



CERENA

Centro de Recursos
Naturais e Ambiente

SEPTEMBER 2026

**20 YEAR
EDITION
#8**



SCIENCE IN MOTION

YOUR MONTHLY CERENA NEWS

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A message from the President

A new academic year begins, and with it a new set of opportunities on the horizon.

September opens with a **new seminar series that brings external speakers into CERENA across our main scientific streams, together with perspectives from industry and public institutions.** These are more than a series of talks: they are an invitation to test our thinking against experts from outside our walls, and to **build the critical perspective we will need for the challenges ahead.** I encourage everyone to attend.

We also enter this year with stronger laboratory and computational infrastructure. Over the past year we reinforced both our laboratories and our computational capabilities, and the impact on our research, development and innovation will be significant. The laboratory upgrades are the most visible part of that effort. Perhaps less visible, is that **CERENA researchers now have access to fully secured, private large language models, including state-of-the-art programming agents.** Used responsibly, this is a potential game changer for the foreseeable future.

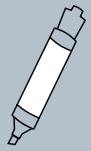
The results are already in front of us. We have attracted young, international talent; secured new European projects, several of which are starting or about to start; and gained access to new funding instruments, such as EIT Raw Materials. Each of these widens the range of project we are able develop, and the partners with whom we can work.

The consolidation of our Research Support Offices is paying off precisely because it removes part of the overload from the everyday work of researching, freeing us to concentrate on what we are here for: advancing science, training the next generation of leaders, and creating positive, measurable impact for industry and society.

Let us make this new academic year in which we put what we have built to work.

Leonardo Azevedo

July & August highlights



CERENA Participates in Encontro Ciência e Inovação

On **15th July 2026**, CERENA was present on the first day of Encontro Ciência e Inovação 2026 in Lisbon, promoted by AI² – Agência para a Investigação e Inovação.

CERENA presented its proposal for strategic scientific domain entitled 'Critical Raw Materials towards a European Path to Decarbonization' as part of the session "Materials and industrial bioeconomy". A proposal jointly supported by industrial partners and national and European entities.

The key takeaways from CERENA's coordinator Leonardo Azevedo in this session include:

- The necessity to further invest in the entire value-critical raw materials value chain (from exploration to refining);
- The investment in this scientific area represents an opportunity for Territorial cohesion;
- There is a pool of talent in the Portuguese Scientific ecosystem.
- There should be collaboration among industry, academia, and funding entities to promote more sustainable and responsible exploration of critical mineral resources, contributing to Europe's resource independence.



July & August highlights



CERENA Seminar

On **16th July 2026**, CERENA hosted the final seminar of the 2025/2026 series. This seminar, hosted by Maria de Lurdes Dinis, was focused on *Environmental Remediation Projects in Portugal (Old Tailings Dam of Urgeiriça) and Worldwide (USA)*. In this seminar, the guest speaker, Engineer Carlos Martins, discussed the environmental impact and remediation of uranium mines, with a particular focus on the Urgeiriça mining legacy.

Carlos disclosed how the monitoring of soil can contribute to the implementation of remediation strategies and how this is a dynamic process that should be followed and updated continuously. Maria de Lurdes added to the discussion with the showcase of the remediation actions taking place in two mining sites in the United States. In this presentation, Maria de Lurdes highlighted short-, mid-, and long-term approaches to promote environmental remediation.

In September, we will initiate the new seminar series, which will focus on Present and future challenges in natural resources and environmental research. Don't miss it!



Henrique Machado: a new project to join academia and industry

20 YEAR
EDITION

September marks the beginning of a new academic year, and with it, new students join CERENA. In this edition of CERENA's newsletter, we highlight **Henrique Machado**, who was awarded an FCT Scholarship to pursue his PhD project. Henrique will work under the supervision of Ana Clara Marques and Rui Galhano, in close collaboration with Sociedade de Desenvolvimento de Tecnologias Inovadoras (SDTI Lda).

Henrique holds a bachelor's and master's degree in Technological Chemistry from the Faculty of Sciences (University of Lisbon). During his master's thesis, Henrique worked with CERENA in collaboration with Respol, supervised by Rui Galhano and João Bordado, to develop green resins. At the time, Henrique wanted to keep on working with the industry, which led him to join the Green Fuels group. Green Fuels aims to develop alternative fuel sources, with a particular emphasis on bioethanol. Henrique works in the pretreatment of biomass for the posterior enzymatic hidrólisis. This work, at the pilot scale, leads to around 30% of useful sugars and 70% of waste. Henrique thought back on his time in research and considered it would be advantageous to value the waste from the process. That is, precisely, the focus of his PhD, where the main goal is to value the lignins from forest waste to use in polymeric and phenolic materials. The main goal is to produce bioethanol, leading to the closure of the economic cycle of the process. To achieve this goal, Henrique will take advantage of the academia's expertise in CERENA and the industry's expertise in SDTI Lda.

Henrique recognizes the differences from doing research at the academic and the industrial levels - the industry partners tend to focus on the economic feasibility of the project, something Henrique aims to incorporate, while taking advantage of academia. Entering CERENA, Henrique expects to be able to exchange ideas and experiences with colleagues, widening his perspective on his project.





Community news

Amélia Dionísio participates in Skills4EI General Assembly

On **10 and 11th June 2026**, Amélia Dionísio participated in the Skills4EI General Assembly, which was held in Dortmund (Germany). In this General Assembly, the partners came together to review progress, exchange experiences, and discuss the next steps in strengthening the skills ecosystem for Europe's energy-intensive industries.



The Skills4EI key objective is to identify and address emerging skills gaps, both cross-sectoral and sector-specific—within national and regional skills and training ecosystems. By developing a common framework that integrates the specific needs of different industrial sectors, Skills4EI aims to anticipate and respond to evolving skills demands across energy-intensive industries. This project is particularly relevant for the mining sector, which is being transformed as a result of green and digital transitions. The collaborative approach promoted by Skills4EI will contribute to a competitive, resilient and sustainable industrial future.

CERENA researchers participate in MINOTAUR Mining Review Meeting

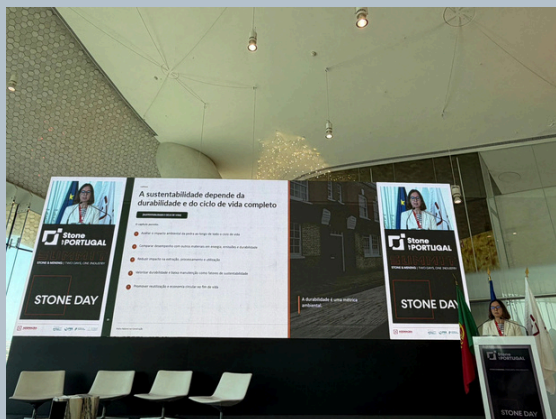
From **15 to 17th June 2026**, CERENA researchers Naveed Akram, Maria João Pereira, David Valverde, and Roberta Lobarinhas participated in the Mid-term review meeting of the MINOTAUR project, which took place at the Technical University of Denmark.





Community news

Vera Pires participated in StonebyPortugal Summit 2026



On **7 and 8th July 2026**, Vera Pires participated in the StonebyPortugal Summit 2026, which was held in Matosinhos. The two-day conference aimed to bring together professionals from the stone sector and the mining industry. Vera did a presentation on the theme *"Sustainability depends on durability and the complete life cycle"*.

Sofia Moreira Fernandes receives ISGS Renata Reinsfeld Fellowship

Sofia Moreira Fernandes, whose PhD work focused on the development of solar-light responsive photocatalytic systems for the remediation of pharmaceutical wastewater, was awarded the ISGS Renata Reinsfeld PhD Student Fellowship. This fellowship recognizes outstanding contributions made by women working in Sol-Gel Technology. Congratulations, Sofia!



Ricardo Araújo participates in 90 seconds of Science



Ricardo Araújo participated in the Portuguese podcast "90 seconds of science", where he explained his research goal of understanding when dinosaurs became warm-blooded. The episode can be listened [here](#).



Community news

CERENA researchers participate in outreach activities

During the month of July, CERENA researchers participated in outreach activities. Víctor Carvalho received a group of high school students, as part of a summer program by Ciência Viva, who explored the Geosciences Museum. Paula Falcão Neves, Abeer Mohtar, António Aguiar and Lucas Marcelino dynamized science board games and activities for young children at Instituto Superior Técnico's ATL summer activities.



Ricardo Araújo participates in Generation Science Festival

On **25th July 2026**, Ricardo Araújo participated in the Generation Science Festival. This initiative, promoted by Ciência Viva, aims to promote science by taking advantage of the model of music festivals. In his session, focused on projects that won ERC Grants, Ricardo talked about his research, engaging the audience on how we can study the internal temperature of dinosaurs.





Community news

CERENA researchers participate in dinosaur discovery



Bruno Camilo participated in the discovery of a new dinosaur in Torres Vedras, alongside researchers from Ci2Paleo (the Center of Research in Paleobiology and Paleoecology from the National History Society of Torres Vedras).

This dinosaur, part of the *Anquilosauria* group, is the most complete dinosaur ever found in Portugal. The prospecting and inventory work started back in June 2025, and its completion was news in Público (the full article can be read [here](#)).

DER Summer School

From **13 to 17th July 2026**, the Department of Energy and Mineral Resources Engineering (DER) Summer School took place at Instituto Superior Técnico.



This year, the focus was on *Well-Logging and Formation Evaluation*, an intensive program dedicated to the characterization of reservoirs. Aimed at master's and PhD students, as well as early career professionals, the program offered a technical approach specialized in a critical field of the energy industry: the acquisition and interpretation of well-logging data and the evaluation of geological formations in an exploration context.



Community news

Amélia Dionísio and Rui Galhano win European Inventor Network Grant for outreach activities

Amélia Dionísio and Rui Galhano won 2000€ each for outreach activities as part of the European Inventor Network, a call from the European Patent Office that aims to bring science activities to schools.

Amélia's activity focuses on the differences between rocks and minerals, highlighting the necessity of raw materials and minerals for today's society. The activity has a hands-on component, where students use LEGO models to understand how different rocks are created in nature.

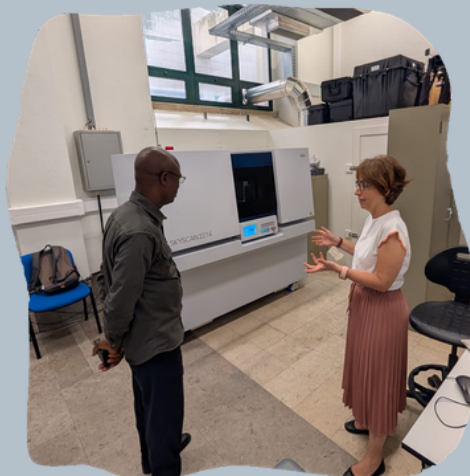


Rui's activity focuses on the production of bio-oil from biomass and waste. This activity, using a mini reactor, is fundamental for students to understand the relevance of environmental sustainability.



Director of Mozambique's National Geology Museum visits CERENA

In the end of July, Danta Rosse, the director of Mozambique's National Geology Museum visited CERENA. During this visit, Danta Rosse visited the Geosciences Museum and the Multi-Imaging Laboratory. This visit was part of the PaleoMoz project.





Community news

CERENA's researchers distinguished in IAMG

CERENA's researchers participated in the **24th Annual Conference of the International Association for Mathematical Geosciences (IAMG2026)**, which took place between 23 and 28 August in Montreal (Canada). Works in the fields of artificial intelligence and modelling of mineral resources were presented. The work presented by Jason Moraitis was awarded the **Best Student Oral Presentation**.

Jason Moraitis, a master's student of Helga Jordão, presented *Propagating Geological Boundary Uncertainty from Bayesian Neural Networks into Conditional Simulations Using Information-Theoretic Measures*. This work is part of the exploratory project **Advancing Mineral Resource Modelling with Digital Twin Technology**, funded by FCT, and was developed during Jason's Erasmus+ internship at Instituto Superior Técnico.



David José Valverde presented *Foundation-model-assisted mineral grain segmentation on underground mine faces from RGB imagery*, a work developed as part of the **MINOTAUR** (Miniaturized Robotic Systems for Autonomous In-Situ Exploration of Critical Raw Materials in Deep Land Deposits) project.

MINOTAUR's work, which counts on CERENA's researchers Gustavo Paneiro, Helga Jordão, Leonardo Azevedo, and Maria João Pereira, explores the use of artificial intelligence in the identification and segmentation of mineral grains in images of subsurface exploration.



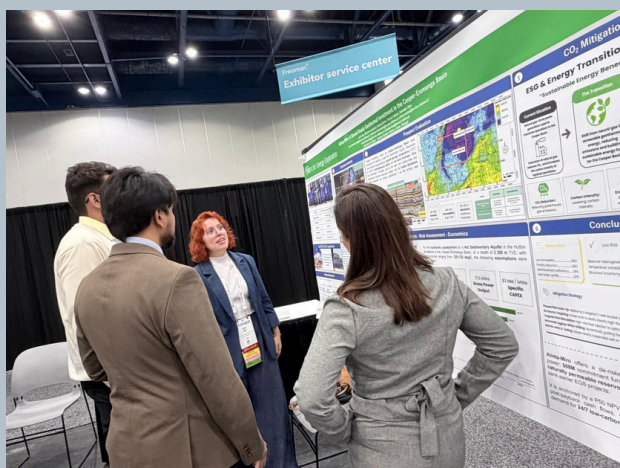
Community news

Lara Leite and Mariana Laureano participate in IMAGE 2026

Between **17th and 20th August 2026**, master's students Lara Leite and Mariana Laureano participated in the **6th edition of IMAGE** (International Meeting for Applied Geosciences & Energy) 2026. The conference, which took place in Houston (Texas, USA), is the largest meeting of geosciences applied to energy, bringing together more than 6000 participants from more than 80 countries.



Lara and Mariana were part of **SEG Evolve** Energy Exploration – a mentor-guided, hands-on program aimed at the next generation of geoscientists and engineers. As part of the program, the two students presented an oral communication and a poster about *"Alinta-Miro: A Shovel-Ready Geothermal Investment in the Copper-Eromanga Basin"*. Mentors of SEG EVOLVE, as well as students and other researchers, showcased an interest in the project, giving Lara and Mariana the possibility to connect with colleagues from different countries, while highlighting the research developed at Técnico on geothermal energy. The work was supported by SEG Foundation, Instituto Superior Técnico, SEG mentors Jeremy Greene, Ali Sloan, Luke Fritz, Jim Hollis, and the students' supervisor Leonardo Azevedo.



From this experience, Lara and Mariana highlight the possibility of travelling to an international conference, **and connecting with colleagues from the area from all over the world** as the best assets. SEG Evolve helped these students develop their communication and teamwork skills, hence Lara and Mariana encourage their colleagues to participate!



CERENA is now part of the Bio-based Industries Consortium (BIC).

CERENA, alongside CQE and iBB, is now part of the Bio-based Industries Consortium (BIC) as an associated member. BIC represents the private sector in the public-private partnership with the European Commission as part of the Bio-based Circular Europe Joint Undertaking (CBE JU). The advantages of being a BIC member include access to the strategic agendas of research and innovation within the sector; early access to work programs; access to partners' channels; access to industry initiatives; participation in work groups and forums of associated members; possibility to participate as IKOP in CBE JU funding proposals; institutional visibility within the European Commission.

CERENA's participation in BIC is a relevant step in bringing closer academia and industry in the bioeconomy field. This integration will be key to identifying potential partners for funding within the CBE JU, increasing European visibility of projects, and reinforce the transfer of knowledge.

Save the date – Técnico Nightjar Annotiathon



On the night of **13th to 14th November**, CERENA will host its first Técnico Nightjar Annotiathon - an annotation event of bird heads, free of charge. It will be a fun night, with teams of two participants, where the most accurate and fastest annotations can win up to 1000€. Enrolment is free and already possible [here](#).



Community news

CERENA researchers participate in project with the Portuguese Army

CERENA's researchers José Manuel Marques, Orquídia Neves and Paula Carreira, alongside researchers from C2TN, researchers from the Telecommunications Institute (IT) of Instituto Superior Técnico, and researchers from the Military Academy/CINAMIL, are part of the team of a new research project to be developed in the Military Camp of Santa Margarida.

The project, **GREEN-RANGE CMSM**, consolidates the relationship between the researchers, who came together for the third time to develop an intelligent platform for environmental monitoring, mitigation of impact, and sustainable energetic management of autonomous systems. The project is funded by the Portuguese Army General Staff.



PhD Defenses



On **7th July 2026**, Ana Raquel Gonçalves defended her PhD, entitled *Mapping, identification and Valorisation of Biomass: Development of Fuel Maps for Forest Management and valorization*. Ana Raquel was supervised by Rui Galhano. **Congratulations Ana Raquel!**



Note to the community

All members are kindly invited to share any news, events, PhD and master's thesis defenses, and project meetings with the Communication Office, which will later post them on CERENA's social media.

The new papers will be reposted by CERENA on LinkedIn from the members' personal pages. For this, we kindly ask you to tag CERENA when doing your LinkedIn post.

All members are kindly reminded that any publications, presentations, papers, or other dissemination materials should acknowledge CERENA as follows:

- **CERENA** – *This work was financially supported by: UID/04028/2025 (<https://doi.org/10.54499/UID/04028/2025>) of the CERENA – Research Center for Natural Resources and Environment, funded by Fundação para a Ciência e a Tecnologia, I.P./ MECI through the national funds.*
- **When using equipment from PRR** – *This work was financially supported by: UID/04028/2025 (<https://doi.org/10.54499/UID/04028/2025>) and UID/PRR/04028/2025 (<https://doi.org/10.54499/UID/PRR/04028/2025>) of the CERENA – Research Center for Natural Resources and Environment, funded by Fundação para a Ciência e a Tecnologia, I.P./ MECI through the national funds.*
- **When using equipment from PRR2** – *This work was financially supported by: UID/04028/2025 (<https://doi.org/10.54499/UID/04028/2025>) and UID/PRR2/04028/2025 (<https://doi.org/10.54499/UID/PRR2/04028/2025>) of the CERENA – Research Center for Natural Resources and Environment, funded by Fundação para a Ciência e a Tecnologia, I.P./ MECI through the national funds.*
- **When using equipment from PRR and PRR2** – *This work was financially supported by: UID/04028/2025 (<https://doi.org/10.54499/UID/04028/2025>), UID/PRR/04028/2025 (<https://doi.org/10.54499/UID/PRR/04028/2025>), and UID/PRR2/04028/2025 (<https://doi.org/10.54499/UID/PRR2/04028/2025>) of the CERENA – Research Center for Natural Resources and Environment, funded by Fundação para a Ciência e a Tecnologia, I.P./ MECI through the national funds.*



Pre Award



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EXPRESSION OF INTEREST - EoI

Researchers interested in applying to calls for competitive funding are requested to **complete the Expression of Interest (EoI) online form provided by CERENA Pre-Award Office**. The submission of the EoI enables the Pre-Award Office to anticipate upcoming applications, ensure adequate planning, and activate the necessary support actions. **The collected data supports mandatory annual reporting and informs the distribution of the CERENA annual funds.**

Funded projects

The preliminary results of the **FCT 2026 Call for PhD Studentships** have recently been announced. This year, **CERENA** is pleased to have **4 candidates selected for funding**, reflecting the quality and competitiveness of the research projects submitted by our community.

João Fortunato, supervised by Diogo Narciso and Henrique Matos, and **José Pires**, co-supervised by Diogo Narciso with researchers from Centro de Química Estrutural (CQE) and Imperial College London, were selected under the category **Regular Line of Application** in the field of Chemical Engineering.

Henrique Machado, co-supervised by Ana Clara Marques and Rui Galhano with a researcher from Sociedade Desenvolvimento Tecnologias Inovadoras (SDTI), and **Marta Lourenço**, co-supervised by Ana Clara Marques with researchers from Institute of Inorganic Chemistry - Christian-Albrechts Universität zu Kiel and Águas do Tejo Atlântico, were selected under the category **Specific Line of Application in a Non-academic Environment**, which promotes closer collaboration between academia and external organisations, in the field of Chemical Engineering.

These results highlight CERENA's continued commitment to advanced training and excellence in doctoral research.



Welcome to CERENA

This month, CERENA welcomed two new research fellows. Join us in giving them a warm welcome!

Joaquim Luís Gaspar Ramos

Joaquim Ramos studied Materials Engineering at Instituto Superior Técnico (University of Lisbon) and at Tsinghua University in China. He also completed a training programme in Artificial Intelligence at BIT.



Yingjie Yu



Yingjie Yu obtained a Bachelor's degree in Safety Engineering from China University of Mining and Technology (Beijing) in 2019 and a Master's degree in Safety Science and Engineering from China University of Mining and Technology (Beijing) in 2024. She is currently pursuing a PhD in Safety Science and Engineering at China University of Mining and Technology (Beijing). Her research interests include rock mechanics, mine disaster prevention, efficient coalbed methane development.



Upcoming

22/09

SIMIACCI Webinar -
Conservation vs Efficiency:
The IAQ Challenge for
Cultural Institutions

6 - 8/10

**4th Eage Conference on
Seismic Inversion**
Lisbon



24/09

**CERENA Seminar hosted by
Professor João Gomes**
IST C13 | FEUP F405

7 - 9/10

**4th International Conference
on Nitric Oxide Therapeutics
in Cancer and other
diseases**

25/09

European Research Night
CERENA will have activities in Oeiras' Gardens, National History Museum, PAVilhão do Conhecimento (Lisbon) and i3S (Porto)

Do you want to share anything with the community in the next newsletter? Fill in the communication form at [CERENA's website](https://cerena.pt).

SEPTEMBER 2026



Thank you for reading! Stay tuned for more updates in our next newsletter.



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