



Lino Ferreira, Project Coordinator

Dear RESETEAgeing partners:

It is my pleasure to share with you the fifth RESETEAgeing newsletter. In this newsletter we talk about the 3rd RESETEAgeing Training School and the 3rd RESETEAgeing Conference, that were organized this month by the University of Coimbra. We also talk about the outreach activities that RESETEAgeing researchers have been (and will be) involved.

Please remember to regularly visit our website at <https://resetageing.eu> for RESETEAgeing project updates and news. In case you are planning to organize an event let us know in advance through the email RESETEAgeing@uc.pt

Best wishes

Lino

3rd RESETEAgeing Training School

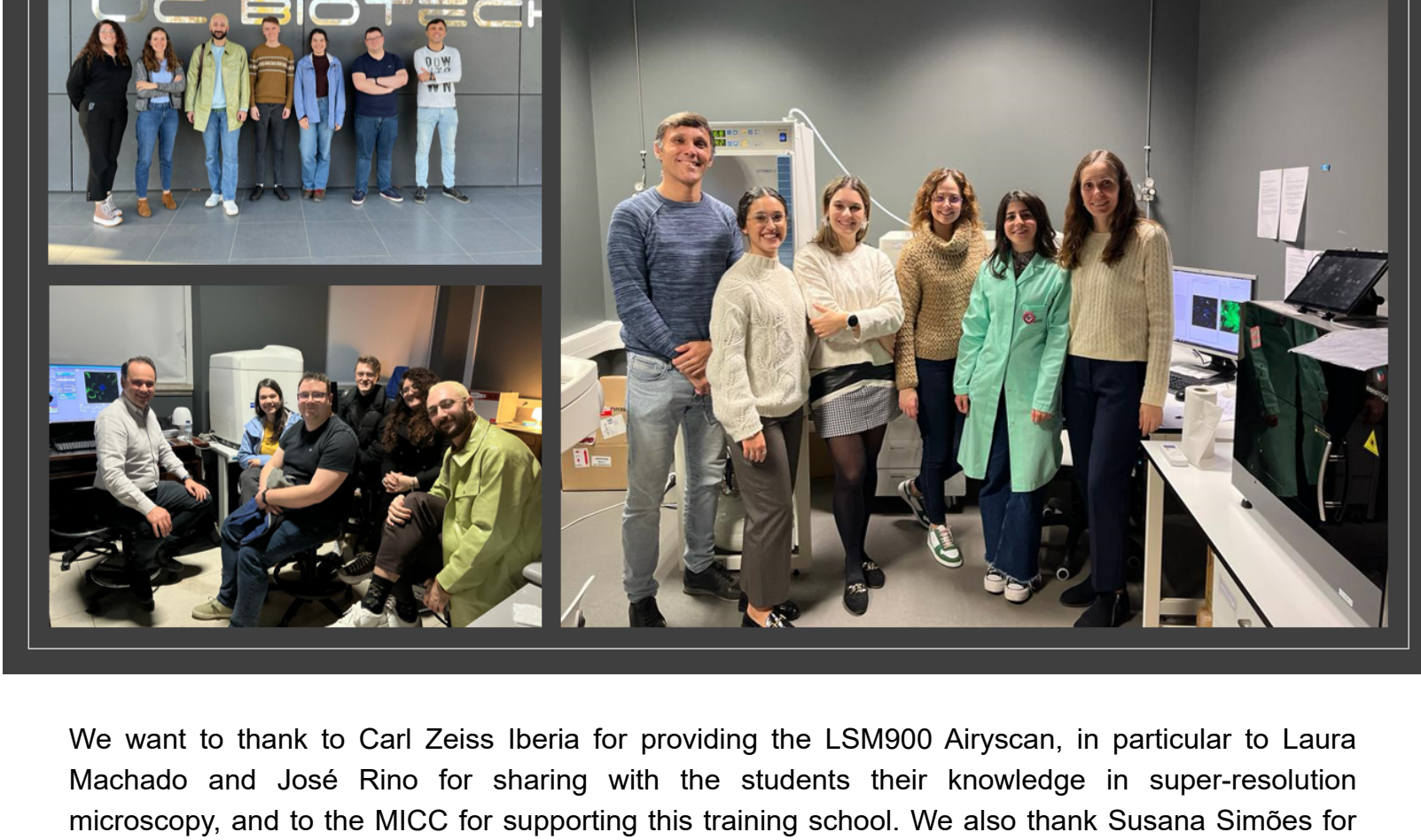
The 3rd RESETEAgeing Training School on Super-Resolution Microscopy occurred on December 1st (by Zoom), 4th and 5th at the University of Coimbra, in Coimbra / Cantanhede and it gathered a total of 9 students from all partners of RESETEAgeing Consortium.

The first day of the training school, occurred by Zoom, and started with Lino Ferreira, coordinator of RESETEAgeing project, welcoming the students of the training school. The session had the collaboration of two Principal Investigators from Multidisciplinary Institute of Ageing (MIA-Portugal): Nuno Raimundo and Alessio Vagnoni, experts in super-resolution microscopy. Nuno Raimundo gave a seminar about *Methods for assessment of mitochondria and lysosomes*, while Alessio Vagnoni gave two seminars, one on *Mechanisms of neuronal cargo trafficking and neurodegeneration* and other on *Intracellular dynamics of ageing neurons: spotlight on the mitochondria*.

For the other two days of the training school, the students were divided into two groups, while one group stayed in Coimbra for the Hands-on in the LSM 900 Airyscan, the other group was at UC-Biotech in Biocant Park, Cantanhede, for the Hands-on in INCell Analyser.

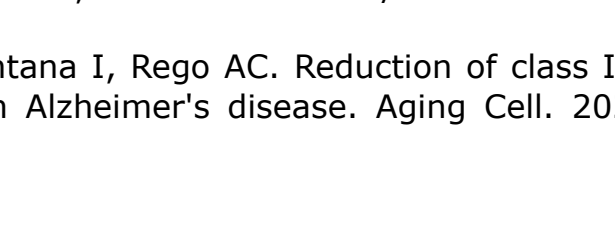
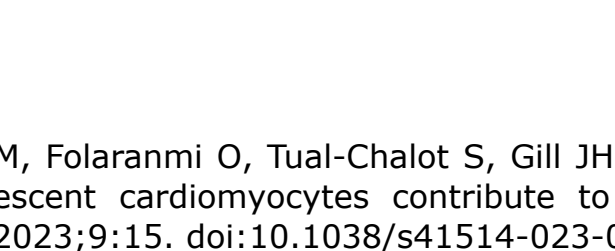
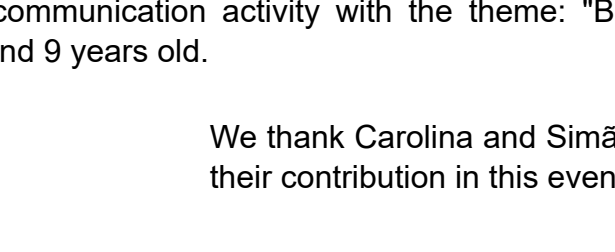
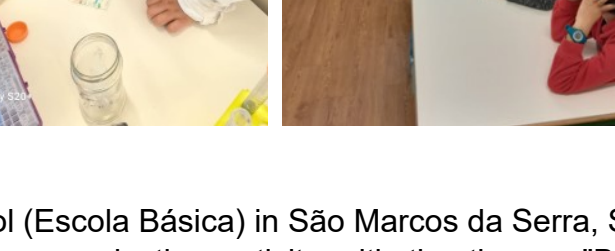
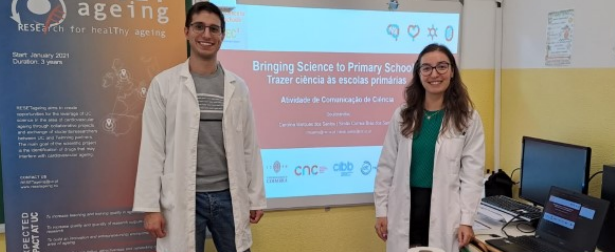
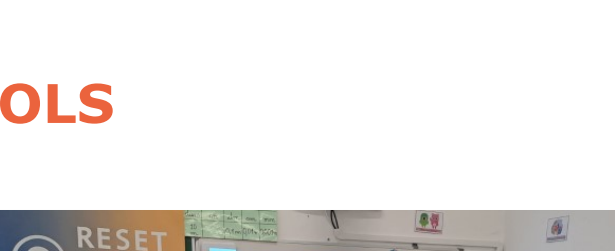
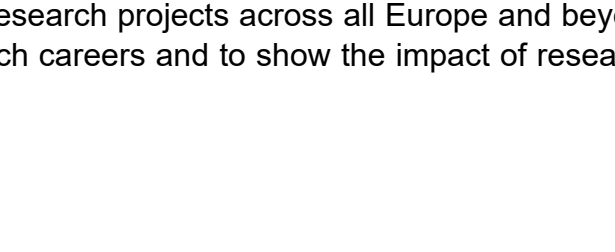
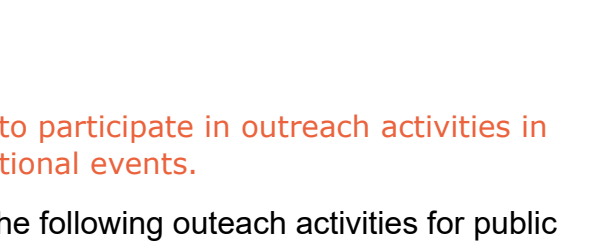
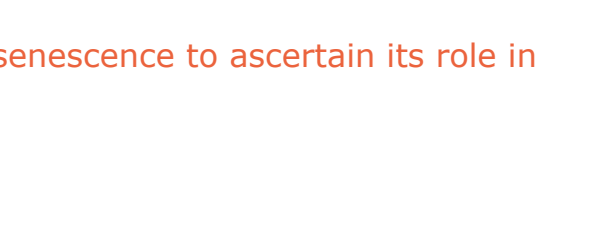
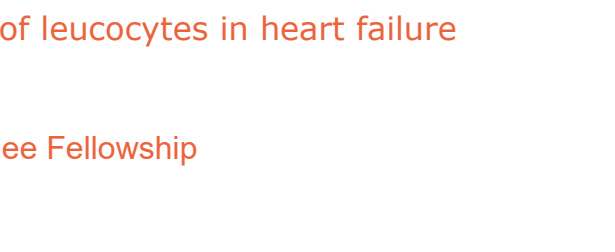
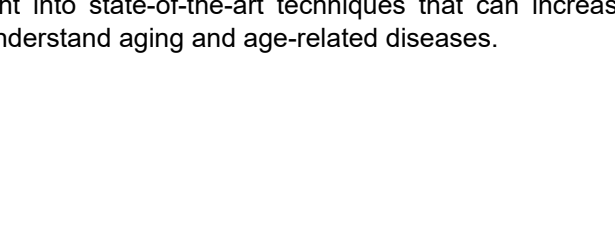
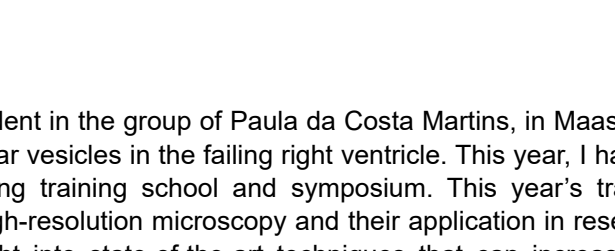
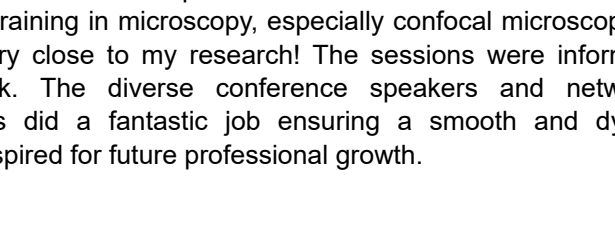
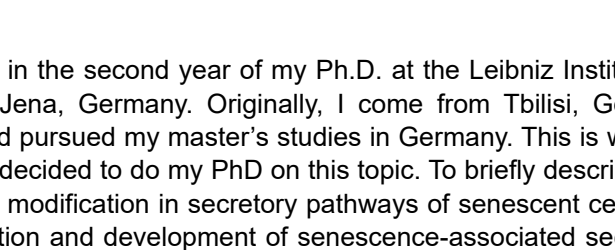
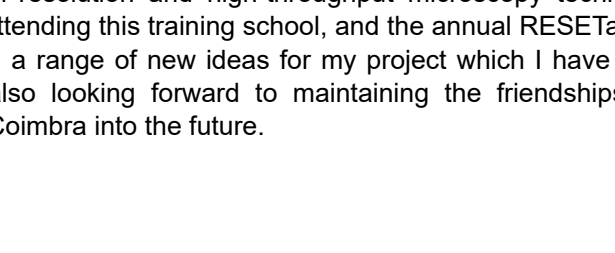
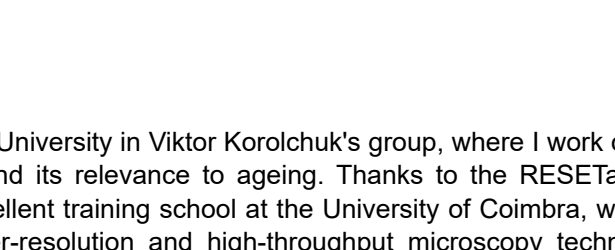
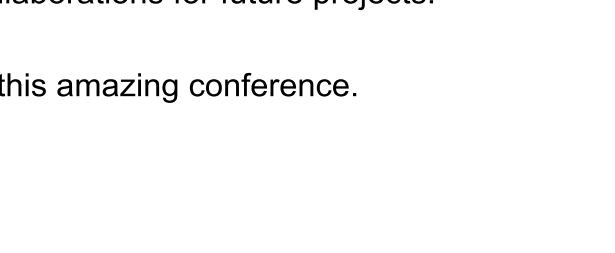
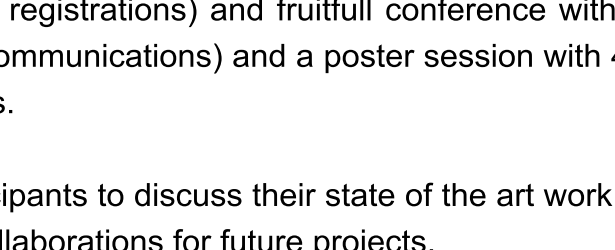
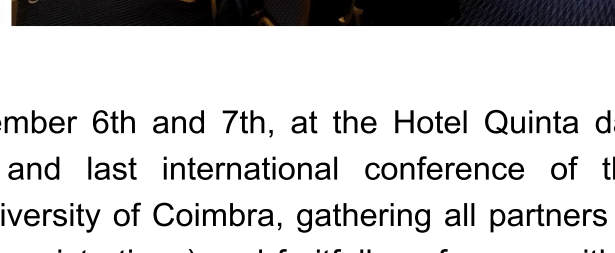
The LSM 900 Airyscan was kindly installed by Zeiss for this training school and had the collaboration of Laura Machado (Carl Zeiss Iberia), José Rino (Head of the Bioimaging Unit at the Instituto de Medicina Molecular João Lobo Antunes, Lisbon), and the Microscopy Imaging Center of Coimbra - MICC (Luísa Cortes, Margarida Caldeira and Tatiana Catarino). The bases of Confocal Microscopy were presented followed by Hands-on sessions with LSM 900 Airyscan equipment, where the students had the opportunity to use their own samples and work themselves with the equipment.

The students had also the opportunity to work with the high-throughput, high-content INCell Analyser 2000, where Susana Simões, researcher at the Advanced Therapies Group, introduced the equipment, the type of microscopy and its potential, followed by the hands-on sessions where students used the equipment with their own samples. At the end the students learnt how to process and analyze the images acquired in the instrument.



We want to thank to Carl Zeiss Iberia for providing the LSM900 Airyscan, in particular to Laura Machado and José Rino for sharing with the students their knowledge in super-resolution microscopy, and to the MICC for supporting this training school. We also thank Susana Simões for her training in INCell Analyser, to Nuno Raimundo and Alessio Vagnoni for sharing with the students their work and, off course, to all the students for their participation in this training school.

3rd RESETEAgeing Conference



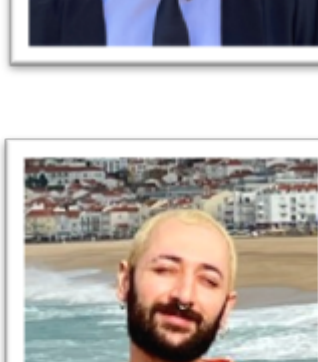
RESETEAgeing

MEMBERS EXCHANGE



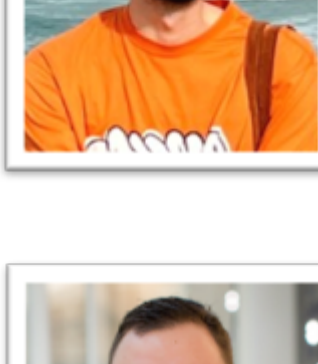
Niall Wilson

I am a PhD student based at Newcastle University in Viktor Korochuk's group, where I work on the molecular mechanisms of autophagy and its relevance to ageing. Thanks to the RESETEAgeing programme, this year I attended an excellent training school at the University of Coimbra, where I gained hands-on experience with super-resolution and high-throughput microscopy techniques highly relevant to my current research. Attending this training school, and the annual RESETEAgeing conference which followed, has sparked a range of new ideas for my project which I have taken back to the lab in Newcastle. I am also looking forward to maintaining the friendships and collaborations I made during my visit to Coimbra into the future.



Tornike Nasrashvili

My name is Tornike Nasrashvili, currently in the second year of my Ph.D. at the Leibniz Institute on Aging – Fritz Lipmann-Institute (FLI) in Jena, Germany. Originally, I come from Tbilisi, Georgia, where I finished my bachelor's degree and pursued my master's studies in Germany. This is where I got interested in cellular senescence and decided to do my PhD on this topic. To briefly describe, my project's aim is to study post-translational modification in secretory pathways of senescent cells and how they are affecting senescence induction and development of senescence-associated secretory phenotype. I was thrilled with the recent training in microscopy, especially confocal microscopy, and the conference that thematically was very close to my research! The speakers were informative, engaging, and applicable to my work. The diverse conference speakers and networking opportunities were amazing. Organizers did a fantastic job ensuring a smooth and dynamic experience. Feeling well-equipped and inspired for future professional growth.



Jordy Kocken

I am Jordy Kocken, a fourth-year PhD student in the group of Paula da Costa Martins, in Maastricht. I focus on non-coding RNA and extracellular vesicles in the failing rat ventricle. This year, I had the pleasure of attending the 3rd RESETEAgeing training school and symposium. This year's training school focused on high-throughput and high-resolution microscopy and their application in research. The training school gives me more insight into state-of-the-art techniques that can increase our scientific knowledge and output to better understand aging and age-related diseases.

COLLABORATION PROJECTS

- Role of Amyloid-beta in cardiovascular ageing**
PI: Simon Tual-Chalot
Team member: Gavin Richardson
Funding agency: British Heart Foundation Project grant
Period: Jul 2023 - Jun 2026
Amount: £299,934

- Coronary artery bypass surgery after myocardial infarction: identifying clinical outcomes by analysing the senescence associate secretory phenotype**

PI: Gavin Richardson
Funding agency: Heart Research UK- Studentship
Period: Jan2024 - Dec 2026
Amount: £110,105

- Deep immunophenotyping and functional analysis of leucocytes in heart failure**

PI: Ioakim Spyridopoulos
Team member: Gavin Richardson
Funding agency: British Heart Foundation Clinical Trainee Fellowship
Period: Jul 2024 - Dec 2026
Amount: £334,731.97

- Characterising chemotherapy-induced cardiac cell senescence to ascertain its role in chemotherapeutic-induced heart failure**

PI: Gavin Richardson
Funding agency: British Heart Foundation Project grant
Period: Jun2024 - May 2026
Amount: £280,000

Support of International CONFERENCES

RESETEAgeing supported the organization of sessions in the following international conferences:

- 58th Annual Meeting ESCI | June, 2024

Outreach Activities

All partners of RESETEAgeing Consortium are encouraged to participate in outreach activities in the scope of RESETEAgeing project in national and international events.

On 2023 RESETEAgeing partners from UC were involved in the following outreach activities for public engagement and science communication

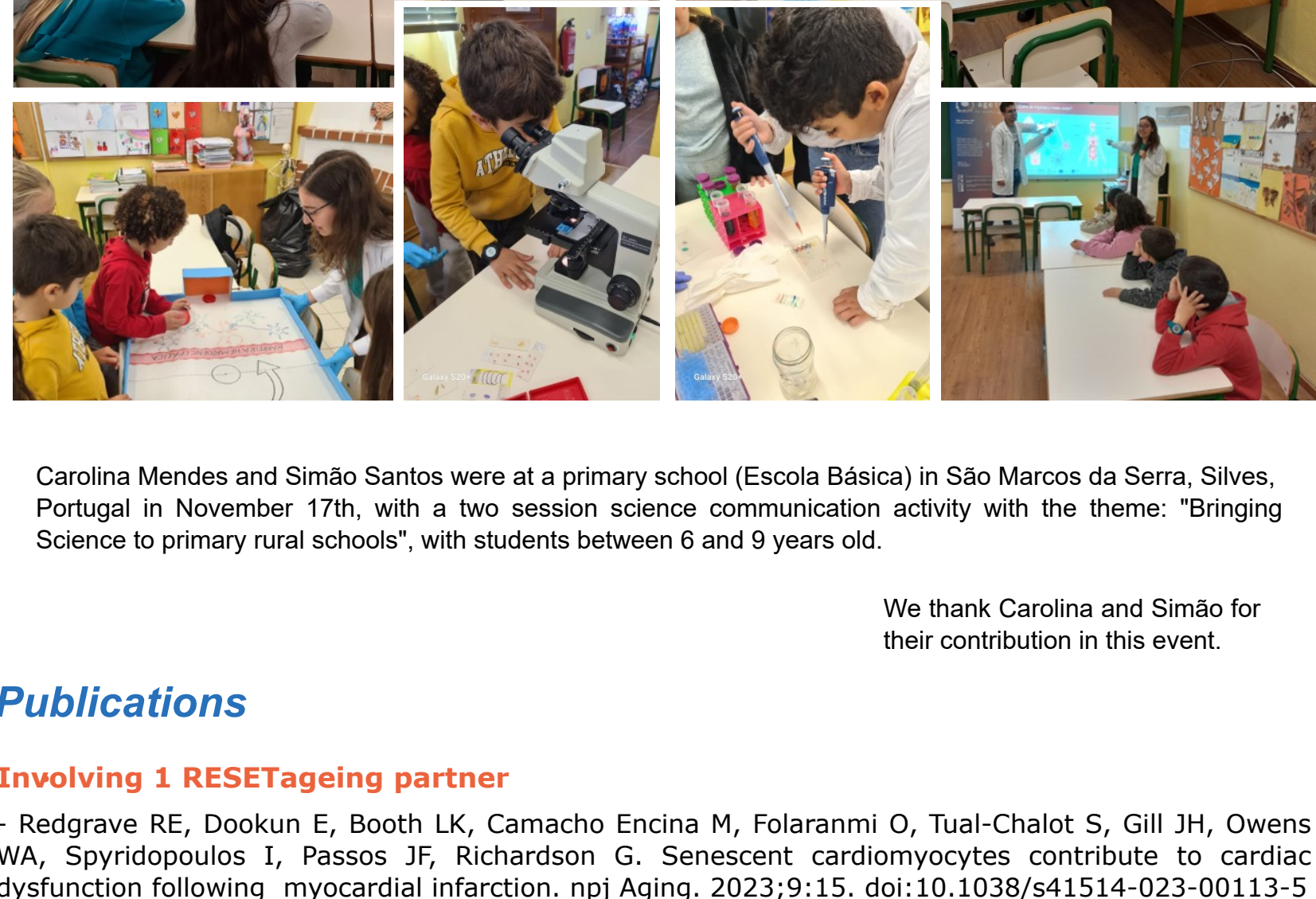
European Researchers' Night 2023



The European Researchers' Night took place on September 29th, and RESETEAgeing researchers from University of Coimbra participated in this event which occurred in 26 European countries where research and researchers were closer to the public to promote excellent research projects across all Europe and beyond, to increase the interest of young people in science and research careers and to show the impact of researchers' work on people's daily lives.

We thank all researchers that contributed for this event.

RESETEAgeing AT SCHOOLS



Carolina Mendes and Simão Santos were at a primary school (Escola Básica) in São Marcos da Serra, Silves, Portugal in November 17th, with a two session science communication activity with the theme: "Bringing Science to primary rural schools", with students between 6 and 9 years old.

We thank Carolina and Simão for their contribution in this event.

Publications

Involving 1 RESETEAgeing partner

- Redgrave RE, Dookun E, Booth LK, Camacho Encina M, Folaranmi O, Tual-Chalot S, Gill JH, Owens WA, Spyridopoulos I, Passos JF, Richardson G. Senescent cardiomyocytes contribute to cardiac dysfunction following myocardial infarction. *npj Aging*. 2023;9:15. doi:10.1038/s41514-023-00113-5

- Marinho D, Ferreira IL, Lorenzoni R, Cardoso SM, Santana I, Rego AC. Reduction of class I histone deacetylases ameliorates ER-mitochondria cross-talk in Alzheimer's disease. *Aging Cell*. 2023 Aug; 22(8):e13895. doi: 10.1111/acel.13895

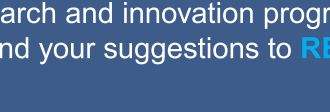
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RESETEAgeing official LOGO

We kindly ask all the members of RESETEAgeing consortium to use this logo whenever RESETEAgeing project is mention.

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FINAL REMARKS

Publications or presentations resulting from work developed under the scope of RESETEAgeing have to include the following sentence and the EU flag: "This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 952266".

Please send your suggestions to RESETEAgeing@uc.pt