Rules of the EELISA Scientific Student Competition

Students will be divided into thematic sessions. Each session should contain 6-15 papers, with an average target number of 8 papers. If the number of papers presented in a session is less than 5 for any reason, it will be merged with another small session.

Each paper is reviewed by two experts. The referees will be assigned to the papers so that, once submitted, they will be divided into sessions, and two EELISA member institutions will referee each session. Also, after the papers have been received, we will assign session chairs to each session on the basis of the proposal of each institution, who will be responsible for reviewing and ensuring the quality of the papers before the conference.

The sessions will be hybrid in terms of the presentation of the papers and the activities of the jury. The jury will be chaired by a lecturer with an academic degree from one of the member institutions who is present at the conference. The minimum number of jury members shall be 3 in each session (recommended number is 5). Jury members are delegated by each EELISA institution, indicating whether they can attend in person. Each jury must have a secretary familiar with and managing the IT solution, preferably delegated by the organizing institution.

The secretary is a full member of the jury, typically an MSc or Ph.D. student. The jury scores each essay according to criteria, using a voting program such as Adoodle (or any other program chosen by the local organizers) for online jury members. Conflict of interest rules is the responsibility of the individual jury members. Depending on the infrastructure, on-site jury members will vote on paper or electronically.

A maximum of one first prize and a maximum of one-third of the number of papers presented may be awarded (first, second and third prizes per session). Awarding prizes is not compulsory; if a prize is not used in a session, it will revert to the central budget and may be awarded to another session.

A main jury of the chairs and secretaries of each section will merge the final results on the second day of the event.

The authors and their supervisors of each paper presented will receive an electronically produced certificate signed by the President and Director of EELISA. The prize winners will receive an additional certificate in the same format. These certificates, produced on official EELISA letterhead, will indicate the authors, the consultant, and the paper's title. No other reward is envisaged. If an essay is outstanding, the jury may award a special first prize with appropriate text.

Each institution organizes travel for students and teachers independently according to its grant budget and rules. There is no fee for participation in the conference.
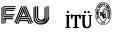
No conference proceedings will be produced to avoid further publication restrictions.

In the spirit of the GDPR, students will be asked to consent to the event's electronic broadcasting. No video recordings of the event will be produced beyond the general hir service cutting images.

Following the conference, feedback on the content and delivery will be requested via an online form. The summary will be presented at the next plenary EELISA meeting.

Rules of the special AI Session - 2025

One of the main aims of the EELISA project is research-based learning. The explosion-like rapid expansion of artificial intelligence has opened new research horizons and brought revolutionary changes in a brief time. AI tools support for instance information acquisition, organization, processing, and presentation (like text, data processing, diagrams, schematics and code generation).

To date, however, mature methodologies lack supporting the effective use of AI tools for the assurance of originality, reproducibility and other scientific and ethical aspects fundamental to research. This way critical thinking and validation are mandatory to generate scientific value.

In connection with the EELISA Student Research Competition, we announce an experimental competition for ***AI-generated research reports***, partly to attract awareness to assure scientific quality and partly to gain experience with the current statues and best practices. Here the notion of "AI" refers to the wide spectrum of content generation from text generation by LLM to technical/ scientific task automation. Note that traditionally authored reports using AI as a target do not belong here, but to the main track.

The eligibility conditions for the competition are the same as for the Student Research Competition. The same rules apply for the overall requirements, like total length of the report, etc.

In the AI competition, however, work should aim simultaneously at producing a report on a research topic according to the main call and the efficient and ethical use of AI tools in a research workflow assuring a proper scientific quality.

Both aspects are evaluated. The content evaluation criteria of the AI-generated part of the research report are identical to those for traditional papers; its total weight in scoring is 40%. The remaining 60% will evaluate the efficient and ethical use of AI.

The recommended structure of the report is as follows:

1. The formulation of the traditional **research problem** and **reasons** for using AI, literature research and evaluation,
2. **AI-specific plan:** AI tools planned to be used (please provide their technical specifications together with version and license information for exact reference), planned use of AI tools to information gathering, evaluate and process collected information (including from literature information to possible data processing), use of AI in presentation (formulation, figures, etc.), Technical details, like specific AI prompts, etc., can be collected optionally in an appendix. Please include the references at the end of the plan.

3. **Validation plan** to assure the scientific correctness, repeatability, and ethics of the results provided by AI, including the evaluation of the generated content by critical thinking and validation. Please consult the document *ALLEA (2023), The European Code of Conduct for Research Integrity – Revised Edition 2023 Berlin. DOI 10.26356/ECOC* (https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/european-code-of-conduct-for-research-integrity_horizon_en.pdf) as a guideline for the requirements. Special emphasis is recommended on the validity and reproducibility of the outcome.

4. Summary of the **iterative process of content generation**. Merging text from different AI sources is allowed under assured traceability by showing the sources. Main prompts, if LLM is used can appear in the main text as citations, pure technical ones, like reformulation of misunderstood prompts can be omitted or put into an Annex or the repository.

5. **Annotated output report** generated by the AI tools of a maximum length of 8-12 pages of AI-generated text and/or content (e.g., figures). The annotation should highlight the errors detected by the validation process or semantic and syntactic proofreading. They should be typographically separated from the main, AI-generated text. For short remarks, you may use comments placed at the margin.

6. **Conclusions covering positive and negative experiences, recommendations, and future work**.

Additionally, an **open repository** may hold complementary material. Please show the address on the front page. The repository should have a concise description of its content.

Annex A
Requirements of the research work

1. Content requirements for the project:

All entries submitted to the Competition undergo a plagiarism check. Special attention is drawn to the fact that plagiarism is not allowed in any form, no reference can be made to one's own works without reference (prohibition of self-plagiarism). References should be consisted as appropriate to the scientific field. Entries that have been shown to infringe copyright will be excluded from the competition.

The submitted entry must be the individual work of the student(s). The most important literature on the topic must be presented in the application and the importance and interest of the topic must be justified. The purpose and method of the research must be presented. The application must include what results the student(s) received and how they were evaluated. The student(s) should compare their results and findings with the results fount in the international literature. It should be clear what the own achievement/analysis is.

2. Formal requirements for the application:

General conditions:

All entries shall be submitted via the online system of the conference. Entries must be uploaded in PDF format.

Recommended layout of the documentation:

Font type: Times New Roman

Font size: 12 p

Line spacing: 1,5

Margin: 2,5

Section specific criteria (also recommendation):

Minimum number of pages in the dissertation: 20,

The maximum number of pages of the dissertation: 60.

Each author should take care to avoid any form of plagiarism by using properly indicated citations.

3. Rules for the evaluation of the work

The jury will let evaluate the research work by two reviewers before the conference. Evaluation criteria for the written part are the followings:

- editing, style, and quality of the research report (maximum 10 points),
- literature review of the research field (maximum 5 points),
- quality of the elaboration of the topic (maximum 20 points),
- evaluation and applicability of the research results (maximum 15 points),
- modernity, importance, scientific impact (maximum 10 points).

Total: maximum 60 points.

The reviews of the document will be made public by the organizers via the online system at least 5 working days before the conference.

The research results shall be presented at the conference in the form of a 12-15 minutes long free presentation, followed by 3-5 minutes long discussion.

Evaluation aspects of the presentation are the followings:

- presentation of results, subject knowledge of the speaker (maximum 15 points),
- presentation style, time management (maximum 10 points),
- use and application of illustrative tools (maximum 5 points),
- ability to debate (maximum 10 points).

Total: maximum 40 points.

The final ranking is based on the arithmetic average of the two written evaluations and the sum of the total score obtained on the evaluation of the presentation at the conference.