

Encontro Investigação Jovem da Universidade do Porto

**BOOK OF
ABSTRACTS**

**06 - 07 - 08
Maio 2026**

19.^a Edição



ORGANIZAÇÃO



APOIO



**Encontro
Investigação
Jovem da
Universidade
do Porto**

**YOUNG
RESEARCHERS
MEETING**

**06 - 07 - 08
Maio 2026**

19.^a Edição



ORGANIZAÇÃO



APOIO



TÍTULO | *TITLE*

Livro de Resumos do 19.º Encontro de Investigação Jovem da U.Porto / *Book of Abstracts
Young Researchers Meeting of U.Porto*

Universidade do Porto

Vice-Reitor para a Investigação e Inovação

Professor Doutor Pedro Rodrigues

ijup@reit.up.pt

ISBN

978-989-746-462-1

Design

Serviço de Comunicação e Imagem da U.Porto

COMISSÃO CIENTÍFICA | *SCIENTIFIC COMMITTEE*

Pedro Rodrigues

Alexandra Pinto

Ana Rita Gaio

Aurora Teixeira

Carlos Sequeira

Elisabete Ferreira

Elisa Keating

Filipe Castro

Gonçalo Furtado

Graciela Machado

Hugo Barreira

Inês Guedes

Jorge Teixeira

Laura Oliveira

Liliana Grenho

Manuel Simões

Maria Oliveira

Maria Paula Santos

Patrícia Antunes

Patrícia Valentão

Ricardo Fernandes

Rute Pedro

Sérgio Sousa

Encontro Investigação Jovem da Universidade do Porto



PROGRAM

**06 - 07 - 08
Maio 2026**

19.^a EDIÇÃO

May, 6th

May, 7th

May, 8th

8H	Opening of the secretariat for all participants		
8H30 > 10H30	PARALLEL ORAL SESSIONS I A1 – Criminology and Law I A2 – Health Sciences I A3 – Sport Sciences I A4 – Architecture I A5 – Engineering I A6 – Biological Sciences I	PARALLEL ORAL SESSIONS IV A1 – AgroFood I A2 – Health Sciences IV A3 – Sport Sciences III A4 – Astronomy A5 – Chemistry I A6 – Biological Sciences IV	PARALLEL ORAL SESSIONS VII A1 – Arts I A2 – Health Sciences VII A3 – HSS IV – History, Archeology, Cultural Studies and Communication Sciences A4 – Physics I A5 – Chemistry III A6 – Biological Sciences VII
10H30 > 11H	Coffee Break		
11H > 13H	PARALLEL ORAL SESSIONS II A1 – Criminology and Law II A2 – Health Sciences II A3 – Sport Sciences II A4 – Architecture II A5 – Engineering II A6 – Biological Sciences II	PARALLEL ORAL SESSIONS V A1 – AgroFood II A2 – Health Sciences V A3 – Sport Sciences IV A4 – Maths & Physics A5 – Engineering IV A6 – Biological Sciences V	PARALLEL ORAL SESSIONS VIII A1 – Environment II A2 – Health Sciences VIII A3 – Psychology & Education Sciences III A4 – Physics II A5 – Chemistry IV A6 – Economics & Management
13H > 14H30	Lunch Break		
14H30 > 16H	POSTER SESSION I Architecture Biological Sciences I Criminology and Law Engineering I Health Sciences I Sport Sciences I	POSTER SESSION II AgroFood Biological Sciences II Chemistry Engineering II Health Sciences II Sport Sciences II	POSTER SESSION III Arts Astronomy, Physics & Maths Economics & Management Environment & Geology Health Sciences III History & Sociology Psychology & Education Sciences
16H > 16H30	Coffee Break		
16H30 > 18H30	PARALLEL ORAL SESSIONS III A1 – HSS I – Political Sciences A2 – Health Sciences III A3 – Psychology & Education Sciences I A4 – HSS II – Political Sciences, Sociology and Geography A5 – Engineering III A6 – Biological Sciences III	PARALLEL ORAL SESSIONS VI A1 – Environment I A2 – Health Sciences VI A3 – Psychology & Education Sciences II A4 – HSS III – History of Art A5 – Chemistry II A6 – Biological Sciences VI	PARALLEL ORAL SESSIONS IX A1 – Arts II A2 – Health Sciences IX A3 – Psychology & Education Sciences IV A4 – HSS V – History A5 – HSS VI – Literature and Philosophy A6 – Health Sciences X

24558 | Combined Senolytic and Lipolytic Treatment Reverses Aging-Associated Changes in Human Subcutaneous Adipose Tissue

Beatriz Sá-Pinto^{1,2}; Nisa Magalhães^{1,2}; Ânia Gomes^{1,2}; Liliana Matos^{2,4}; Ana Igreja³; Inês Correia-Sá³; Almeida H^{1,2}; Gouveia AM^{1,2}; Rodrigues AR^{1,2,4}

¹Department of Biomedicine, Faculty of Medicine of Porto University, Porto, Portugal; ²i3S- Institute of Health Innovation and Research, Porto University, Porto, Portugal; ³São João Hospital Center, Porto, Portugal; ⁴Faculty of Nutrition and Food Sciences of Porto University, Porto, Portugal

Background & Aim: Adipose tissue (AT) is a dynamic endocrine organ essential for energy homeostasis [1,2], whose disruption marks a key step in the development of metabolic dysfunction. During aging, AT undergoes structural and functional changes, including extracellular matrix remodeling, immune cell infiltration, and oxidative stress, leading to chronic inflammation known as adipaging, which mirrors the premature dysfunction observed in obesity [1,3]. In both aging and obesity, this persistent low-grade inflammation promotes the accumulation of senescent cells that, through the release of pro-inflammatory factors, disrupt lipolysis, thermogenesis, and adipogenesis, further compromising tissue function. This study evaluates a novel pharmacological approach, combining two senolytic drugs, Desatinib and Quercetin (D+Q) and one lipolytic agent, the melanocortin α -MSH (M) or the β -adrenergic agonist Isoproterenol (I) to reverse age-related AT dysfunction. **Methods:** Human subcutaneous AT explants from individuals aged 50 or above with metabolic dysfunction were treated *ex vivo* with D+Q plus M or I for one and two weeks. Senescence, inflammation and lipid metabolism markers were evaluated by Western-blotting and PCR techniques. **Results:** Both D+Q+M and D+Q+I combinations modulated the expression of lipolytic enzymes after two weeks of treatment. D+Q+M significantly increased the total and phosphorylated forms of HSL compared to controls (~2-fold increase) whereas ATGL expression increases significantly with D+Q+I (~3-fold increase) combination. Additionally, the expression levels of senescence and inflammation-related proteins, such as Lamb1, IL-6 and PAI-1, were significantly reduced at one and two weeks of treatments. Furthermore, D+Q+I treatment also reduced APOJ and TGF- β mRNA expression levels. **Conclusions:** These findings suggest that simultaneously targeting cellular senescence and lipid metabolism represents a promising strategy to reverse AT aging, restoring metabolic function.

Keywords: Adipose Tissue; Senescence; Browning; Senolytics; Aging

Acknowledgments:

This work was funded by PRIS-T - INOVAGE - TRANSFIRESAÚDE - Interreg POCTEP2021-2027

References:

- [1] Pérez, Laura M et al. "Adipaging': ageing and obesity share biological hallmarks related to a dysfunctional adipose tissue." *The Journal of physiology* vol. 594,12 (2016): 3187-207. doi:10.1113/JP271691
- [2] Kawai, Tatsuo et al. "Adipose tissue inflammation and metabolic dysfunction in obesity." *American journal of physiology. Cell physiology* vol. 320,3 (2021): C375-C391. doi:10.1152/ajpcell.00379.2020
- [3] Ou, Min-Yi et al. "Adipose tissue aging: mechanisms and therapeutic implications." *Cell death & disease* vol. 13,4 300. 4 Apr. 2022, doi:10.1038/s41419-022-04752-6