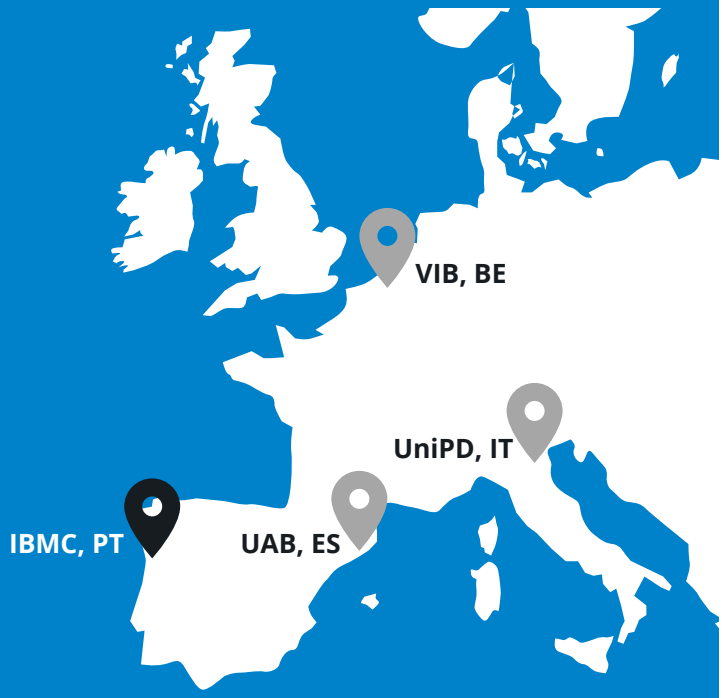
PARTNER INSTITUTIONS

INSTITUTO DE BIOLOGIA MOLECULAR E CELULAR/I3S - PORTO, PT
Sandra Macedo Ribeiro | Project Coordinator
Elsa Logarinho | WP3 co-leader
Reto Gassmann | WP3 co-leader
Catarina Neves | WP5 co-leader
Rita Vilaça | WP5 co-leader
Catarina Ferreira | WP6 leader

AUTONOMOUS UNIVERSITY OF BARCELONA, ES
Salvador Ventura | WP1 leader

UNIVERSITY OF PADOVA, IT
Silvio Tosatto | WP2 leader

VLAAMS INSTITUUT VOOR BIOTECHNOLOGIE, BE
Peter Tompa | WP4 co-leader
Ludo Van Den Bosch | WP4 co-leader



IBMC INSTITUTO DE BIOLOGIA MOLECULAR E CELULAR
INSTITUTE FOR MOLECULAR AND CELL BIOLOGY

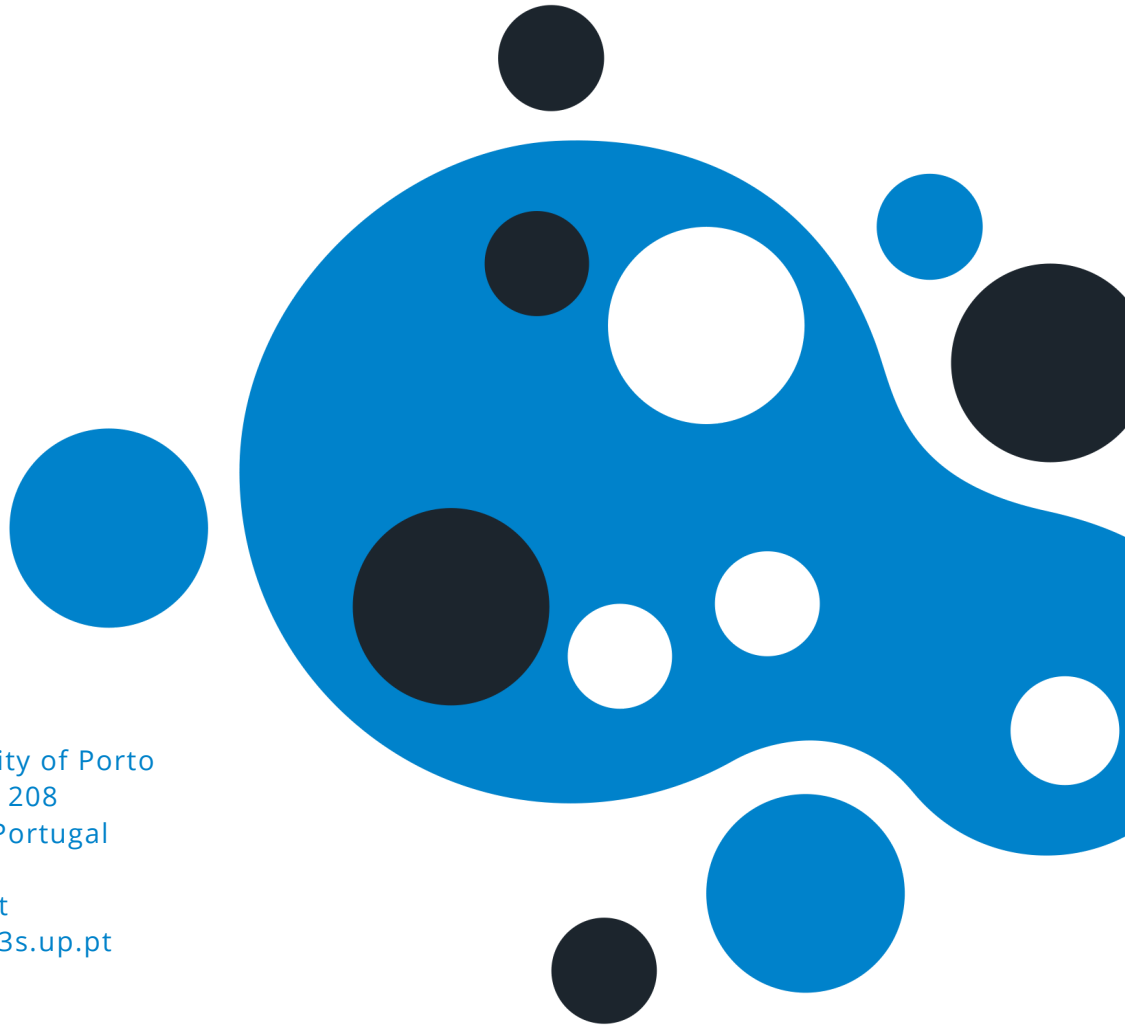
UAB Universitat Autònoma de Barcelona

Università degli Studi di Padova

VIB

PhasAGE

EXCELLENCE HUB ON PHASE TRANSITIONS IN AGING AND AGE-RELATED DISORDERS



CONTACTS

IBMC/i3S, University of Porto
Rua Alfredo Allen, 208
4200-135 Porto - Portugal

@PhasAGE_project
phasageproject@i3s.up.pt
www.phasage.eu

This project received funding from European Union's Horizon 2020 research and innovation programme under grant agreement No 952334.

GA 952334

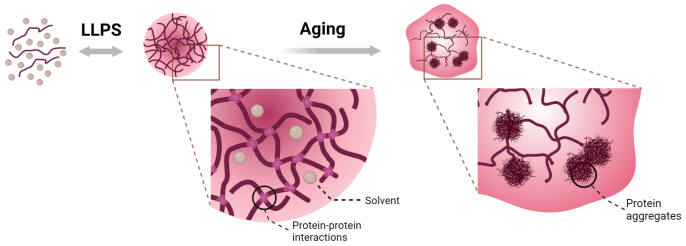
PhasAGE

EXCELLENCE HUB ON PHASE TRANSITIONS IN AGING AND AGE-RELATED DISORDERS

PhasAGE is a Twinning project led by IBMC/i3S in collaboration with University of Padova (UniPD, IT), the Autonomous University of Barcelona (UAB, ES) and the Vlaams Instituut voor Biotechnologie (VIB, BE). The consortium aims to establish an European Hub of Excellence in research and training in the emerging field of biomolecular phase transitions in aging and age-related disorders.

The cell biology field is undergoing a revolutionary change with exciting advances in the cellular physiology field. Apart from the well-described membrane-bound organelles, a new paradigm has been brought to light, with **biomolecular phase separation** leading to the assembly of molecules into **membrane-less organelles**. These droplet-like condensates are **dynamic clusters** of proteins and nucleic acids regulating diverse cellular functions.

Changes in the morphological and physical properties of these structures disturb their biological behaviour with **implications on cellular normal functioning**. The percentage of the elderly population is in rapid expansion, raising concerns for the increase of late-onset diseases. The complexity of the **aging** process is driven by alterations in multiple molecular mechanisms, including protein assembly and function.



Created with BioRender.com

Alterations in the **properties of the biomolecular condensates** and the formation of toxic **protein aggregates** are hallmarks of late-onset pathologies, including age-dependent neurodegenerative diseases. However, the role of age-related modifications in modulating the phase transition behavior of disease-related proteins remains largely unexplored. By using standardized computational and experimental approaches, the PhasAGE consortium aims to understand how aging or aging-related molecular damage affects phase behavior of proteins in late-onset diseases.

PhasAGE combines training, mentoring, and dissemination activities to leverage knowledge on protein phase separation.

WP1
Roadmap for R&I on Phase Transitions in aging and age-related diseases

WP2
Training & Mentoring for Career Development

WP3
Integrated ESR Development

WP4
Dissemination, Communication & Exploitation

WP5
Leaping forward R&I management

PHASAGE CONFERENCES

International conferences are organized yearly with speakers from within and beyond the PhasAGE consortium showcasing high-impact achievements in phase transitions research. Each meeting includes a symposium organized by the young researchers and a dedicated biotech workshop.

TRAINING SCHOOLS

Five Training Schools to train participants on theoretical and experimental aspects of phase transitions and explore new scientific and technological developments for studying different aspects of phase separation in age-related diseases.

EXPERT SEMINARS

Series of seminars with speakers from the consortium promoting a successful transfer of knowledge of the PhasAGE topics between the partners. The seminars are integrated into visiting actions creating an interdisciplinary environment for collaborative research.

ESR DEVELOPMENT

Early-stage researchers (ESR) from the consortium receive advanced training in the emerging field of phase separation with access to career development workshops to improve their professional skills. ESRs are given preferential access to PhasAGE training actions, including training schools, research staff exchanges and conference fellowships.

R&I BENCHMARKING

PhasAGE includes activities for R&I management capacity building through a mentorship program and twinning and training short visits between staff members from the institutions of the consortium.