A Researchers Experience on Spreading Excellence and Widening Participation

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President-Elect of TERMIS World – Tissue Engineering and Regenerative Medicine International Soc.







Biomaterials Biodegradables Biomimetics

For more Information go to www.3bs.uminho.pt and

www.icvs.uminho.pt

3B's is a member of the PT Government Associate Laboratory

ICVS / 3B's of UNIVERSITY OF MINHO



ICVS//3B's

Associate Laboratory





THE ROLE OF EC FUNDING

- FP4 BRITE/EURAM The incubation!
- FP5 ISOBONE The real start!
- FP6 building capacities and strong leadership!
 - EXPERTISSUES (NoE)
 - HIPPOCRATTES (NMP research Project)
 - ALEA JACTA EST (Marie Curie EST)
 - InVents (Marie Curie SCF)







THE ROLE OF EC FUNDING

- FP7 Competing in the Excellence ERA
 - SPECIAL (KBBE research Project)
 - FIND & BIND (NMP Research project)
 - POLARIS (REGPOT Project)



- ComplexiTE (ERC Advanced Grant to Rui L. Reis)

- HORIZON 2020



POLARIS

- ATLAS (ERC Advanced Grant to João F. Mano)
- UNICAT MSCA RISE





FUNDING IN WIDENING

- HORIZON 2020 Widening Excellence
 - FoReCast (ERA Chairs)

 The Discoveries Center for Regenerative and Precision Medicine – TEAMING with UCL, FCT and 5 other PT Universities – proceeded to 2nd stage

- Twinning GENE2SKIN
- Twinning CHEM2NATURE







ERA CHAIRS FP7 PILOT CALL (2013)

In **any scientific domain** of research and innovation but expected to be inline with regional/national **strategies for smart specialisation**

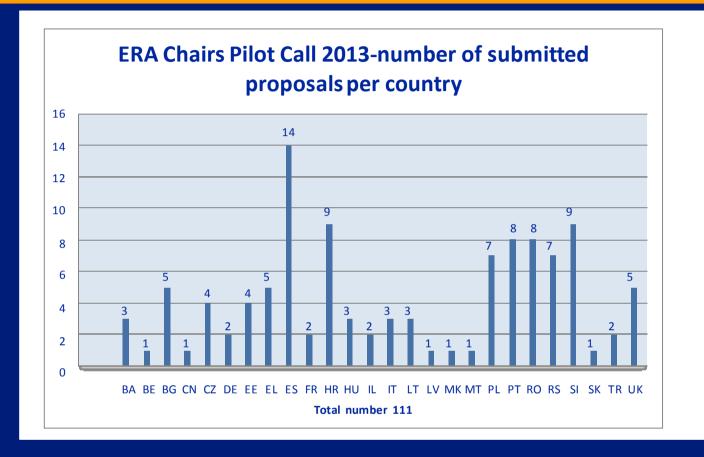
Expected Impact

- Increased attractiveness of institution and region for **excelente researchers**.
- **Research excellence** in the fields covered by the ERA Chair.
- **Increase participation** of the institution in Horizon 2020 and other internationally competitive funding programmes
- Contribution to regional and/or national **smart specialisation strategies**, including obtaining support where appropriate from European Structural and Investment Funds.





ERA Chairs FP7 Pilot Call: Results

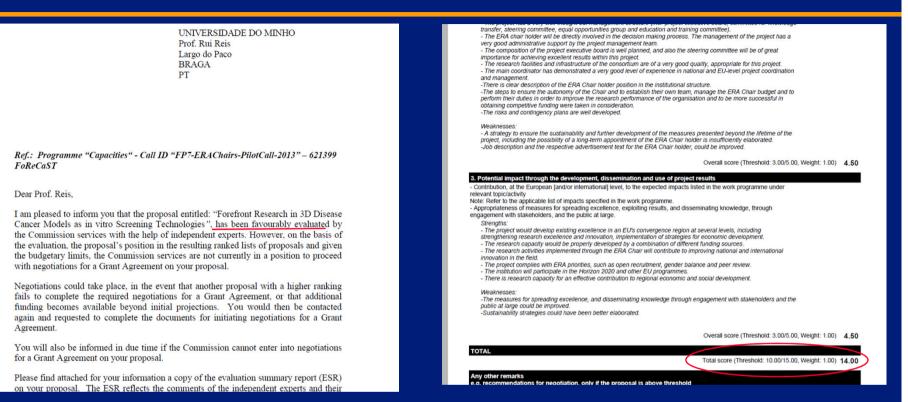


- Of the **97 proposals evaluated**, **48 passed all thresholds** while the others failed to obtain minimum marks in, at least, one of the criteria and were thus not ranked.
- Portugal had 2 proposals ranked to be funded but according to the call rules only one proposal per country could be funded





ERA CHAIRS FP7 PILOT CALL (2013) - Evaluation



ERA Chairs FP7 Pilot Call: Criteria

- **1.** One ERA Chairs max per country
- 2. One single legal entity in eligible countries/regions
- Research Applicants must be located in <u>convergence and outermost</u> regions





ERA Chairs FP7 Pilot Call:

...Our Proposal FoReCast Ranked 3rd orverall but...

Country	Insitution	Acronym	Project subject	
Belgium	Université de Mons	Re-SIZED	Energy efficiency in cities	
Croatia	University of Zagreb -Faculty of Veterinary Medicine	VetMedZed	Molecular veterinary medecine	
Czech Republic	Masarykova univerzita	CEITEC	Life sciences	
Estonia	Tallinna Tehnikaulikool	TUTIC GREEN	Chemistry and biomass treatment	
Poland	Instytut Genetyki Roslin Polskiej Akademi Nauk	BIOTALENT	Plant biology	
Portugal	MITI – Madeira Interactive Techn ologies Institute Associacao	LEAPFROG	Human computer interactions	
Republic of Serbia	Institut Za Nuklearne Nauke Vinca	MAGBIOVIN	Nanotechnology	
Slovakia	Zilinska Univerzita v Ziline	ERADIATE	Transport systems and communication technologies	
Slovenia	Institut Jozef Stefan Universidad de las Palmas de Grand	ISOFOOD	Food analysis through radioactive isotopes	
Spain	Canaria	ECOAQUA	Aquaculture	
United Kingdom	Falmouth University	GRO	Digital games design	





ERA Chairs - 2015



European Commission - Research & Innovation



Breaking the optical transmission barriers • Materials for clean air • Collaborative Spectrum Sharing • Food scappe

News Alert

Brussels, 13 February 2015

Thirteen universities, technical institutes and private organisations in those parts of Europe that have not done as well as they could in research and innovation are to receive up to C2.5 million each in EU funding to boost their research capacity through the appointment of "ERA Chairs", the European Commission announced today.

The funding, coming from the EU's research and innovation funding programme, Horizon 2020, will enable these institutions to attract top academics so that they can compete with centres of excellence elsewhere in the European Research Area (ERA). The aim is to bridge Europe's innovation divide by making sure that no one with potential is left behind.

European Commissioner for Research, Science and Innovation Carlos Moedas said: "To make European research the best in the world, we need to unlock the potential in all parts of Europe. With the new ERA chairs we are helping promising regions attract the best research talent and strengthen their standing as research excellence centres."

Eleven ERA Chairs have already been funded by a pilot call under the 7th research framework programme (FP7 - LP/14/_125). The thirteen new ones will now be established in Estonia, Croatia, Cyprus, Poland, Portugal and Romania (a full list of selected projects is available <u>here</u>). A total of 88 proposals were submitted for evaluation.

Once recruited, the ERA Chairs and their teams will undertake research in a wide spectrum of scientific fields, such as solar thermal energy, supramolecular chemistry, clinical genomics, or educational innovation.

Background

The ERA Chairs initiative is an important part of the EU's effort to unlock Europe's potential in research and innovation. Eligible Member states include all those that joined the EU after 2004 plus Portugal and Luxembourg, as well as eight of the non-EU countries associated to Horizon 2020. All 15 eligible EU Member States submitted proposals in the first call under Horizon 2020, and the successful projects were selected by independent experts on the basis of excellence, following standard Horizon 2020 procedures.

Following the pilot call under FP7, this first Horizon 2020 call on ERA Chairs was launched on 11 December 2013 with a budget of C33.6 million. The selected institutions have to award ERA Chairs to outstanding academics who have the capacity to raise standards and attract more high level staff as well as money from other sources, such as EU research funding or regional funds. The positions must be published and respect ERA guidelines (gender balance, fairness, transparency, etc.). ERA Chair holders can come from anywhere in the world.

Under Horizon 2020, the EU's research funding programme, a strong packet of measures with up to C800 million in funding will be available for widening participation of low-research performing Member States. Such actions include special awards like the ERA Chairs instrument, Teaming (new centres of excellence – LP/15/3885) or Twinning (institutional networking that includes support on staff exchanges, expert advice and assistance)

For more information

- List of projects to be funded under the first Horizon 2020 ERA Chairs Call [pdf]
- "Widening" call on Participant Portal
- <u>Horizon 2020</u>

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News Alert

Thirteen new 'ERA Chairs' to increase research excellence across EU

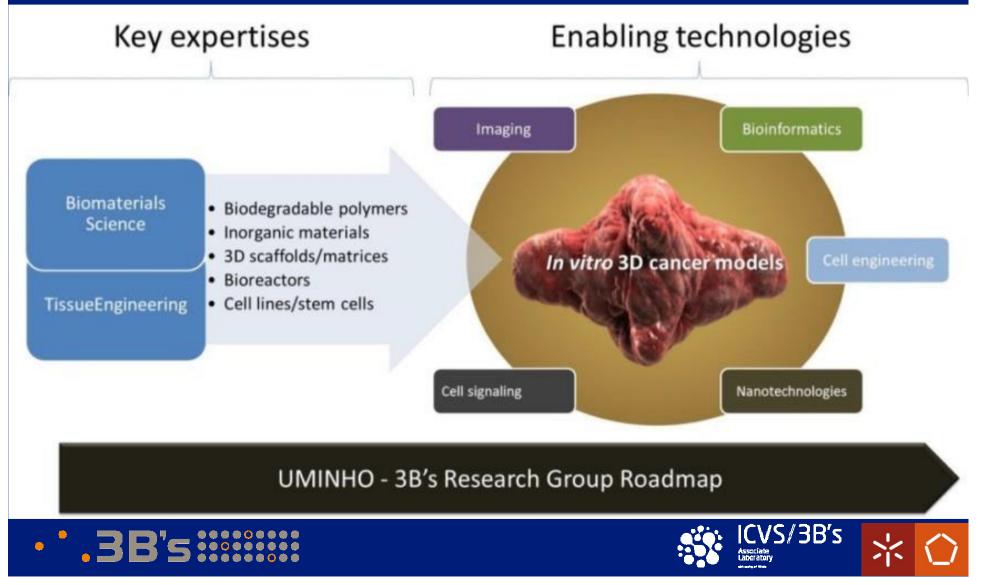
Press-Release, Brussels, 13 February 2015





FoReCast ERA Chairs

Forefront Research in 3D Disease Cancer Models as *in vitro* Screening Technologies



Hiring (SEPT. 2015): The ERAChairs (Full Professor equiv.)

HORIZ

N 2020

http://www.eracareers.pt/opportunities/index.aspx?task=global&jobId=65146

https://www.facebook.com/3bsResearchGroup?ref=settings

http://www.3bs.uminho.pt/positions

The ERA Chair will be responsible for developing and leading a new Research Domain focused in the development of 3D Disease Cancer Models to be used as in vitro Screening Technologies. Thus, he/she will be involved from the beginning in the hiring process of other 5 researchers (one per RL) that will constitute the "ERA Chairs" team. The ERA Chair will be hired for the position of Coordinator Researcher that is the highest position at **3B's-UMINHO** (Portugal). He/she will become immediately a researcher of the 3B's Research Group of UMinho.





Hiring (SEPT. 2015): The ERAChairs (Full Professor equiv.)

http://www.eracareers.pt/opportunities/index.aspx?task=global&jobId=65146

https://www.facebook.com/3bsResearchGroup?ref=settings

http://www.3bs.uminho.pt/positions

Exceptional research and technical conditions will be offered to the appointed Chair, including:

- Internationally competitive salary commensurate with qualifications and experience;

- Salary for 5 full-time collaborators to work at **3B's-UMINHO** (e.g. assistant researchers, and project manager) for the duration of the project;

- Travel budget for training and conference attendance;
- Access to existing state-of-the-art instrumentation at the 3B's Research Group (<u>www.3bs.uminho.pt</u>).
- Access to an existing network of strategic partners.

3B's-UMINHO is an top-level, inclusive, and equal opportunity employer offering attractive conditions and benefits. The working language of the institute is English.





HORIZON 2020



Universidade do Minho

HORIZON 2020 Call WIDESPREAD 1-2014: TEAMING

Stage 1

A proposal for the Creation of :

The Discoveries Center for Regenerative and Precision Medicine

by

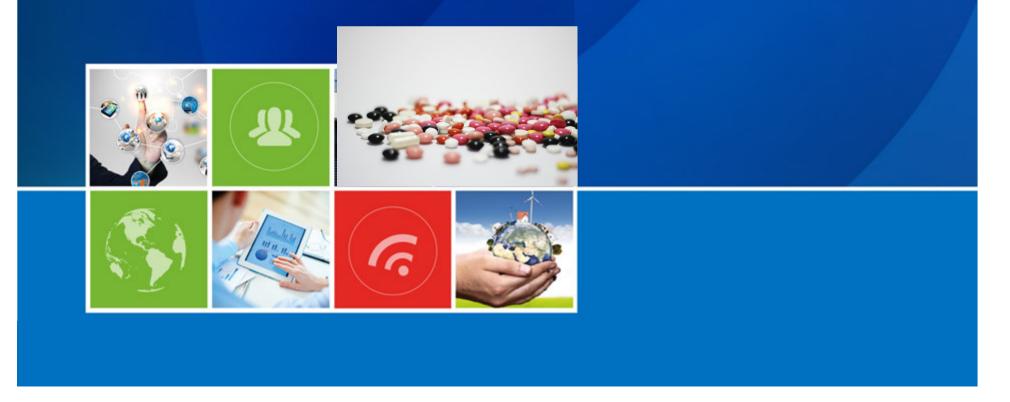
FCT, UMinho (Scientific Coordinator), UPorto, UAveiro, UCoimbra, ULisboa, UNLisboa

and

University College London (UCL)

The Discoveries CTR

Development of a Business Plan for establishment of The Discoveries Centre for Regenerative and Precision Medicine, a new Centre of Excellence in Portugal



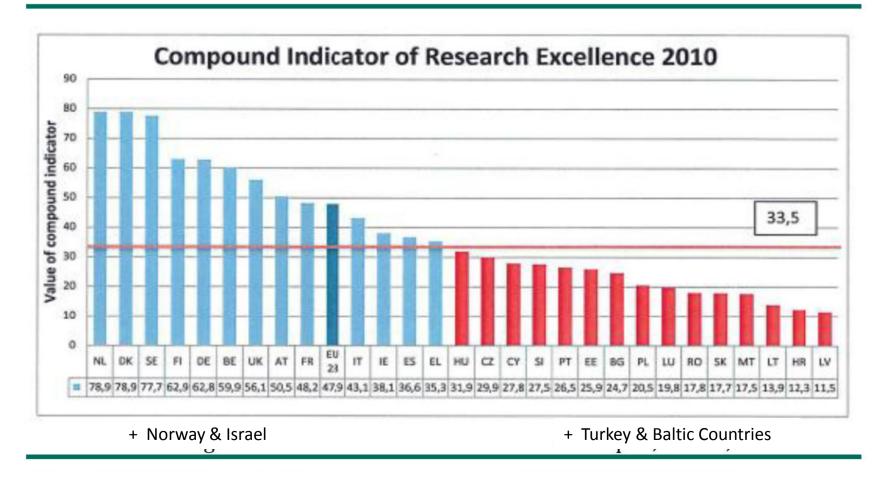
FCT Fundação para a Ciência e a Tecnologia

MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA





COUNTRIES High Performing e Low Performing





PUBLICATION RECORDS IN TISSUE ENGINEERING

WEB OF SCIENCE – RESULTS ANALYSIS

AND REGENERATIVE MEDICINE

October 2015

43,615 records. TS= "tissue engineering" OR TS= "regenerative medicine"

Field: Organizations-Enhanced	Record Count	% of 43615
HARVARD UNIVERSITY	1371	3.143 %
UNIVERSITY OF CALIFORNIA SYSTEM	1179	2.703 %
UNIVERSITY OF LONDON	852	1.953 %
MASSACHUSETTS INSTITUTE OF TECHNOLOGY MIT	776	1.779 %
PENNSYLVANIA COMMONWEALTH SYSTEM OF HIGHER EDUCATION PCSHE	696	1.596 %
NATIONAL UNIVERSITY OF SINGAPORE	692	1.587 %
CHINESE ACADEMY OF SCIENCES	631	1.447 %
UNIVERSITY OF MICHIGAN	620	1.422 %
UNIVERSITY OF MICHIGAN SYSTEM	620	1 422 %
UNIVERSITY COLLEGE LONDON	596	1.367 %
UNIVERSITY OF PITTSBURGH	545	1.250 %
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS	535	1.227 %
UNIVERSIDADE DO MINHO	513	1.176 %
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE INSERM	501	1.149 %
UNIVERSITY SYSTEM OF GEORGIA	484	1.110 %

Cardiovascular

Main Goal

Musculoskeletal

Create a new multipolar distributed research **Centre of Excellence** in Portugal in the area of Regenerative and Precision Medicine, named **The Discoveries Centre for Regenerative and Precision Medicine**.

The multipolar **CoE** to be created will focus on multidisciplinary research that will be translated into **innovative methods and applications** for the **prevention and treatment** of a selected group of disorders:

The CoE will be **strongly focused on translational research**, **IP creation and management**, **product and business development**, combining all those with **science of excellence** highly competitive in the international arena. The main objective is to be in the near future clearly be **the best center in Europe in this area of science and innovation**.

Neuro-degenerative

The Discoveries CTR Project

Vision:

To create a unique and sustainable multipolar centre of excellence on Regenerative and Precision Medicine that can, in the long term, have a strong structuring effect in the Portuguese science landscape, a high international visibility, a clear scientific and economic impact, and a global effect on the quality of life of a very significant number of patients that suffer from cardiovascular, neuro-degenerative and musculoskeletal diseases.

Mission:

To perform world-leading research in regenerative and precision medicine, by anchoring research activities of the best research groups in Portugal, promoting excellence, advanced training, increasing performance, translational research outputs and commercialization strategies that can, in the long-run generate an important economic impact, besides impacting the quality of life of an ageing European population affected by neurodegenerative, cardiovascular and musculoskeletal diseases.



CoE's General Strategic Objectives

I. To be an **internationally competitive, independent** and **self-sustained** research Centre;

II. To contribute to a knowledge-based economy by promoting scientific and technological research of excellence towards strategic priority areas and societal challenges, thus reinforcing the social and economic development of Portugal;

III. To generate high-impact science and innovation that can place Portugal as a high-performing innovation country in bioengineering and areas related to regenerative and precision medicine and improve the international visibility of Portuguese capabilities in this field;

IV. To **attract talent** from other countries reinforcing the scientific capacity of the Centre and contributing to the increase of its competitiveness;

V. To foster **knowledge transfer and exploitation** by promoting interactions and transnational collaborations between the Centre and other organizations;

CoE's General Strategic Objectives

VI. To contribute to the training of a **new generation of highly-skilled researchers** by offering innovative education and training programs for PhD students and Post-doc fellows;

VII. To become a **leading research Centre in transforming scientific production into new therapeutic approaches for human disease** and in **providing high-quality health care innovation services**, **consulting** as well as **generating useful intellectual property** that can help to support in the long-term the sustainability of the new Centre.

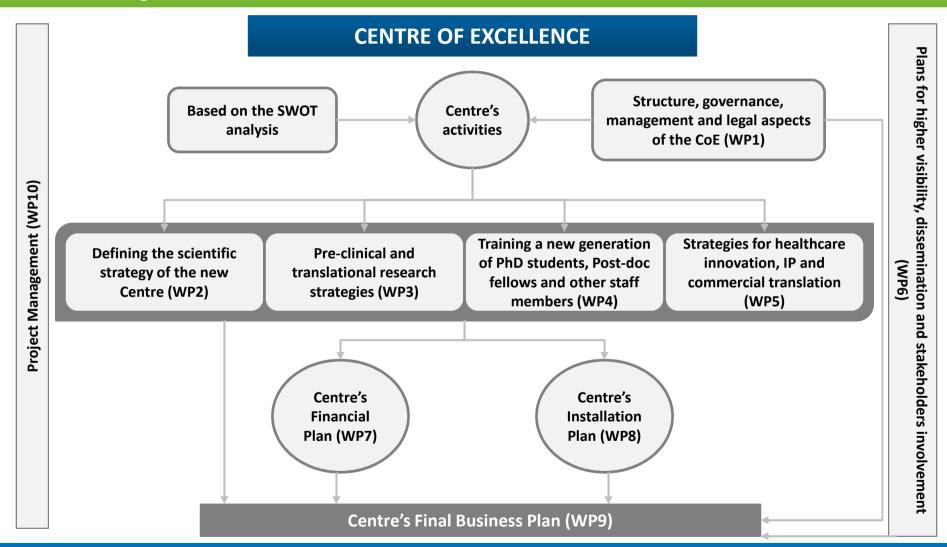
Campus locations

University of Minho (Avepark) CoE's Headquarters				
University of Porto (I3S)	University of Aveiro and University of Coimbra (Biocant)	University of Lisbon and New University of Lisbon (Oeiras hub)	ty College London (London)	

* With full support from the proposal coordinators - FCT

Project Overview

Work Packages: overview





FORSEEN BUDGET

Universidade do Minho

- In step 1 around 31 proposals were selected to prepare a business plan (2015) – 12 months project (typically with 500 KEuros)
- 4 from Portugal (The Discoveries Center, Smart-Agro-Food, + 2...)
- In 2016 the best 9 (??) business plans will be funded by EC (15-20 MEuros) for 5 years (2017-2021)
- Portugal (FCT and Regional Structural Funds will have to allocate 2-3X the funding of EC (40-50 MEuros) to each project
- Total TEAMING Budget 270 MEuros

TWINNING PROJECT – GENE2SKIN PARTNERSHIP

Roadmap for advanced genetic engineeringbased skin therapies

COORDINATOR



University of Minho *3B's Research Group* PT







Royal College Surgeons Ireland

- Tissue Engineering Research Group
- Advanced Materials and BioEngineering Research Centre



King's College London

 Centre for Stem Cells & Regenerative Medicine



New H2020 - TWINNING project: CHEM2NATURE



CHEM2NATURE: Enabling precision chemical methodologies applied to natural-based systems for the development of multifunctional biomedical devices.

Univ. Minho (Portugal), Prof. João Mano



KAIST (South Korea), Prof. Insung Choi



EPFL (SW), Prof. Harm-Anton Klok







Univ. Warwick (UK), Prof. Andrew Dove



THANK YOU VERY MUCH



Members of the 3B's Research Group

+ 170 members (75 PhD Holders) - 22 Nationalities 420 Researchers at ICVS/3B's (140 PhD Holders) – 27 Nationalities



