



Re-UNITA

# RESEARCH

Newsletter

## Editorial

The consolidation phase of the UNITA project started a few months ago, taking advantage of the pilot phase carried out in the 2020-2023 period and enlarging the participation of 6 other Universities, besides those of the “founders”.

Some of the good achievements obtained within the Re-UNITA project will be embedded in this UNITA consolidation phase: among these, the results obtained within the Re-UNITA WP3 and related to both (i) HRS4R-Human Resources Strategy for Researchers certificate and (ii) implementation of common gender balance strategies through an effective mentoring programme. The purpose of this embedding will be twofold, as indicated in the Task 2.1 of WP2 of the consolidation phase: on one hand, new UNITA partners will be facilitated in dealing with these two dimensions by having access to the materials produced in WP3. On the other hand, old UNITA partners will be able to update and implement the same dimensions, thus producing an updated snapshot of the two dimensions.

So, participate in the surveys/activities that in each partners' Institution will be carried out and stay tuned!

*Pinuccia Cerrato & Giuseppe Bianco - UNITO  
WP3 Leader in Re-UNITA project*

## Cultural Heritage



### Tourist Experience in Portuguese Thermal Hotels

The study by Ana María Campón-Cerro and Elena Sánchez-Vargas from the University of Extremadura and Helena Alves and Cristina Estevão from the **University of Beira Interior**, entitled "Which are the factors that limit the tourism experience in the Portuguese Thermal Hotels? An exploration using UGC", presented at ICMarkTech'23 - International Conference on Marketing and Technologies held in Prague - Czech Republic held between 30/11 and 2/12 2023, which culminated in a Best Paper, focuses on the analysis of the tourist experience in Portuguese thermal hotels. The objective of the research focuses on analyzing the factors that limit this experience, through the use of evaluations established by users of these facilities on Booking. Through the analysis of the negative comments recorded, the results show that the thermal hotel experience is limited mainly by elements related to the escapist dimension of the experience. This highlights the importance of integrating elements of Portuguese cultural heritage for a more authentic and enriching thermal experience, which meets the expectations of contemporary tourists.

Helena Alves; Cristina Estevão; Ana Maria Campón-Cerro; Elena Sánchez-Vargas  
NECE - Research Center for Business Sciences  
University of Beira Interior

## Circular Economy



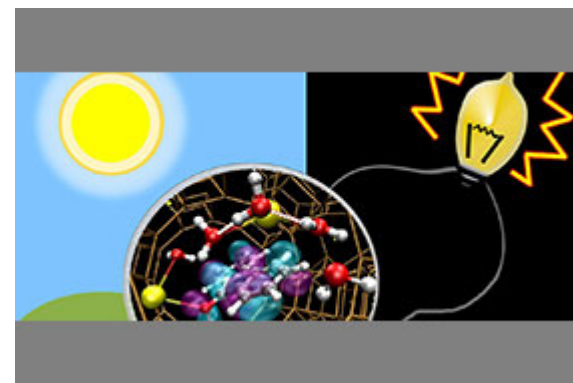
The **SOCOTEC Circular Engineering Chair** at the University of Zaragoza is a pioneer in Spain, being the first chair that specifically addresses circular engineering. In this sense, the chair seeks to generate knowledge, promote and disseminate activities that lead to awareness and education in circular engineering, transfer knowledge and research results, and train and thus consolidate new talent.

José Ramón Beltrán (<https://orcid.org/0000-0002-7500-4650>) is the director of the SOCOTEC Circular Engineering Chair.

**More info:**  
<https://www.socotec.es/noticias/premios-catedra-circular-socotec>  
<https://catedrabac.i3a.es/>

José Ramón Beltrán  
University of Zaragoza

## Renewable Energies



### FROM NATURE TO THE LABORATORY: CRYSTALS THAT CAN IMITATE THE POWERS OF CHLOROPHYLL

Zeolites are microporous hydrated materials that occur naturally as alumina-silicate minerals but are also widely synthesised in the laboratory. They are composed of tetrahedral units - usually  $\text{Si}(\text{Al},\text{P})\text{O}_4$  - that share all vertices with each other to form scaffolds characterised by the presence of cages and channels. These materials are capable of capturing, transporting and conveying light and energy like the antenna systems of photosynthetic organisms. The design, realisation and application of these systems is a fervently developing field of research and one of the frontier areas of the most innovative technologies. In order to improve the functioning of these materials, it is necessary to understand their structure and, in particular, to check the molecules within the channels. To this end, a **UNITO** project, coordinated by Professor **Rossella Arletti**, is not only studying the structure of these interesting materials but also their behaviour under non-environmental conditions, i.e. under high pressure, to understand whether any pressure-induced changes (e.g. the approach of molecules in the channel) can affect the properties of these fascinating materials.

**More info:** [https://lc.cx/009\\_aP](https://lc.cx/009_aP)  
REFERENCE Professor Rossella Arletti  
WORK GROUP Fernando Camara Artigas, Gabriele Alberto, Linda Pastero  
DEPARTMENTS Earth Sciences and Chemistry UNITO

## PhD student of the month

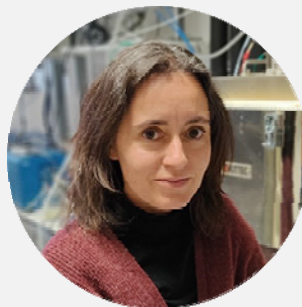


**Nuno Fonseca**, Ph.D. student in Sport Sciences at the University of Beira Interior

After the conclusion of my Master's degree, I started a new chapter on my career. I had the opportunity to work with a prominent research team led by Professor Mário Marques (Professors Mikel Izquierdo, Dulce Esteves, Henrique Neiva, Daniel Marinho and Diogo Marques) in the area of strength training in older adults regarding the prevention of cognitive function in people with mild dementia. Our research program, "TRAIN4BRAIN," is based on a community intervention program that implements scientific strength training programs to preserve/improve cognitive function and functional capacity in older people with mild dementia in the Cova da Beira subregion. Another aim of our research program is to analyze and understand which minimal strength training volume is sufficient to produce the necessary/optimal functional capacity and cognition adaptations to improve the quality of life of older adults with mild dementia. Besides Sport scientist, our research team includes psychologists and biochemist, since we aim to evaluate the effects on several cognitive, emotion and biochemical parameters. This project is funded by Portuguese funding agency for research (Fundação para a Ciência e Tecnologia) under UNITA Doctoral Grants Program (Ref\_UNITA2023\_ID\_1). In December 2023, our project won the first place in the *Knowledge+* category as a Good Practice in Aging Research, promoted by the Comissão de Coordenação e Desenvolvimento Regional do Centro, (CCDR; "Prémio de Boas Práticas de Envelhecimento Ativo e Saudável na Região Centro").

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<https://www.ubi.pt/Noticia/7649>  
<https://www.ubi.pt/Noticia/7686>

## Woman researcher of the month



**Alodia Orera** is Associate Professor in Materials Science and Technology at University of Zaragoza, where she enjoys two of her passions: teaching, which assures a constant contact with young people who will be the driving force of the future, and research, being part of the Instituto de Nanociencia y Materiales de Aragon (mixed institute from CSIC and Universidad de Zaragoza). She remembers how her favourite book as a curious child was titled "What Things Are Made Of", and today she is convinced that the research into new materials is the basis for many of the rapid technological advances that we enjoy. In the past decades, both the production and storage of energy have become a matter of concern, while there has been a remarkable increase in the worldwide interest on the harmful effect of our actions on the environment and the need to achieve our goals as society in a fair and sustainable way. Therefore, the need of a drastic change in the actual energy system inspires her main research lines in new ceramic materials and devices for energy applications such as fuel cells that allows the change to a hydrogen economy and batteries.

Having spent pre and postdoctoral periods abroad herself, she especially values all forms of internationalization both at the educational level and in research collaborations.

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## Infrastructure of the Month



**Electron microscopy ("G.Martra" Lab.) and X-ray techniques (SAX)**

Laboratory named after Gianmario Martra, Professor of Physical Chemistry at the Department of Chemistry, University of Torino.

### APPLICATIONS AND SERVICES:

- Material quality control
- Analytical determinations on materials
- Failure analysis
- Identification of particle contaminants
- Resolution of crystal structures
- Analysis of mineralogical phases, residual stress, grain size
- Metallographic analyzes
- Elemental surface analysis and sub-surface chemical composition profiles (TOF-SIMS)
- High-resolution industrial tomography
- Diffractometric and tomographic analyses on cultural heritage

<https://reunitaresearchinfrastructure.i3a.es/en/node/102>

## Highlights

Over the past few days, the Rector, professors and administrative technicians of the University of Turin met at the Cavallerizza for a general review of the activities of the various UNITA2 WPs. Many of these are already active in UNITA (first phase) and others are still active in ReUNITA. New Alliance partners were added and after initial meetings in the various locations, they will start with the activities of this new phase of consolidation of UNITA!

A UNITA sub-website dedicated to R&I activities in the Alliance has been launched, thanks to all of our universities work!

-> <https://www.research.univ-unita.eu>

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 101035810.