



RESETageing

Newsletter | January 26, 2022

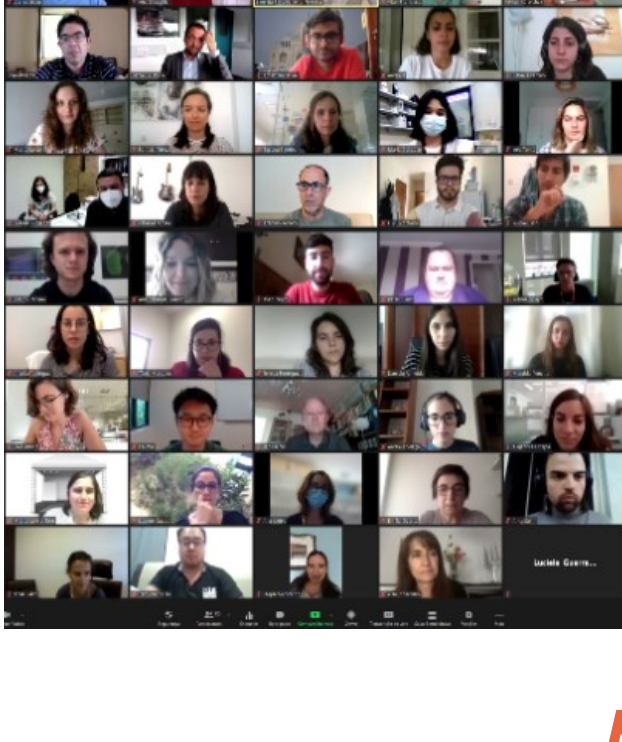
Lino Ferreira, Project Coordinator

Dear RESETageing partners:

It is my pleasure to share with you the second RESETageing newsletter. In this newsletter we talk about the fantastic RESETageing conference that we had in 2021 which, unfortunately, had to be virtual due to the Covid-19 Pandemics. Also we anticipate that the RESETageing conference in 2022 will be organized by Dr. Viktor Korolchuk (University of Newcastle). This year we hope to be able to organize a 2-day conference at Newcastle. The preliminary dates are 9-10 September 2022 (subjected to confirmation), so please book in your calendars these days to attend to the second RESETageing conference to which you are all invited. Please remember to regularly visit our website at <https://resetageing.eu> for RESETageing project events, updates and news. In case you are planning to organize an event let us know in advance through the email RESETageing@uc.pt

Best wishes
Lino

RESETageing Conference 2021



On 11th June, 2021, the 1st RESETageing conference occurred virtually and gather all the partners of the consortium in a total of 240 registrations.

It was a fantastic meeting that, due to Covid pandemics, unfortunately, was forced to be virtual. The topics of the conference were Cell Senescence (Manuel Serrano, Marco DeMaria), Omics of Ageing (João Pedro Magalhães, Alessandro Ori), Cardiovascular Ageing (Gavin Richardson, Leon de Windt, Manuel Mayr, Jordan Miller), Telomeres and Mitochondria Dysfunction (Miguel Godinho, Laura Greaves, João Passos) and Emerging Concepts in Ageing (Adam Engler, Johannes Grillari, Anna O'Loghlen, Daniel Munoz-Espin).

We thank all participants for the fruitful and participative conference.

RESETageing training school 2021

From 7 to 10 of June 2021 occurred, virtually, the 1st RESETageing training school on Gene and Proteomic Analysis. The training school was organized by Alessandro Ori (Leibniz Institute of Ageing) and had the following instructors: Alessandro Ori, Manja Marz, Steve Hoffmann, Emilio Cirri, Therese Dau, Konstantin Riege and Karol Szafranski.



36 students learned about the principles of quantitative proteomics, sample preparation, strategies for the quantification of proteins and peptides, and sequencing methods and protocols. 20 students were selected for the hands on sessions about Basic statistics and introduction to R.

We want to thank Alessandro Ori for the organization of this great training school which received very good feedback from the students that had the opportunity to participate.

Upcoming RESETageing Events

RESETageing Training School - 2022

The RESETageing training school 2022 will be at the University of Newcastle. This year's theme will be Senescence Models

More information will soon be available at the official project website [RESETageing.eu](https://resetageing.eu)

Preliminary dates
5-8 September

2nd RESETageing Conference - 2022

The second RESETageing conference will be organized by the University of Newcastle on September. All members of the groups involved in RESETageing project are invited to participate.

More information will soon be available at the official project website [RESETageing.eu](https://resetageing.eu)

Preliminary dates
9-10 September

Support of International CONFERENCES

RESETageing supported the organization of sessions in the following international conferences

12th Meeting CPCE-TC | March 10-11, 2022

More information spce-tc2022.weebly.com

PROJECTS between RESETageing partners

COVIRNA

A diagnostic test to improve surveillance and care of COVID-19 patients

Team member

Lino Ferreira, Leon de Windt

Funding agency: Horizon 2020

Period: Nov 2020 - Oct 2022

To generate a diagnostic test based on cardiovascular RNA biomarkers highly predictive of the clinical outcomes of COVID-19 patients, project led by Luxembourg Institute of Health and in collaboration with several European institutions including the University of Coimbra (Lino Ferreira) and University of Maastricht (Leon de Windt)

More information about COVIRNA project at: <https://covirna.eu/>

Submitted projects:

ARENA

Delivery tools for RNA therapeutics to elicit cardiac regeneration in ischemic heart disease

Project coordinated by Leon de Windt (University of Maastricht), with the participation of the University of Coimbra among other partners, submitted in the last call of HORIZON-HLTH-2021-TOOL-06-02 - Tools and Technologies for a Healthy Society.

BIO-MED

Engenharia Biomolecular de Vesículas Extracelulares para Medicina Regenerativa

Project in collaboration between University of Coimbra (Lino Ferreira) and University of Maastricht (Paula da Costa Martins), submitted in the last call of Projetos de Prova de Conceito (PdC) under PORTUGAL 2020 programme, CENTRO-45-2021-30

RESETageing STUDENT EXCHANGE

One of the goals of RESETageing project is to foster collaborations between partners, and the Exchange of Students is strongly encouraged. In this newsletter we report students that have, or will, benefit from this exchange between partners within RESETageing Consortium



Deolinda Santinha

I'm a last year PhD student at the research group of Lino Ferreira (CNC, University of Coimbra). I am finishing my PhD research work that was developed in collaboration with Alessandro Ori's research group (LIA). My work has been focused on the composition and remodeling of the extracellular matrix proteome of left ventricle heart tissue during aging in mice and humans. This partnership was fundamental for the development of this project, once it provided me with the essential complementary technologies and created a unique environment for multidisciplinary discussion, as well as promoted international scientific cooperation on an individual and institutional level.



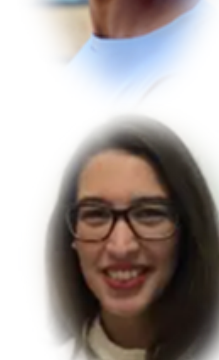
Raquel Videira

I'm a final year PhD student at the groups of Inês Falcão Pires (FMUP, University of Porto, Portugal) and Paula da Costa Martins (DMG, University of Maastricht, Netherlands) and I am collaborating with Lino Ferreira (CNC, University of Coimbra, Portugal) and Wolfram Zimmermann (IPT, University Medical Center of Göttingen, Germany). My work is focused on cardiac intercellular communication by exosomes (small vesicles) which requires the use of different techniques. Collaborating with different groups and experts on specific techniques allowed me to learn fast and contributed to improve the quality of my project. During my time spent at Ferreira's lab I became skilled at exosomes isolation and characterization that will be further used for the



Inês Tomé

I'm a second year PhD student at Lino Ferreira's lab (CNC, University of Coimbra) and I am interested in identifying nanoformulations to target the blood brain barrier to treat vascular aging. To pursue this goal I will benefit from the collaboration with Alessandro Ori's lab to perform proteomic analysis of the aged brain vasculature: for searching for new targets of aged endothelial cells



Tade Idowu

I'm a final year bachelor student at Maastricht University, The Netherlands. As part of my final assignment, I joined the Lab of Hugo Fernandes at the Faculty of Medicine, University of Coimbra, Portugal. Here in Coimbra, I am acquiring advanced skills in cell and molecular biology with the final aim of developing novel technologies for Regenerative Medicine. The close cooperation between my hosts institutions enables me and many others to work in a research field that aims to develop novel therapies for age-related diseases, particularly for cardiovascular diseases. More importantly, the collaboration facilitates a continuous exchange of knowledge and cultivates research in an ever-growing field.



Rita Sá Ferreira

I'm a final year PhD student at the Universidade Nova de Lisboa, in the MIT-Portugal program. My project aims to explore the interplay between the extracellular matrix (ECM) and the aged phenotype in endothelial and smooth muscle cells. For this goal it was crucial the collaboration with Alessandro Ori (LIA) which allow me to perform mass spectrometry-based proteomics of samples of ECM derived cells.

Rita has recently submitted her PhD thesis to the Universidade Nova de Lisboa. Soon she will defend her PhD thesis. Best of luck!



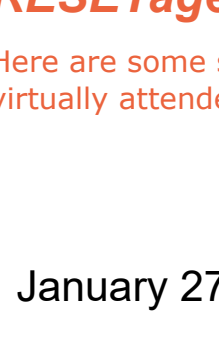
João Novo

I'm a first year PhD student at Lino Ferreira's lab (University of Coimbra). I was recently awarded a PhD scholarship from a highly competitive call from FCT. My PhD project will be in collaboration with Professor Thomas von Zglinicki (University of Newcastle) and it aims to identify and understand the mechanisms behind blood-brain barrier (BBB) deterioration during physiological ageing which can lead to a loss of cognitive skills and the development of neurodegenerative diseases.



Francesca Tomatis

I'm a 4th-year PhD student in Lino Ferreira's group. I'm Italian, but I moved to Portugal with a Marie Skłodowska-Curie scholarship to investigate the possibility to use gene editing tools coupled to nanoformulations in order to modulate cells in the brain. Indeed, the goal of my project is to find new therapeutic strategies to treat conditions such as neurodegenerative diseases and stroke. Recently, we started a collaboration with Manja Marz's group to try to understand the role of some microRNAs in the regulation of the blood-brain barrier permeability, especially in the context of ageing.



The PhD students Ricardo Abreu and Andreia Vilaça, which gave their testimony in the first RESETageing newsletter, have both submitted their PhD thesis to the University of Maastricht.

Very soon they will defend their PhD thesis. Best of luck!

Ageing related seminars given by RESETageing partners

Here are some seminars on ageing that will soon be given by RESETageing partners, which can be virtually attended through Zoom platform (UTC +0)

January 27, 14h

Satomi Miwa (University of Newcastle)

Novel senolytic with mitochondrial targeting prevents premature ageing caused by radiotherapy in a mouse model

February 3, 14h

Lino Ferreira (University of Coimbra)

Cardiovascular ageing: modeling and therapies

More information about the seminar series are available at ucpages.uc.pt/mia/eventos/seminar-series/

Outreach Activities

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

EUROPEAN RESEARCHERS' NIGHT

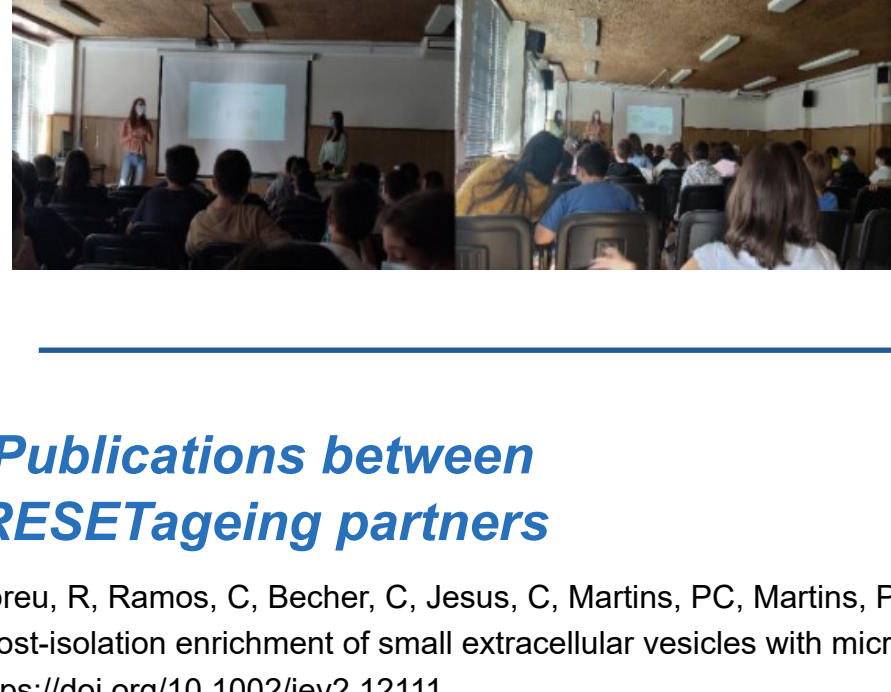
The University of Coimbra participated in the European Researchers' Night 2021 and RESETageing project was presented.

Researchers from RESETageing interacted with the public given some insights about the ageing process using a virtual reality video and elaborating games for the children to get involved and interested in this thematic.

We thank all RESETageing collaborators for their contribution in this event.



RESETageing AT SCHOOLS



Collaborators from RESETageing consortium went to portuguese schools in Coimbra and surroundings to celebrate the Stem Cells Day 2021 and Science Week 2021, where they present to the students what stem cells are, their applications, associated ethical problems and new therapies involving stem cells.

They also discussed with the students the natural process of ageing and highlight activities for a healthy ageing.

We thank all RESETageing collaborators for their contribution in these events.

Publications between RESETageing partners

Abreu, R, Ramos, C, Becher, C, Jesus, C, Martins, PC, Martins, PAT, Moreno, MJ, Fernandes, H*, Ferreira, L*. "Post-isolation enrichment of small extracellular vesicles with microRNAs". Journal Extracellular Vesicles 2021, <https://doi.org/10.1002/jev2.12111>.

L. Ottaviani, R. P. Juni, R. C. de Abreu, M. Sansonetti, V. Sampaio-Pinto, J. Halkein, J. C. Hegenbarth, N. Ring, K. Knoop, J. M. M. Kocken, C. Jesus, A. C. Ernault, H. el Azzouzi, F. Rühle, S. Olieslagers, H. Fernandes, L. Ferreira, L. Braga, M. Stoll, D. S. Nascimento, L. J. de Windt, P. A. da Costa Martins*. "Intercellular transfer of miR-200c-3p impairs the angiogenic capacity of cardiac 2 endothelial cells". Molecular Therapies 2022 (submitted).

Fernandes, H, Zonnari, A, Abreu, R, Aday, S, Barão, M., Albino, I, Lino, M., Branco, A, Seabra, C, Barata, T., Leal, E, Trailhão, J., Gonçalves, L., de Jong, AS., Peters, H., de Vries, M., Costa Martins, P., Quax, P., Ferreira, L. "Extracellular vehicles enriched with endothelial cell pro-survival microRNA impacts skin tissue regeneration". Molecular Therapy 2022 (submitted).

Vilaça, A, Windt, L, Fernandes, H*, Ferreira, L*. "Nano-platforms for cardiovascular delivery of non-coding RNAs". Trends in Molecular Medicine 2022 (in preparation).

FINAL REMARKS

Publications or presentations resulting from work developed under the scope of RESETageing 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 RESETageing@uc.pt

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RESETageing official LOGO

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

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