

**CERENA**

Centro de Recursos  
Naturais e Ambiente

MARCH 2026

**20 YEAR  
EDITION  
#3**



# SCIENCE IN MOTION

YOUR MONTHLY CERENA NEWS

## CONNECT WITH US



@cerena.pt



<https://cerena.pt/>



CERENA - Centro de  
Recursos Naturais e  
Ambiente



[info@cerena.tecnico.ulisboa.pt](mailto:info@cerena.tecnico.ulisboa.pt)



Av. Rovisco Pais, nº1  
049-001 Lisboa



(+351) 218 417 425

# This edition in a glance

A message from the President

2

## February Highlights



**February, 3<sup>rd</sup>**  
Técnico Innovation  
Summit



**February, 5 & 6<sup>th</sup>**  
AgroGeo 2026



**February, 26<sup>th</sup>**  
CERENA Seminar

António Fiúza: CIGAR's and CERENA's shared history

7

9

Community News

15

Pre-Award

17

Welcome to CERENA

18

Latest in the press

19

Upcoming

# A message from the President

February was an exceptionally active and diverse month for CERENA, with a strong focus on innovation and technology transfer. Our significant participation in the second edition of the Técnico Innovation Summit perfectly illustrates the dynamic and creative environment that defines us today. **Innovation anchored in solid scientific foundations has always been at the core of CERENA's identity.**

Over the last two decades, the Centre has built a consistent body of innovative solutions and technologies addressing complex industrial and societal challenges. This nature is reflected in our substantial number of granted national and international patents, registered trademarks, and in the wide range of joint programs developed with industrial partners. These collaborations demonstrate CERENA's commitment to transforming knowledge into impact.

Our relationship with industry continues to be highlighted through CERENA's 2025/2026 Seminar Series. The February session offered a valuable opportunity to **explore the challenges and opportunities associated with the decarbonisation roadmap of the natural stone sector, reinforcing the importance of dialogue between research and industry in shaping sustainable futures.**

As a final note, I encourage you not to miss António Fiúza's excellent contribution in this edition, where he revisits the shared history of CIGAR and CERENA—a story that helps us understand and appreciate **how our past continues to shape our present and future.**

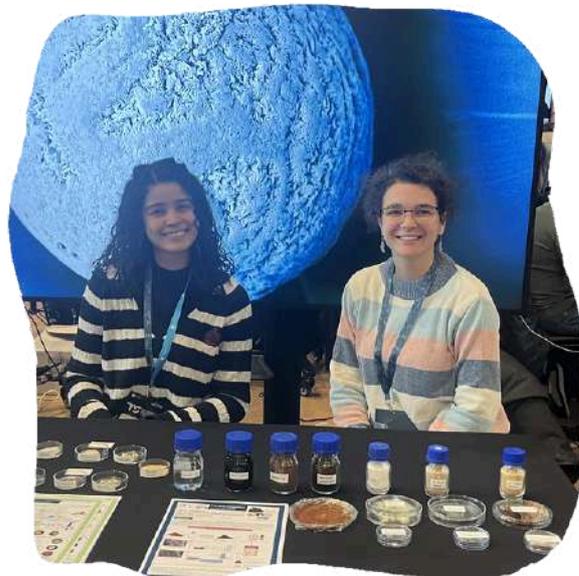
Leonardo Azevedo

# February highlights



## Técnico Innovation Summit

On **3<sup>rd</sup> February, 2026**, CERENA took part in the second edition of Técnico Innovation Summit, the main innovation meeting of the Técnico Lisboa ecosystem.



The day started with a welcome session led by Técnico's President, Professor Rogério Colaço, and the Innovation Vice-Rector at Universidade de Lisboa, Professor Cecília Rodrigues, who highlighted **the importance of Técnico's Innovation Projects** not only for the Técnico's ecosystem but also **for Portuguese society**. This impact was felt during the roundtable discussions throughout the day.



# February highlights



## Técnico Innovation Summit



**Abeer Mohtar** took part in the first roundtable, alongside **Manuel Pinheiro** (CERIS) and **Pedro Mendes** (CQE), to debate *Advanced Materials, Circular Economy, and Green Buildings*. Abeer took this opportunity to showcase the work in the **SIMIACCI** project, which aims to **improve the air quality of GLAMs** (Galleries, Libraries, Archives, and Museums).

Later in the morning, **Maria João Pereira** took part in the fourth roundtable, alongside **Fátima Montemor** (CQE) and **Paulo Ferrão** (IN+), to debate *Sustainable Energy, Smart Cities, and Mobility*. It was highlighted the necessity to search for more sustainable materials, to circumvent our current environmental footprint.



During the day, CERENA's PhD Students and researchers showed CERENA's projects and new technologies to the visitors. It was an enriching day to all involved parties!

# February highlights



## AgroGeo 2026

On **5 and 6<sup>th</sup> February, 2026**, the AgroGeo 2026 conference took place at Técnico Lisboa, with the support of CERENA. This conference, chaired by **João Narciso**, focused on showcasing recent advances in AgroGeophysics.



The opening ceremony started with **Maria João Pereira**, head of DER (Department of Energy and Mineral Resources of Instituto Superior Técnico), highlighting the period of rainstorms Portugal faced and the **urgency of understanding how water infiltrates the soil**, fully showing the relevance of this conference in our world, currently fighting climate change. **Leonardo Azevedo**, head of CERENA, accentuated how this conference fully aligns with CERENA's strategic plan on sustainable development of natural resources. These were two days filled with inspiring talks about the participants' current research and their search for innovative solutions to agricultural and geophysical problems. We highlight CERENA's member, **Maria Paula Mendes**, who presented a case study that took place in Jardim Botânico de Lisboa for the construction of a building with underground levels that might compromise the ground floor flow. Besides the talks, the participants attended two workshops focused on cutting-edge technology of geophysical methods applied to agriculture and the soil-water-plant system. We can't wait to meet again!



# February highlights



## CERENA Seminar



On **26<sup>th</sup> February, 2026**, CERENA hosted a seminar focused on *Road to 2050 – Roadmap for the Decarbonization of the Natural Stone Sector*. **Maria João Pereira** invited **Célia Marques**, from ASSIMAGRA – Portuguese Association of the Mineral Resources Industry. This seminar series is part of the 20-year anniversary celebration of CERENA and aims to **bring academia and industry closer together**.

This month, the speakers focused on the necessity of improving decarbonization processes with joint efforts from academia and the industry. According to Célia, it's fundamental to change the mindset of companies in the stone sector to **bring awareness to environmental problems**. Additionally, the communication with the population about the mining industry must be improved, as usually, only the problems are highlighted in large media outlets. Both speakers emphasized the **growing need of digital skills and energetic efficiency in the industry**.



# António Fiúza: CIGAR's and CERENA's shared history



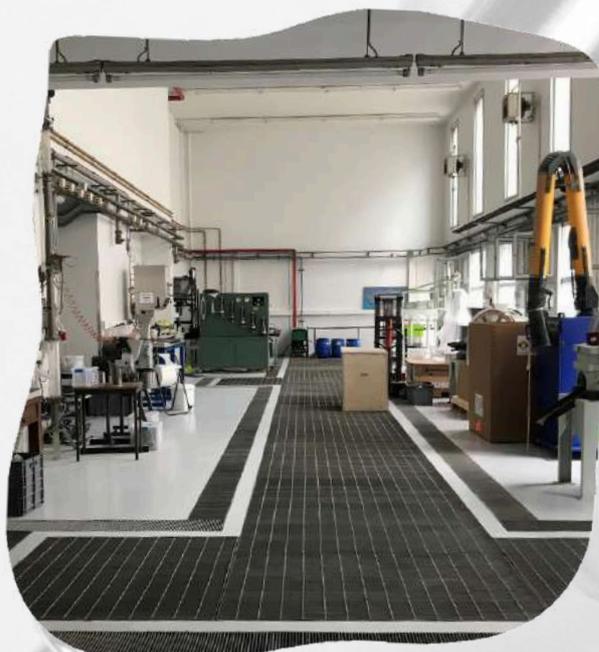
Throughout its existence, CERENA has incorporated different smaller centers, particularly in 2013, with the aggregation of five centers, including **CIGAR** (Center of Geo-Environment and Resources), based at FEUP (Faculdade de Engenharia da Universidade do Porto). This month, to celebrate CERENA's 20<sup>th</sup> Anniversary, we talked with **António Fiúza**, coordinator of CIGAR and later coordinator of CERENA's Environmental group when the integration of CIGAR occurred.

With the growth of FEUP into new buildings, back in 2001, there was physical space for the creation of CIGAR, which occurred in 2003. At the time, the center was small, with only 12 members, and was focused primarily on acquiring geophysical equipment to begin its work. As the group grew, **its interest in geoenvironmental questions** arose (in 2005), which, at the time, was not common for Mining Engineering research centers. This growing research interest, paired with CIGAR's collaborations with other European Universities, led to its continuous enlargement, reaching 21 integrated members. At the time, CIGAR's main focuses were **Mining and Geoenvironmental Engineering**.

In 2013, when the aggregation of CIGAR to CERENA started being prepared, FEUP and Técnico were the only institutions in Portugal with a degree in Mining Engineering. The only possibility for both centers to grow was to join forces, which brought additional advantages. In this aggregation, some of Técnico's chemistry groups were integrated into CERENA. CIGAR's expertise in environmental problems, particularly regarding the presence of organic pollutants in the environment, added value to the researchers based in Lisbon.

# António Fiúza: CIGAR's and CERENA's shared history

The integration of the different research groups in CERENA was a great advantage to the center, which, in its first evaluation, reached the Very Good classification, being classified as Excellent in the second year. This was, in António's words, **one of the most rewarding times of his career, as it led to winning projects of larger dimension**, particularly at the European level. António highlights Horizon 2020, which brought seven million euros to CERENA.



When looking at the future, António considers that we are living in a period of great technological transformation, particularly in mining, with the automation of processes. This automation cannot be dissociated from environmental concerns. When designing projects, the ending is as important as the project itself – **how will the environmental rehabilitation be achieved?** Now, more than ever, it's fundamental to have **more collaborations between the researchers based in Porto and the researchers based in Lisbon**, as this will favor innovative solutions to the current and future challenges.



# Community news

## Fillippo Bertozzo and Rosana Pinto are awarded Marie-Curie fellowships

This month, the results of Marie Skłodowska-Curie Postdoctoral Fellowships and ERA Fellowships were announced, with **Portugal securing record funding across 38 different projects.**

Universidade Nova de Lisboa was at the forefront of Portuguese institutions, securing funding for 13 projects, closely followed by Universidade de Lisboa, which secured funding for 8 projects, 4 of which are taking place at Técnico. From these projects, 2 are coordinated by CERENA's researchers.

**Filippo Bertozzo**, currently based in Brussels, will come to Técnico Lisboa to work in Ricardo Araújo's paleontology laboratory. Filippo's work will be divided into two phases. In the first phase, Filippo will digitally reconstruct the inner ear of pterosaurs and dinosaurs, and, in the second phase, Filippo will study the inner ear anatomy of modern animals. This will allow the extrapolation of information about the evolution of animal metabolism taking advantage of the studies performed by Ricardo using the thermos motility index (TMI). This project is one of the branches of Ricardo's ERC.





# Community news

## Fillippo Bertozzo and Rosana Pinto are awarded Marie-Curie fellowships



**Rosana Pinto**, currently based in Técnico, will use metal-organic frameworks (MOFs) to safely store and deliver therapeutic gases such as nitric oxide and carbon monoxide. Although these gases can be toxic in high amounts and are difficult to handle, they can have powerful health benefits, including antibacterial and anticancer effects, when used in the right doses. MOFs will act as tiny containers that help release these gases in a controlled and safe way for medical applications. In this project, Rosana will be working in Ana Clara Marques' laboratory.

Each of these projects was awarded 200 000€ in this call, which had a success rate of 9.3%. **Congratulations Rosana and Fillippo!**



# Community news

## Rui Galhano records podcast for high school students

On **2<sup>nd</sup> February 2026**, CERENA researcher **Rui Galhano** received two high school students from Escola Secundária José Saramago to record a podcast episode about the capability of waste to generate energy. The episode can be listened [here](#).



## Pedagogic Innovation Prize

On **3<sup>rd</sup> February 2026**, **António Alves de Campos** was awarded an honorable mention at the first edition of the Pedagogical Innovation Prize of Universidade de Lisboa. This prize distinguishes pedagogical practices with an impact on university teaching and awards 5 000€ for teaching activities.

António was recognized for his work in the evaluation method of the curricular unit *“Development of Product and Entrepreneurship”*, which is part of the Master’s Degree in Engineering and Management of Innovation and Entrepreneurship. Among the changes, António, with the support of Elsa Henriques, introduced a “Fast Prototype Laboratory” which allows students to develop functional prototypes. The evaluation method was redefined to be more interactive and allow peer questioning. Congratulations, António!



# Community news

## Space Resources Academy



From **9 to 11<sup>th</sup> February 2026**, the Mining and Energy Resources Engineering Students Group of Instituto Superior Técnico (NUMIST) organized the first edition of the **Space Resources Academy (SRA)**, a new academic event that brings to the spotlight spatial mineral resources.

The day opened with the head of the DER (Department of Energy and Mineral Resources at Instituto Superior Técnico), **Maria João Pereira**, congratulating the students on this initiative that **showcases Técnico as an innovative school with its eyes on the future.**

Miguel Albino welcomed the students from Mining, Physics and Aerospace Engineering, emphasizing the multidisciplinary nature of this conference. The three-day event counted with national and international speakers, who highlighted the **differences between terrestrial and space mining**, focusing on the challenges that still need to be addressed. It was an enriching discussion, where students could participate in hands-on workshops, given them a more in-depth view of the future of space mineral exploration. This event counted with the support of CERENA.





# Community news

## Book presentation



On **19<sup>th</sup> February 2026**, **Amílcar Soares** presented his book "*Sentados no mal*", with the presence of Nicolau Santos and António Costa Silva. Nicolau Santos gave a personal context of Amílcar, while António Costa Silva provided the political context of Angola, where the story of the book takes place. The room was full of readers who enjoyed the book signing at the end!

## Visiting Researcher at CERENA

From **23<sup>rd</sup> January** to **21<sup>st</sup> February**, CERENA's researchers **João Gomes**, **Rui Galhano** and **Sila Ozkan** received Doctor **Mauro Patrignani**, from UNS BahiaBlanca, Argentina. Doctor Mauro worked in the **UNPRECEDENTED project**, a project that aims to reveal the mechanisms involved when producing biodiesel from waste oil. This is a community project of HORIZON MSCA-2021-SE-01-01.





# Community news

## Ana Clara Marques and Rui Galhano talk about their projects with Perspetiva Atual

This month, CERENA's researchers **Ana Clara Marques** and **Rui Galhano** talked about their projects with Perspetiva Atual.

Ana Clara talked about BioCFiber, a project that aims to develop carbon fibers from polymeric precursors of biological origin. Rui highlighted two projects: SHAPPE and SUS.STARCH. SHAPPE aims to make hydrogen production more efficient. SUS.STARCH aims to create innovative products in the food sector, while transforming the sub products in biofuels.



## CERENA's researchers were awarded grants for short mobility program



**Tânia Frade**, **Abeer Mohtar**, and **Joana Barrelas** were awarded short mobility grants in Talent Pass's secondments. They will have the opportunity to visit international partner institutions to develop new skills while reinforcing international cooperation. Congratulations!

# Pre Award

## News

We have a **NEW LINK** for submitting your **Expression of Interest - Eol**.



Researchers interested in applying to calls for competitive funding are requested to **complete the Eol online form provided by CERENA Pre-Award Office**. The submission of the Eol 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 researchers **Rosana Pinto** and **Filippo Bertozzo** have been awarded the prestigious **Marie Skłodowska-Curie Actions Postdoctoral Fellowships 2025** (MSCA-PF), with the support of the Pre-Award Office. The MSCA-PF is one of the most competitive and respected funding schemes of the European Commission, recognizing excellence in research and innovation at the postdoctoral level.

Rosana's and Filippo's proposals were submitted under the Chemistry and Environmental and Geosciences evaluation panels, which registered success rates of approximately 7.2% and 8.6%, with cut-off scores of 96.4% and 96.8%, respectively – underscoring the exceptional quality of their applications. **The Pre-Award Office supported five proposals in total, achieving an internal success rate of 40%**. Instituto Superior Técnico is the Host Institution of 4 awarded MSCA-PF 2025 projects, 2 of which will be developed at CERENA.

This distinction secures a two-year contract, enabling Rosana and Filippo to further strengthen their scientific careers while contributing to CERENA's research excellence and international visibility.



# Pre Award

Their success reflects their individual dedication and merit, as well as CERENA's reputation as a host institution for high-level research. Congratulations to Rosana and Filippo for their outstanding evaluations and remarkable achievement!

The researchers **Ana Margarida Sousa** and **Tuğçe Demir** have secured **FCT Mobility** funding in the incoming and outgoing modalities, respectively. These achievements reinforce CERENA's active engagement in international collaborations and attraction of talented researchers.

## Applications for funding



The beginning of February was marked by the submission of **10 applications to Individual Call to Scientific Employment Stimulus - 8<sup>th</sup> Edition | National, FCT**. The applications were submitted under the following evaluation panels: Chemical Engineering (4), Civil Engineering (1), Earth Sciences (1), Environmental Sciences (1), Environmental Engineering and Environmental and Industrial Biotechnology (2), and Materials Engineering and Nanotechnology (1).

In February, the researchers' engagement in European and national programmes resulted in the submission of the following **4 applications**:

- 1 HORIZON-CL5-2026-02-D3-08 - Understand and minimise the environmental impacts of offshore wind energy | European, EC;
- 1 European Partnership One Health - Antimicrobial Resistance 2026 | National - European Partnership, FCT;
- 1 European Partnership for a Sustainable Future of Food Systems 2026 - FutureFoodS | National - European Partnership, FCT;
- 1 Exploratory Research Projects under the UT Austin Portugal Program 2025 | National - International Partnership, FCT.

These submissions demonstrate the continued commitment and strategic engagement of CERENA's researchers in securing competitive funding opportunities.



# Pre Award

## Disseminations

NATIONAL	
<b>FCT   2026 Call for PhD Studentships</b>	DEADLINE <b>31.03</b>
<b>Deadline:</b> March 31st 2026, 17h00 (Lisbon time)	
<b>Funding:</b> 1600 PhD studentships (1000 regular line and 600 specific line) - € 145,00,000	
<b>Duration:</b> up to a maximum of 48 months	
<b>Links:</b> <a href="#">Regular line</a> and <a href="#">Specific line</a>	
Pre-Award Office support: Liaising with funding entities and assisting with institutional information.	



# Welcome to CERENA

This month, CERENA welcomed a new collaborator - Filippo Bertozzo, who will join us after receiving a Marie-Curie Fellowship.

## Filippo Bertozzo

Dr. Filippo Bertozzo is a dinosaur paleontologist, a research volunteer at the Royal Belgian Institute of Natural Sciences (Brussels, Belgium) and President of the Scientific Committee of the Sociedade de História Natural (Torres Vedras, Portugal). Filippo obtained his BSc in Natural Sciences in 2012 at the University of Bologna (Italy), presenting a thesis on the original skeleton of *Ouranosaurus nigeriensis* exhibited at the Museum of Natural History of Venice.



Later, he completed his MSc in Paleobiology at University of Bonn (Germany) in 2015, with a final dissertation aimed to describe the paleohistological nature of pneumatic bones in saurischian dinosaurs. After one year of research at the Vrije Universiteit Brussel (Belgium), Filippo won the Horizon2020 Marie-Curie Association PhD grant "SPaRK" at Queen's University Belfast (Northern Ireland, UK) to study the paleopathology and paleoepidemiology in ornithopod dinosaurs. The thesis was successfully defended in 2021, from which Filippo obtained the Doctorate in Philosophy. In 2021, he was hired by the Royal Belgian Institute of Natural Sciences (Brussels, Belgium) under the BELSPO Brain "Iguanodon 2.0" project to digitize the entire collection of Iguanodon skeleton at the institute. In 2023, the project was successfully completed in collaboration with Dr. Christophe Mallet (University of Mons), and the digital skeletons will be soon made available to the public and the scientific community. During the first visit in Portugal, Filippo and SHN Director Bruno Camilo Silva found an interesting bone from the Portuguese coast, published later as the femur of an indeterminate, relatively large pterosaur from the Late Jurassic. Finally, together with Dr. Bruce Rothschild and Dr. Dawid Surmik, he published a substantial volume on paleopathology for Springer. The job at RAPHUS Company and the postdoc at RBINS provided Filippo with an excellent preparation in digitization via photogrammetry, surface scanning, and segmentation of CT scans. He has confident familiarity with the digital software Blender, digitally assembling skeletons for 3D printing or exhibitions.



# Latest in the press

1. Shi, X.; Deng, X.; Wang, J.; Liu, X.; Paneiro, G.; Wang, F.; **Energy adsorption and dissipation mechanisms in deep gangue backfills under static loading**, Powder Technology, Volume 470, Article 122011, 4 December 2025
2. Bellei, P.; Pereira, M. F. C.; Torres, I.; Foray, G.; Flores-Colen, I.; **Re-Valorization Oyster-Shell Waste in Natural Hydraulic Lime-Based Mortars for Brick Substrate Applications: Performance and Durability**, Materials, Volume 19, Issue 1, Article 27, 19 December 2025
3. Jiménez-Desdemon, D.; D'Ayala, K.; Andrés-Herguedas, L.; Barreiro, P.; Dionísio, A.; Pozo-Antonio, J. S.; **Influence of Pigment Composition and Painting Technique on Soiling Removal from Wall Painting Mock-Ups Using an UV Nanosecond Nd:YAG Laser**, Minerals, Volume 16, Issue 1, Article 10, 21 December 2025
4. Silva, P. M.; Casquilho, M.; Caridade, C.; Monteirinho, M.; **Ordinary Differential Equations for Dialysis: From Theory to the Web a Simulation Tool**, Lecture Notes in Networks and Systems, Volume 1718, Pages 271-281, 2 January 2026
5. Lobarinhas, R.; Paneiro, G.; Dionísio, A.; **Diagnosis of thermal degradation in carbonate building stones using the felicity ratio**, Journal of Building Engineering, Volume 119, Article 115229, 13 January 2026
6. Santecchia, A.; Kantor, I.; Castro-Amoedo, R.; **An incentivized cooperative scheme for transmission expansion in a 100% renewable Europe**, Applied Energy, Volume 409, Article 127415, 28 January 2026
7. Bersch, J. D.; Dias, A. P. S.; Pereira, M. F. C.; Molin, D. D.; Masuero, A. B.; Flores-Colen, I.; **Marine-Based Photocatalysts for Sustainable Building Façades**, Lecture Notes in Civil Engineering, Volume 795, Issue 3, Article 34501; 30 January 2026
8. Pereira, M. L.; Fernandes, I.; Silva, M. C.; Pappalardo, L.; Zanon, V.; Amaral, P.; **Engineering Properties of Lava Rocks from S. Miguel Island: Insights from Laboratory Testing and New Empirical Correlations**, Rock Mechanics and Rock Engineering, 12 February 2026
9. Carvalho, C. B.; Silva, V. E. P. S. G.; Frutuoso, F. K. A.; França, L. L. S.; Bueno, R. F.; Camillo, L. M. B.; Santos, A. B.; **New aeration strategies in the aerobic granulation process under osmotic stress**, Journal of Environmental Chemical Engineering, Volume 14, Issue 2, Article 121820, 15 February 2026
10. Casquilho, M.; Pacheco, P.; Monteirinho, M.; Galhano, R.; Carvalho, S.; Bordado, J.; **Assignment Problem: A Linear Programming Application with Uncertain Data, Running on the web**, Lecture Notes in Networks and Systems, Volume 1716 LNNS, Pages 15-28, 15 February 2026
11. Rijo, B.; Serralha, F. N.; Dias, A. P. S.; **Catalytic applications of biochar in biodiesel production: Insights and comparisons with Sulfonated chars**, Biofuels, Bioproducts & Biorefining, 18 February 2026



# Upcoming

11 - 14/03

**Técnico Lisboa at Futurália**

Parque das Nações

13/03

**Workshop - Applied Image Segmentation Tools**

MIL

26/03

**CERENA Seminar hosted by Professor Amélia Dionísio**

IST C13 | FEUP F405

18/04

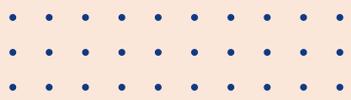
**Instituto Superior Técnico Open Day**

Lisbon, Técnico Lisboa

28 - 30/04

**Talent Pass Consortium Meeting**

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

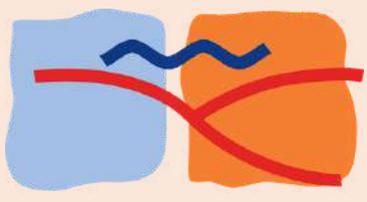


20 YEAR  
EDITION  
#3

MARCH 2026



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



**CERENA**  
Centro de Recursos  
Naturais e Ambiente



CERENA is financially supported by FCT - Foundation for Science and Technology under the project UID/04028/2025.