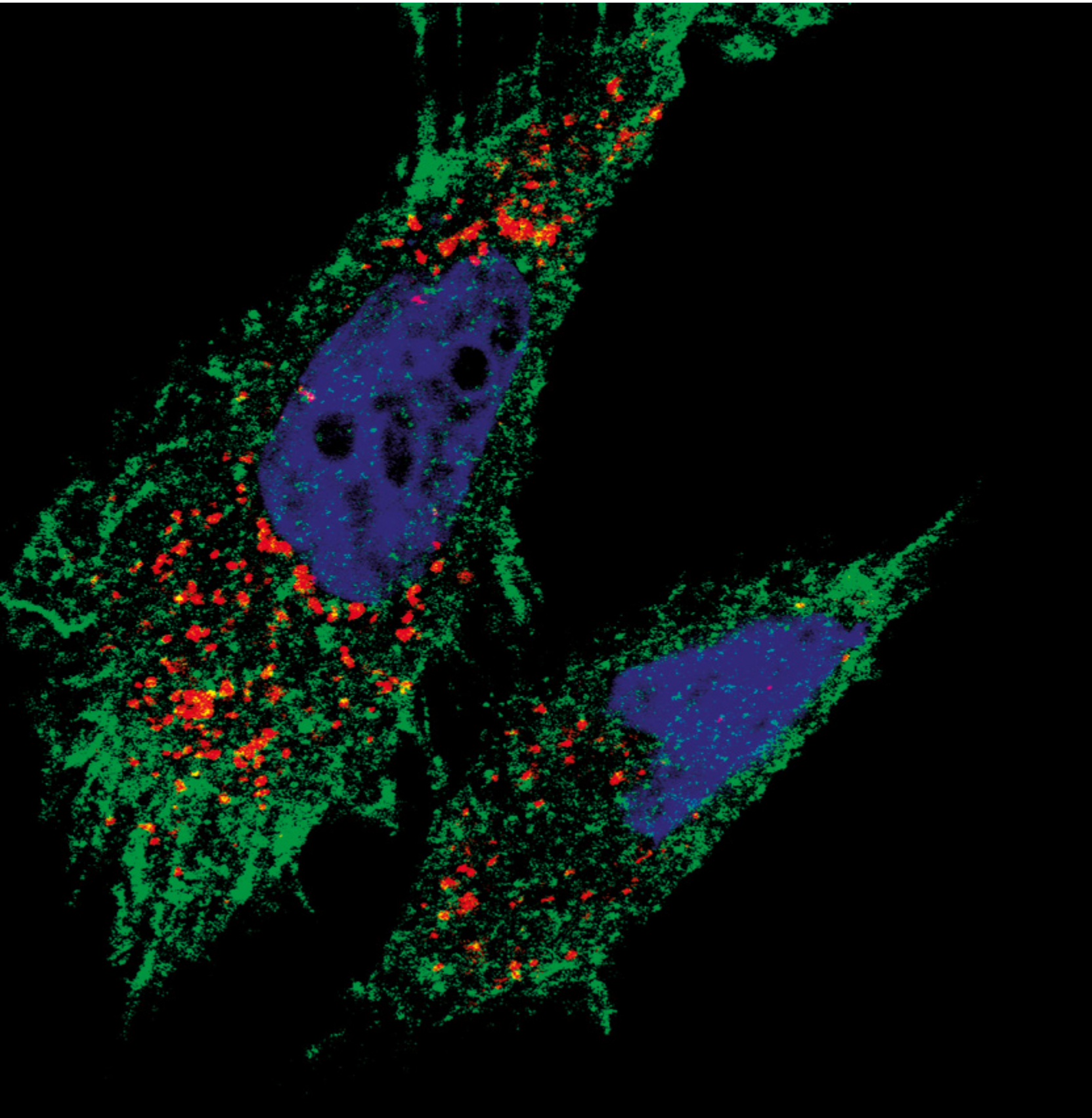
Discoveries Center for Regenerative and Precision Medicine



The Teaming instrument represents a major European Commission initiative to stimulate Europe's research and innovation potential under the Horizon 2020 Framework Program. Its mission is creating “centers of excellence” and to foster new collaborations between highly innovator countries and those with weak performance at this level, in particular to create new scientific networks and to take advantage of new market opportunities. The "Discoveries Center for Regenerative and Precision Medicine” ("Discoveries CTR"), an independent multi-campi research centre, was born in the frame of this program and was launched in 2017. It is an initiative from 5 top-ranked Portuguese Universities including University of Minho (UM), University of Aveiro (UA), University of Porto (UP), University of Lisbon (UL), NOVA University of Lisbon (UNL), and a university of research and innovation excellence from the UK, the University College of London (UCL).

The 'Discoveries CTR' has a clearly translational, patient-oriented approach and is focused on the development of innovative diagnostic technologies and therapies. Its main goal is to perform world-leading research in regenerative and precision medicine, by promoting excellence, advanced training, increasing performance, translational research outputs and commercialization strategies.

The Center is organized into 7 Thematic Research Units (RU): RU1-Biology and Stem Cell Engineering, RU2-Advanced molecular therapies, biomarkers and advanced medical products, RU3-Biomaterials and tissue engineering, RU4-Nanomedicine and drug delivery, RU5-Screening, bioimaging and microtechnologies, RU6-Systems medicine for cardiovascular, neurodegenerative and musculoskeletal diseases and RU7-Tissue and disease models. The University of Aveiro was chosen by the consortium to lead the development of systems medicine for cardiovascular, neurodegenerative and musculoskeletal diseases (RU6). Systems Medicine is an interdisciplinary field of study that looks at the systems of the human body as part of an integrated whole, incorporating biochemical, physiological, and environment interactions. It arises form systems science and systems biology, and considers complex interactions within the human body in light of a patient's genomics, behavior and environment interactions, and the use of methods ranging from omics-based science, systems biology, bioinformatics and network theory to clinical practice, digital and mobile health. It is closely related to personalized, stratified or precision medicine in that it is the approach that involves the tailoring of prevention, diagnosis and treatment, based on individual patient characteristics.

It is expected that Discoveries CTR generates an important economic impact, as well as a positive social effect by contributing to the increase of the quality of life of an ageing European population affected by neurodegenerative, cardiovascular and musculoskeletal diseases.

Furthermore, the Center will foster knowledge-based economy aligned with national and regional strategic priority areas and European societal challenges, thus reinforcing Portugal’s scientific capabilities and to create critical mass in this field of research, as well as social and economic development.