



stayCERENA - Newsletter

Another academic year has started, and hopefully the time off brought everyone the energy needed to face the coming months at work. This year we are resuming an old (but gold) habit: we will try to maintain a monthly Newsletter to keep each other updated and informed on cool stuff that's going on in our center!

Worry not, this newsletter is meant to be a digital space of interaction amongst all *CERENERS*. This internal communication tool is managed by the secretariat & the communication office, but it is achieved through the collaboration of all CERENA members. It is meant to integrate the existing communication channels like our website and the usual mailing lists, adding a touch of self-irony and humor to, hopefully, make you smile.

As you know, the people of CERENA are scattered around. For this reason, daily social interaction, that is so important for building human and work relations, is limited for us. In addition, lest we forget that CERENA is a *multi-scale-multi-disciplinary-multi-tasking-etc* research center, with scientists coming from the most different backgrounds, that often speak different scientific languages. This might induce us to wonder who we actually are and what we do as a research group. This year's FCT evaluation probably forced many of us to rewind the past years, zoom out from our daily routines and look at the bigger picture: what does it mean to work at CERENA? If this is the case, then we have got **good news**: "*wise people don't give the right answers, they pose the right questions*" said once anthropologist Claude Levi-Strauss 😊. We are on the right path.

Let's keep it short. May this year bring us lots of right questions, serenity and success.

September in a nutshell



September 2, 2024 – APIST visited CERENA-IST, activities with primary school kids.

September 2/6, 2024 – Geostat2024 conference in Ponta Delgada.

September 13, 2024 – FCT presential panel visit to CERENA facilities at Instituto Superior Técnico.

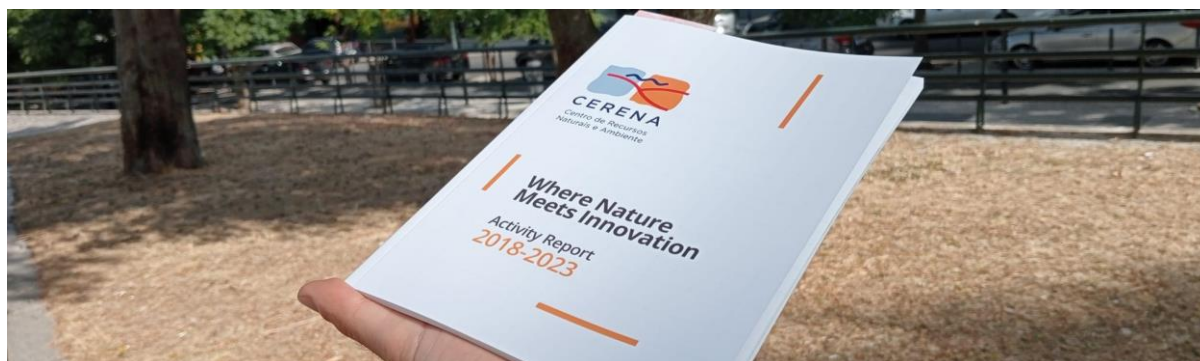
September 26, 2024 – CERENA Seminar by Marta Bordonhos “Can MOFs be used for CO₂ separation by adsorption in the industry?”

September 27, 2024 – Participation of CERENA scientists in the European Researchers' Night in Lisbon and in Vilanova de Foz Côa.

September 30, 2024 – Prof. Amílcar Soares’s Jubilation Lecture.



CERENA Activity Report Booklet 2018-2023



We are very proud to announce the realization of a [booklet](#) containing a brief summary of the activities of CERENA during the period 2018-2023. Thanks for your contribution!

FCT Evaluation Process



As many of you know, on June 25th and September 13th the FCT panel evaluated CERENA. The evaluation focused on the scientific and technological activities of the 2018-2023 period and will be rating us in order to assign funding for the 2025-2029 period plan and activities. During June´s remote sessions, the panel had a chance to get an overview of CERENA and ask questions. They interviewed separately a group of PhD students and a group of senior researchers. In September, thirteen evaluators visited CERENA's laboratories in the Alameda Campus of IST. After the 40 minutes' visit, they addressed remaining doubts in a 20-minute Q&A session. The main questions focused on the following points:

- The challenge of effectively managing a diverse range of activities across distinct fields while maintaining high standards of excellence in each area.
- The importance of internal communication in such a scattered and diverse centre.
- Ways to retain young researchers at the institution, particularly after PhD completion.
- The importance of data sharing amongst a collaborative scientific community.

We are now waiting for the FCT score and final decision, foreseen to come through during the second half of 2025.

Our people

Manuel Ribeiro - Junior Researcher for EnvG



From his sunny desk in Room 2.I.11, Minas Building (IST), Manuel would talk to you for hours about the cool graphs he makes, which is one of the things he most enjoys about his work. He describes himself as methodic and reliable, and it is impossible to disagree. Although he dreamt of being a spaceship pilot when he was a kid, today he is happy to be contributing towards his favorite Sustainable Development Goal in his work (SDG 3, Good Health and Wellbeing). He values work ethics a lot, and believes that one challenge of science today is to improve accessible language to be able to explain the importance of the results of what scientists do.

In your view, what does a researcher do?

M: "A researcher develops new methodologies and finds ways to apply them. In my case, I apply them to monitor environment and health."

What are you working on at the moment?

M: "We are working to create an app that will support health professionals and entities track infectious diseases. Our geostatistical and machine learning software will help predict variations in number of infections over the territory."

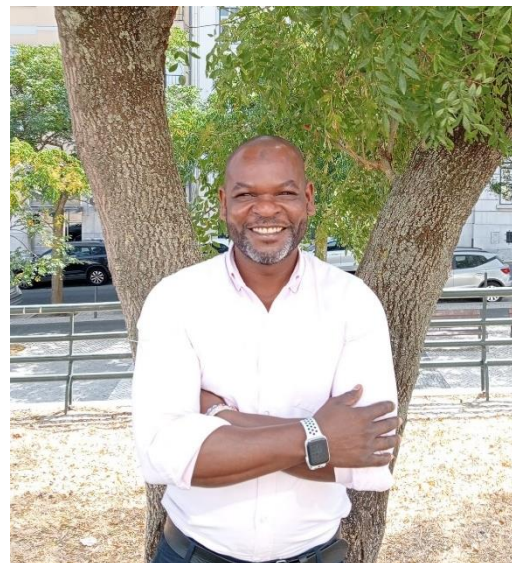
Housam Sherif, PhD in Petroleum Engineering

Sam, for friends. If you walk past Room 2.I.13 or past the GeoLab of the Minas Building (IST), you will probably hear him having a chill laugh with his colleagues. With an intercontinental career background, Sam has been part of CERENA for three years.

What work are you doing at the moment?

H: "I'm studying how to produce geothermal energy out of an abandoned offshore oil field."

What results do you expect from your work?



H: “As a first step, I expect to characterize the petrophysical properties of the reservoir (porosity, permeability and saturation of the rocks), and test the feasibility of converting this abandoned oil field into a geothermal reservoir. I also hope to see oil&gas industry switch to geothermal worldwide in the near future.”

What would you like to do when you finish your PhD?

H: “I’d like to visit to Japan and then find an industry where I can apply what I am studying now.”

Telma Henriques, Administrative Assistant

Meet our very own Telma Henriques, with a T of a *tranquil* soul, and definitely anything but a *tyrant*. When she is not in her natural element - *countryside greenfield* - listening to her favorite song - *Always* by Bon Jovi, you can find her in the secretariat of Minas Building, IST (Room 2.29). Although her dream job as a kid was to become a professor, Telma is now a



problem solver at CERENA, a task that she likes because it is versatile and never boring - although she could use a better chair for her office, she admits.

Being part of CERENA for over a year now, Telma feels that her work is valued here, and she cherishes this a lot. Her favorite SDG is Climate Action, and she is proud of how CERENA is contributing to a better future through the research carried out in the health sciences and environmental fields. Although she realizes that some people mistrust science nowadays, she believes that sharing research results in an organized and digestible way to the public will help narrow the gap between academia & the rest of the world.

What’s your dream today?

T: "Something that is very urgent today is to reflect on how we treat each other. We need to slow down, take time to stay with one another, listen to each other. Focus less on being productive, and more on our personal relationships."

Science Story



The extractive industry produces a large amount of waste, and it is one of the biggest waste streams in Europe. With the goal of creating a more sustainable economic system, these wastes can be turned from environmental burdens into valuable resources by recovering important minerals and raw materials, reprocessing them, and reusing them in different ways. The ValorWaste project was created to study how to best reprocess extractive waste. The project focuses on identifying the best ways to reuse waste, exploring sustainable methods to recover valuable materials, and creating new construction materials that incorporate these wastes. It will also evaluate the environmental impact of these processes and use data tools and machine learning techniques to improve decision-making. Additionally, the project seeks to identify business opportunities in using extractive waste in the construction industry while promoting environmentally friendly practices. The project involves several universities, research centers, and industrial partners, all bringing their expertise to meet these goals.

<https://cerena.ist.utl.pt/projects/valorwaste-valorisation-and-integration-extractive-waste-towards-sustainability-raw>

ValorWaste

Turning waste
into value



1 - Graphical idealization of the ValorWaste project. This image is for illustration purposes only.

CERENA's Microsoft Forms



We (the Communication Office and the Secretariat) are here to help. We want life at work to be smooth and easy for everyone. A super useful tool that we have to share information, minimize email exchanges and streamline processes is the Microsoft Forms (CERENA website à Restricted Area à Forms): https://cerena.pt/restricted-area?field_folder_target_id=30

All the cool stuff that scientists do deserves more visibility: Are you going to participate to a conference and want to share it? Let us know through the form! Have you published something? Fill in the form! Do you know something that you reckon we should all know? Form! Are you working on some cool project and want to share it? Form! Do you have some awesome images, maybe a cool shining rock or a brand new lab instrument, sparky colorful computer modelling images? Perhaps your non-academic friends wouldn't appreciate it, but we would! Fill in the form please!

The purpose of the forms is to make communication more dynamic and efficient: every time you use the **Acquisition, Missions, Reimbursements, News and Events** forms, a flower blossoms in the SciComm and Secretariat offices! Thank you!

Pre-Award Office SHAREPOINT Reminder



The Pre-Award Office has a very straightforward platform (called SharePoint) where you can learn more about funding, get involved in networking events, and connect to other relevant stakeholders. All members and PhD students are invited to take a look at this page in order to find the information you need! <https://ulisboa.sharepoint.com/sites/PreAward>

Dates to diary



- Oct 8 – Oct 30 | Lisboa Workshops: preparing applications for European Funding
- Oct 31st | 12:30 CERENA Seminar by Ana Filipa Duarte “**Advanced Methods for Ocean Climate Modelling**”

Publications



- Neves, O., Moreno, F., Pinheiro, D., Pinto, M. C., & Inácio, M. (2024). [Soil low-density geochemical mapping of technology-critical elements \(TCEs\) and its environmental implications: The case of lithium in Portugal](#). *Science of The Total Environment*, 934, 173207.
- Fagandini, C., Todaro, V., Escada, C., Azevedo, L., Gómez-Hernández, J. J., & Zanini, A. (2024). [Coupled hydrogeophysical inversion through ensemble smoother with multiple data assimilation and convolutional neural network for contaminant plume reconstruction](#). *Stochastic Environmental Research and Risk Assessment*, 1-16.

Health and Wellbeing



If you are working long hours looking at screens, you may want to protect your eyes. Sore, tired, burning, or itching eyes are the main symptoms of **eye strain (tensão ocular)**. Other symptoms include: dry eyes, watery eyes, blurred vision, doubled vision, headaches, soreness in the neck, shoulders, or back, sensitivity to light, trouble concentrating, difficulty keeping eyes open. Did you know the **20-20-20 rule**? Every **20 minutes** spent using a screen, try to look away at something that is **ca. 20 meters away** for a total of **20 seconds**. This is how long it takes for your eyes to reset and relax.

Digital devices won't damage eyesight but can cause eye strain, known as computer vision syndrome (**CVS**). When we look at screens, we tend to blink 😊 less than the normal 15 times per minute, and this leads to dry, tired eyes. A Nepalese study found that nearly 90% of Malaysian university students experienced CVS after two hours of continuous screen use. The **20-20-20 rule**, which involves taking breaks to look at distant objects, can help reduce symptoms. Children are less aware of eye strain, so their screen time should be carefully monitored.

Know more: <https://www.healthline.com/health/eye-health/20-20-20-rule#prevention>

Quote of the month

