



# ROADMAP FOR NZEB AND ZEB

BETWEEN OBLIGATIONS AND POSSIBILITIES

# RCEPB 2023

# STUDENT COMPETITION

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National Library of Romania  
Bucharest, June 8-9, 2023



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## Conference description and student competition main topics

The Romanian Conference Energy Performance of Buildings ([www.rcepb.ro](http://www.rcepb.ro)), is a multi-disciplinary international conference having in 2023 the following sessions:

- EPBD2023 “landscape” and implementation roadmap
- EU projects and “Fit for 55” green transition plan
- EU circular economy and sustainable growth of the built environment
- Building digitization, EU standards & software tools

Energy efficiency, RES use, NZEB programs and sustainable buildings are concepts used more and more in European Directives and national regulations. EU targets were established for the reduction of energy consumption and GHG emissions or for RES use in order to minimize the negative environmental and social impact of fossil fuels burning, to strengthen the energetic independence of MS, to reduce the energy invoices for oil and natural gas imports. Therefore, papers on related topics are welcomed from all relevant disciplinary areas, ranging from new concepts and solutions, modelling, experiments, to computational simulation. The conference will provide a forum for the exchange of the latest technical information, for the dissemination of the Romanian and international research results, for the presentation of the new developments in energy and environment and for the debate and shaping of future directions and priorities in sustainable development and energy security.

Student competition main topics are:

- present and future sustainable buildings
- present and future renewable sources
- digitalisation and robotics in the built environment
- decarbonization and circular economy in the built environment

organized by:





## Student competition program

The contestants will present their work at the RCEPB Student Competition session to be held in Bucharest during RCEPB 2023, on 8<sup>th</sup> and 9<sup>th</sup> of June, at the Romanian National Library.

More details about the exact program of the student competition will follow, depending on the number of teams registered to this student competition.



# Student competition rules - 1

- OAER & UTCB & AIIRFV, together with the student competition sponsor NIKOOS MAX COMPANY INTERNATIONAL SRL, will award students from different European technical universities for an outstanding scientific and/or technical work.
- Eligible student work (hereinafter referred to as “submission”) includes work based on Bachelor Theses, Master Theses, or other work of equivalent level. Submissions based on Doctoral Theses are **not** eligible.
- Submission topics may be freely chosen but need to relate to RCEPB 2023 topics, including but not limited to heating/ventilation/air conditioning/refrigeration, indoor environmental quality, energy efficiency and energy management, sustainability and circular economy, other building services, construction materials, construction digitalisation or robotics, IoT in the built environment, BAC (building automation and control, BIM, digital twin etc. (see also the section *"Conference description and student competition main topics"* of this presentation). In case of doubt regarding the topic eligibility, you can contact OAER at [office@oaer.ro](mailto:office@oaer.ro).
- Research and development methods applied may include desk research, experiments, analyses, numerical simulations, design-related projects and other methodologies.
- Submissions may be the result of the work carried out by an individual student or a team of 2 or maximum 3 students, advised by one or maximum 2 university teachers.



## Student competition rules - 2

- A student team may submit maximum 2 entries and the team itself is responsible for assuring that the submission complies with all competition rules. The submission should be sent electronically (no hard copies needed) to the Chair of the Student Competition Committee, Vlăduț Hercan ([andrei-vladut.harcan@student.utcb.ro](mailto:andrei-vladut.harcan@student.utcb.ro)) and to the Chair of the Student Competition Jury, Lecturer Dr. Eng. Anca Manolescu ([anca.manolescu@utcb.ro](mailto:anca.manolescu@utcb.ro)), with a copy to the RCEPB chair - Assoc. Prof. Dr. Eng. Cătălin Lungu ([office@oaer.ro](mailto:office@oaer.ro)).
- The submission must be based on new research and not presented to any other conference or student competition.
- The winners of the student competition will be asked to submit a scientific or technical paper after the competition (max 1 month after RCEPB). Submissions should be made in the format of scientific papers, with a maximum of 6 pages, following the RCEPB article template and should include the:
  - Submission title
  - Full name(s) of the student(s)
  - Full name(s) of the supervisor(s), if any
  - Affiliation(s) of the author(s), including the name(s) and full address(es) of the respective institute(s)
  - e-mail address(es) of the student(s) and supervisor(s).

## Student competition rules - 3

- All submitted documentation and presentations will be in English (not binding) or Romanian and the most valuable will be included in an e-publication disseminated by AIIR/OAER/UTCB.
- All contestants shall prepare a 10-minute oral presentation of their work (not exceeding 12 pptx slides). A 3-5 minutes Q&A session will follow after the presentation. The pptx presentation (or equivalent) shall be sent electronically to [office@oaer.ro](mailto:office@oaer.ro), no later than Tuesday, **6th of June 2023, 10:00 PM EEST**.
- Eventually, a high-resolution, A1-format technical poster (oriented vertically) of the electronic version could be prepared. The electronic version shall be sent to [office@oaer.ro](mailto:office@oaer.ro) no later Tuesday, **7th of June 2023, 10:00 PM EEST**.
- After the completion of all presentations, the RCEPB Jury will convene to deliberate and select the winning submissions. The Jury may award prizes to a maximum of 3 submissions. An additional prize will be awarded for the best poster.
- The winners will be announced to all contestants after the Jury's deliberating meeting.
- One of the participant teams will be selected to represent UTCB and AIIR-Filiala Valahia to the AIIR National competition which will be held in Brasov on 13th of October 2023\*.

\* the winner of AIIR national student competition will represent Romania to the REHVA European student competition held in May 2024 in Istanbul; the winner of the REHVA European HVAC student competition will participate in the World HVAC student competition held in 2024.





## Student competition rules - 4

- All contestants will receive a certificate of participation.
- The RCEPB student competition prizes will be awarded during the closing session of RCPEB2023 (time TBD).
- The winning team of the RCEPB student competition will present the work (max 15 min) during the closing session.
- Related travel costs for the contestants will be covered by the contestants, their university, or sponsors, as applicable. Accommodation for participating students will be provided by UTCB, in the UTCB campus.
- The RCEPB Student Competition Jury consist of a minimum of three members. The Chair (co-chairs) of the jury is (are) appointed by OAER and UTCB. Members of the jury may include UTCB teachers or other renowned researchers, professors or experts suggested by OAER/UTCB. Jury Members shall not have any conflicts of interest (ex. jury members cannot be involved as supervisors or advisors for any student team participating in this competition).
- The student competition sponsor will receive a jury seat and can nominate a sponsor's representative.
- For the Best Poster award, the evaluation will focus on the scientific level of the submission, the graphical design quality, the innovation level etc. The best poster will be selected with the contribution of all RCEPB2023 participants.



# Student competition assessment criteria

Score Assesment criteria	Significant improvement required	Some improvement required	Good job	Excellent
Relevance and technical feasibility	<b>0 points</b> Is not relevant and incorrect technical feasibility	<b>2.5 points</b> Some relevance of their research, and correct technical feasibility	<b>5 points</b> Relevance of their research, and technical feasibility	<b>10 points</b> Outstanding poster with relevance of their research, and technical feasibility
Clear statement of objectives	<b>0 points</b> The objective shows hardly any creativity or usefulness	<b>5 points</b> the <b>objective</b> shows a few signs of creativity or usefulness	<b>10 points</b> The <b>objective</b> shows some creativity, usefulness & original solution implemented	<b>20 points</b> Outstanding creativity solution and usefulness, making the <b>objective</b> unique
Validity, reliability and innovative character the work carried out	<b>0 points</b> No Validity, reliability and innovative character the work carried out	<b>10 points</b> A few signs of Validity, reliability and innovative character the work carried out	<b>20 points</b> Some Validity, reliability and innovative character the work carried out	<b>30 points</b> Outstanding Validity, reliability and innovative character the work carried out
Accuracy of the explanation of the work in the poster	<b>0 points</b> No accuracy of the explanation	<b>2.5 points</b> A Little accuracy of the explanation	<b>5 points</b> Some accuracy of the explanation	<b>10 points</b> Good accuracy of the explanation
Graphical quality of the poster	<b>0 points</b> Low graphical quality of the poster	<b>2.5 points</b> Some graphical quality of the poster	<b>5 points</b> Good graphical quality of the poster	<b>10 points</b>
Ability to argue during the discussion and English speaking	<b>0 points</b> the argue shows hardly any creativity, quality, and no ease of understanding	<b>5 points</b> the argue shows a few signs of creativity, quality, and ease of understanding	<b>10 points</b> the argue shows some creativity, quality, and ease of understanding	<b>20 points</b> Outstanding creativity, quality, and no ease of understanding making the argue unique

- Each Jury member will submit to the Jury Chair the list of candidates scores in order to select the best 3 presentations
- Each conference participant can go through the poster display area on June 8-9, to give a score to posters competing for the best poster award.



# Poster requirements - 1

- Size: The poster should be in the A1 size format, which measures 841mm × 594mm.
- The poster is printed by each team separately and brought to the conference.
- Orientation: The poster is portrait (vertical).
- Content Sections: Your poster should include the following sections:
  1. Title: A clear and concise title that reflects the research topic.
  2. Introduction: Briefly introduce the research problem, objectives, and background.
  3. Methodology: Describe the research methodology or approach used.
  4. Results: Present the findings of your research, including any data, charts, graphs, or visual representations.
  5. Discussion: Analyze and interpret the results, discussing their implications and significance.
  6. Conclusion: Summarize the main findings and their implications.
  7. References: Include a list of the references cited in your research.
  8. Acknowledgments: Optionally, acknowledge any individuals or organizations that supported your research.
- Readability: Ensure that the text on your poster is legible from a reasonable distance. Use a font size that is easy to read, typically ranging from 18 to 24 points for the main content. Headings and titles can be larger to attract attention.



## Poster requirements - 2

- Visuals: incorporate visuals such as graphs, charts, diagrams, and images to enhance understanding and engagement. Ensure they are clear, labeled appropriately, and visually appealing.
- Organization and Flow: arrange the content sections logically and maintain a coherent flow throughout the poster. Use headings and subheadings to guide the reader.
- Balance: distribute the content evenly across the poster to maintain visual balance. Avoid overcrowding or leaving large empty spaces.
- Branding: include your institution or organization's logo or branding elements to identify your affiliation.
- Language: use clear and concise English or Romanian language, avoiding excessive jargon; ensure that the content is accessible to a broad audience.
- Proofreading: thoroughly proofread the poster for grammar, spelling, and formatting errors to ensure a professional presentation.



## RCEPB2023 awards

**RANK 1 – 1000 Euro**

**RANK 2 – 600 Euro**

**RANK 3 – 400 Euro**

**Best poster – 500 Euro**







## Student competition committees (organizing committee, jury)

**Organizing volunteers are ... TBD**

**Jury members are ... TBD**

