

European Doctoral Academy in Regenerative Engineering

Marie Curie Initial Training Network

TECAS: Tissue Engineering Solutions for Cardiovascular Surgery

Marie Curie Doctoral Fellowship - Early Stage Researcher - ESR11

Overview

The TECAS Initial Training Network (TECAS-ITN) facilitates the cross-disciplinary and inter-sectorial training of Early Stage Researchers (ESRs) in the fields of Tissue Engineering (TE) and Regenerative Medicine (RM) through the establishment of a European Doctoral Academy in Regenerative Engineering. The TECAS-ITN will host 13 ESR Fellows at 6 different Partner Institutions, each performing individual research projects addressing the clinical needs of cardiac valve replacement/repair, myocardium reconstruction and patch graft angioplasty of the great blood vessels. The training of the ESR Fellows will be supervised by a consortium of 5 academic/clinical, 2 industrial and 1 regulatory agency Partners with wide expertise in basic science, clinical research, translation and standardisation of TE technologies, and will be complemented by 2 project-specific Exchange secondments to other TECAS-ITN Partners collaborating on a specific Fellowship, 1 Clinical secondment to a tissue/organ bank of the clinical Partners, 1 Industrial secondment to an industrial Partner and 1 Laboratory secondment to an academic institution outside TECAS-ITN, as well as through an extensive curriculum of academic and transferable skills courses and public engagement activities.

Fellowship Description

Title: Preservation methods for cell-seeded TE cardiovascular grafts (ESR11)

Summary: This Fellowship opening covers a 2+1 year research position (resulting in a PhD degree) at University of Padua, Padua, Italy. The main part of this Fellowship will be carried out at the Department of Cardiac, Thoracic and Vascular Sciences.

Description: The aim of this Fellowship is to evaluate a range of preservation methods, commonly used by tissues banks for medium- to long-term storage of transplants, on cell-seeded TE constructs, with a view to establishing optimal preservation methods for TE grafts. This Fellowship will research cell-seeded TE scaffolds obtained from pulmonary and aortic valve roots (human and porcine), small intestine (porcine) and pericardium (porcine/bovine), which will be decellularised according to previously-established methods, and ovine fibrin valvular scaffolds, which will be contributed by another ESR project within the TECAS-ITN. The scaffolds will be seeded statically with single and multiple human cell populations under previously-established optimal seeding conditions, and will be assessed in terms of cell viability, attachment, colonisation, and phenotype. The seeded scaffolds will then be treated with a range of different preservation techniques and assessed in terms of cell viability and phenotype in order to identify the most suitable techniques and parameters for the particular scaffold/cell combinations.

Research Field: Cardiovascular tissue engineering and regenerative medicine

Keywords: Preservation methods, cardiovascular scaffolds and TE constructs, heart valves, cardiovascular patches

Collaborators: Hannover Medical School, RWTH Aachen University and Hospital

Supervision: Prof. Gino Gerosa (PI), Dr. Paola Aguiari (co-I), Dr. Sotirios Korossis (co-I), Prof. Stefan Jockenhövel (co-I)

Type of Contract: Temporary (22 + 14 months)

Status: Full-time (40 hours/week)

Salary: 38,000 (gross) per annum plus mobility and career development allowances and full tuition fees will be offered by the TECAS-ITN for the first part of the contract. The second part of the contract will be financed by the University of Padua according to the national rules on the remuneration of doctoral researchers.

Person Specification

Required Degree: Master's Degree (or equivalent) in Biology, Biochemistry, Biomedical Engineering or Medicine (or related subject)

Required Languages: English (Excellent)

Eligibility: The Fellowship is open to international candidates, who at the time of recruitment have less than 4 years research experience (full-time equivalent) following completion of their Master's Degree (or equivalent), and have not yet been awarded a doctoral degree. Eligible candidates must also not have resided or carried their main activity in Italy for more than 12 months since October 2011.

Hosting Institution

Company/Institute: University of Padua

Department: Department of Cardiac, Thoracic and Vascular Sciences

City/Country: Padua, Italy

Academic Contact: Professor Gino Gerosa (Email: gino.gerosa@unipd.it; Tel: + 39 049 821 2410-35)

Code of Conduct

The TECAS-ITN adheres to the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, available from: <http://ec.europa.eu/research/era/docs/en/areas-of-action-research-institutions-european-charter-2005.pdf>.

Application Details

Application Deadline: 31st August 2014

Indicative Post Starting Date: 1st October 2014

How to Apply: Please download and fill the application form, and email it, together with your full CV, in a PDF-file format to:

Miss Eirini Chatzigeorgiou
TECAS-ITN Research Manager

Email: Chatzigeorgiou.Eirini@mh-hannover.de **Tel:** +49 511 532 7798

Further Details

For further details about the TECAS-ITN and European Doctoral Academy in Regenerative Engineering please contact:

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