videoconference URL, vary from one committee to another and will be communicated to the preselected candidates and their supervisors.

The PhD supervisors and candidates will be informed as soon as possible of the ranking made by each committee, which will include a main list and a supplementary list. Applicants on the supplementary lists of Committees 1 and 2 will be ranked by Committee 3. Applicants on the main list of one of the three committees will be offered funding. In the event of a refusal, the first candidate and then the following candidates on the supplementary list of Committee 3 will be offered funding.

4. Contents of the PhD subject

The PhD subject will be in English and follow the required format. It will include the following information which will be publicly displayed:

- University, doctoral school and laboratory, desired start date
- PhD supervisor and, if applicable, co-supervisor
- PhD title and keywords
- Context: description of the laboratory, the research team and, if applicable, other partners or the project (ANR, Europe, etc.) in which the PhD fits
- Scientific project and bibliographical references.

The context shall include the following statement in particular: "*This PhD offer is provided by the ENACT AI Cluster and its partners. Find all ENACT PhD offers and actions on* https://cluster-ia-enact.ai/."

When a half-scholarship is being requested, the source of the existing half-funding will also be provided in the form but not made public.

5. Contents of the funding application to ENACT

The PhD supervisor is responsible for checking the eligibility of the proposal with regard to the rules of the doctoral school, particularly in terms of supervision rate, and for requesting the security & defense officer (FSD)'s opinion when required by the laboratory. Each PhD supervisor may support a single candidate or, exceptionally in the event of a proven risk of withdrawal or FSD refusal, two candidates. The application can be in French or in English, and is composed of the following elements:
- PhD subject as described above
- Foreseen ethical risks (human subjects, personal data, hallucinations, biases, environmental impact, misuse, etc.) and measures envisaged to mitigate them
- Expected scientific, economic and social impact
- Candidate's CV
- Candidate's cover letter
- Candidate's Bachelor's and Master's transcripts
- Candidate's FSD status: opinion obtained, requested or not required
- Letter from the supervisor of the M2 internship (if completed or started more than 3 months ago) or of a previous project
- CV of the PhD supervisor and, if applicable, the PhD co-director
- Letter from the PhD supervisor arguing the choice of the candidate, the history of collaboration with the co-director if any, and any other information useful to the committee
- In the case of a cotutelle, the commitment of the foreign co-supervisor to fund the remaining part of the PhD and to sign a cotutelle contract with Université de Lorraine or the University of Strasbourg
- In the event of half-funding provided by an institution on the Lorraine site or the Strasbourg site that is not an ENACT partner, the commitment of this institution to transfer it to Université de Lorraine or to the University of Strasbourg.

APPENDIX 1: Eligible research entities

18 laboratories (regardless of the employer):
- AHP
- ATILF
- BETA
- CEIPI's research laboratory
- CMC
- CRAN
- DRES
- IADI
- ICube
- IECL
- IRMA
- IGBMC
- IJL
- IVH
- LEMTA
- LISEC (except LISEC-UHA)
- LORIA
- LPCT

3 other entities (as employer, regardless of the laboratory):
- Nancy University Hospital
- Strasbourg University Hospitals
- IHU Strasbourg

This list corresponds to the research entities mentioned in the application submitted to the AI Clusters call and validated by an international committee of AI experts and in the final application accepted by the government. It may evolve during the implementation of ENACT based on advice by the scientific committee and after validation by the steering committee.

APPENDIX 2: Themes of excellence in IA

This appendix provides examples of possible topics within each theme. These topics are not exhaustive. Any topic related to these three themes will be considered a priority.

Natural language processing and multimodal LLMs

- Natural language data in a broad sense: text, knowledge bases, speech, videos, etc.
- Training, updating or tuning large AI models on these data or other data in industry (sensors, discrete flows, robots, etc.), healthcare (imaging, omics, etc.), education (learning traces, etc.) or another sector
- Collection, annotation and generation of corpora for these purposes, with focus on regional or low-resourced languages/cultures, toxic content removal, and personal/confidential attribute protection (anonymization, disentanglement, etc.)
- Training, updating, tuning and inference methods, with focus on the correction of residual biases (preference optimization, output filtering, etc.), the protection of personal/confidential attributes (differential confidentiality, federated learning, etc.), factuality, security and interpretability (formal verification, explainability, neurosymbolic architectures, etc.) and the reduction of the computational footprint (data selection, use of pre-learned models, pruning, quantification, etc.)
- New model architectures exploiting multimodality or surpassing Transformer
- Study of the theoretical and linguistic properties of models (scaling laws, probing, etc.) and their use for various applications
- Ethical and legal framework and associated psychological, sociological, anthropological and economic considerations.

AI for engineering and scientific discovery

- Includes both the design of new AI methods adapted to engineering and scientific discovery problems and new uses of already available AI methods
- AI for the discovery of biological pathways and molecules for therapeutic purposes
- AI for the discovery of molecules and materials for the decarbonization of industry, energy, buildings, etc.
- AI for the analysis of scientific literature, the formulation of hypotheses, the planning and analysis of experimental results and other research tasks in any discipline (history, geography, management, etc.)
- AI for the design and optimization of industrial products and processes, taking into account speed, cost, logistics, maintenance, customer needs, etc.
- New model architectures ensuring the realism, precision, stability, robustness, interpretability and explainability of results: symbolic regression, integration of physical models, optimization algorithms, etc.
- Holistic AI integrating all research, engineering, innovation, production, and application
- Ethical and legal framework and psychological, sociological, anthropological and economic considerations associated with the deployment of AI in industry.

Digital health

- Training, update and tuning of multimodal AI integrating data from several stages of the patient journey (medical reports, pre-, intra- and post-operative images and videos, genomics, histopathology, physiological signals, electrocardiograms, tool/sensor signals, etc.) and public data (environmental data, manuals, forums, social media, scientific articles, etc.) or focused on a specific stage
- Federated learning that is computationally efficient, robust to non-i.i.d. data, and customizable
- Integration of biophysical models or knowledge on disease progression, anatomy deformation, or interactions between robotic tools and biological tissues
- Use for various tasks at different stages of the patient journey (interactive discussion on symptoms, risk stratification, image recording, design of patient-specific prostheses, diagnosis, pre-operative planning, minimally invasive treatment, postoperative follow-up, etc.) and for clinical research (discovery of new relationships between factors and symptoms, between treatments and results…)
- Evaluation of clinical benefits, particularly for cardiorespiratory and digestive pathologies and inflammatory bowel diseases
- Evaluation of ease of use: saving time and knowledge, cognitive assistance, etc.
- Ethical and legal framework and psychological, sociological, anthropological and economic considerations associated with the deployment of AI in healthcare.