

CERES NEWSLETTER



CERES

CHEMICAL ENGINEERING AND RENEWABLE
RESOURCES FOR SUSTAINABILITY

#6 - June 2025

www.uc.pt/ceres

In this edition of the Newsletter, we highlight the most significant milestone since the research centre has adopted the new CERES identity.

This achievement took place at the same time as the latest seminar in the **CERES Talks** series, which featured a well-attended meeting of Chemical Engineering students (PhD and Master degree holders), also covered in this issue.

We are proud to recognize one of our alumni who has been recently elected president of EYE – European Young Engineers network.

Additionally, we provide updates on ongoing research activities and scientific events involving CERES researchers.

Lastly, we remind our readers that CERES continues to offer a wide range of laboratory analysis services.

The CERES Board would like to publicly thank everyone who was part of our team during this evaluation period – a total of 218 people:

- 53 integrated members,
- 78 PhD students, and
- 87 collaborators.

Special thanks go to those directly involved, whose dedication was crucial to prepare the application and achieve this result.

The recognition brings with it an even greater responsibility. The work and collaboration of everyone remain essential. Sustainability depends on our contribution.



On May 14, 2025, Department of Chemical Engineering hosted a celebration dedicated to the “Excellent” mark attributed to CERES (at the R&D Units Evaluation 2024) – a true reflection of the collective effort, dedication, and excellence of all members and collaborators of CERES.



On the photo, left-to-right: Marco Reis (Director of DEQ), Rui Martins (Subdirector of CERES), and Margarida Quina (Director of CERES) are ready to welcome the audience for presenting results of the R&D Units Evaluation 2024.

**Thank you all, for this
EXCELLENT achievement!**



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CERES is Excellent!

Selected extracts from the evaluation report

✿ (A) Quality, Merit, Relevance, Level of Collaboration and Internationalization of R&D Activity Carried Out in the Evaluation Period

Chemical Engineering and Renewable Resources for Sustainability (CERES) started around 1994. It covers a wide range of research areas such as energy and environment, pharmacy and health, digital industry and AI. It is worth to mention CERES unique research feature in Portugal - the use of renewable resources for sustainability. Over the evaluation period, CERES has an excellent funding track record, including the coordination of Horizon Europe projects. CERES has also an excellent research output (in both quality and quantity), and some of the journal publications listed in the application are international leading. On average, each integrated PhD researcher published a significant number of papers over the evaluation period. The number of different publications produced is impressive according to international standard.

CERES actively trains different levels of researchers (e.g. PhD and Master students, and postdoc researchers). The latter are also involved in delivering different research projects. All the researchers have access to common analytical labs, computational equipment and technical support. These form an excellent advanced training environment of the researchers. Multidisciplinary research environment in CERES provided the critical mass required to train the next generation of researchers and develop their careers. They are also coached and mentored by experienced researchers. In summary, the Evaluation Panel agrees that CERES research and impact is excellent considering research funding and output, collaboration with industry, spin-off companies, dissemination and international collaboration, training of PhD and MSc students, staff career development and mentoring.



On the photo: Margarida Quina (Director of CERES) communicates evaluation results over time, since the foundation of FCT research unit 102 (now CERES).

✿ (B) Scientific and Technological Merit of the Research Team

Over the evaluation period, CERES has had a relatively stable team, corresponding to a large capacity compared with international standards. The number of ongoing PhD students has increased from 2018 to 2023, and this has been well-received by the Evaluation Panel. The evidence of international or national recognition can be observed from the major research projects led or coordinated by CERES.

CERES has strong collaboration with industry (mainly in pulp, papermaking, bio-refinery and drug delivery). This is an obvious strength.

✿ (C) Quality, Merit and Relevance of the Scientific Objectives, the Overall Strategy, the Activity Plan and the Organization of the R&D Unit for the Next Five Years

Future arrangement of CERES (over the period from 2025 to 2029) is well planned. CERES aims to expand research from traditional forest products to a wide range of sustainable renewable resources. Future research of CERES will be established around research groups covering the design of functional materials, process and environmental engineering, bio-resources and applied biosciences, and covering different research themes (Digital industry, Renewable Resources and Energy, Environmental Technologies, Biotechnology and Health). The Evaluation Panel appreciates this planning.

CERES Talks

Students Edition

The presentation dedicated to the Excellent mark attributed to CERES (R&D Units Evaluation 2024), was followed by a new edition of CERES Talks, named "Students Edition". It was hosted by the Department of Chemical Engineering (DEQ), and took place at the Noble Amphitheater of DEQ (photo on the top-right)



Organizers of CERES Talks (2024-2025):
Top: Telma Vaz, Eva Domingues, Luís Alves.
Bottom: Paulo Rocha, Inês Roque.



Organized by CERES researchers (photo on the top-left), this edition was dedicated to the dynamic community of PhD candidates, Master's students, and research fellows who contribute daily to the Center's scientific progress and innovation. A total of 42 posters (photo on the bottom-left) and 4 oral presentations (one per each thematic line, listed below) highlighted the research in progress.

Speakers:



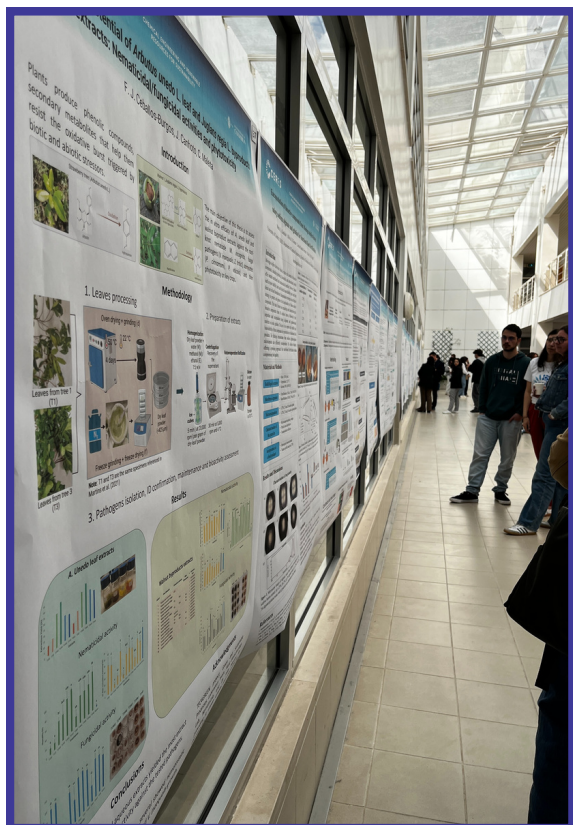
Francisco Patrocinio: Structural optimization of industrial water networks. Enhancing economic performance, resource footprint, and operability, in a crude oil refinery

Paulo Rocha: Enhanced barrier properties of Eucalyptus-based paper for packaging materials



João Lincho: Development of supported nanostructured photocatalysts for wastewater treatment

Giulia Clare: Starch-based aerogels as multi-nutrient carriers for enhancing pregnancy nutrition. A combined experimental and computational approach



Poster Session



We sincerely thank all participants, with a special appreciation to NEDEQ (AAC) for their generous support, which made this gathering even more memorable.



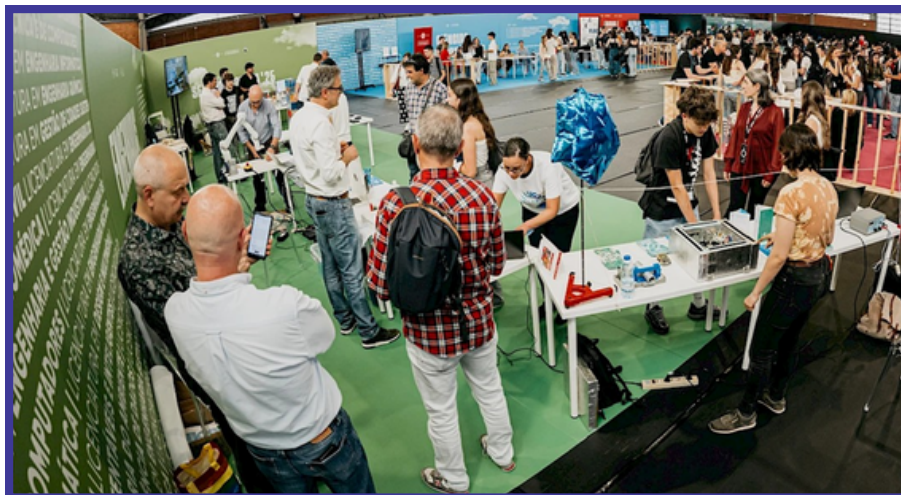
Further editions of CERES Talks:

11.06.2025: Focus on activities of TL2. Speakers: Paulo Ferreira (CERES) & Marco Xavier (Prado Cartolinas da Lousã).
2.07.2025: Focus on activities of TL3. Speakers: Rui Martins (CERES) & Nuno Simões (Department of Civil Engineering).

CERES

@ Open Week UC

On May 15-17, CERES, as an integral part of the Department of Chemical Engineering (DEQ), participated in the Open Week of University of Coimbra (UC), edition of 2025.



On the photo (top-right): Overview of Pavilion 1 of the University Stadium, which hosted the Open Week. On the foreground, from left to right, Igor Reva, Pedro Simões, Marco Reis, Paulo Ferreira, and Cátia Mendes (all CERES) showcasing learning and research opportunities at the DEQ / CERES.

More information about Open Week UC is available at <https://escolheauc.uc.pt/semana-aberta/#programa>

On the photos (middle row): Marco Reis (DEQ Director), DEQ students, and DEQ employees (Cátia Mendes, Marta Franco) during the UC Open Week.



✳ Chemical Engineer from Coimbra in the spotlight



On the photo: **Célia Pedro**, Master in Chemical Engineering (graduated from DEQ, UC), full member of the Order of Engineers (OE) and Member of the College Council of the Chemical and Biological Engineering Specialty of the OE. Célia has been elected president of the Management Board 2025/2026 of the European Young Engineers (EYE) network.

With a strong background in engineering and youth advocacy, Célia is dedicated to empowering the next generation of engineers. Her work emphasizes the importance of inclusivity, professional development, and active participation in shaping the future of engineering in Europe.



On the photo: Hands-on activities presented at the Open Week UC, and services available at the CERES (see below).

✳ **CERES provides a set of services**, such as: identification and/or quantification of compounds or ions; environmental analysis; particle size; rheology and viscosity; thermal analysis; surface properties

More information about CERES services is available at <https://www.uc.pt/ceres/services-infrastructure/>