

TERMIS EU 2007 Eu Projects & European Funding Afternoon

Wednesday 5th September 2007 pm

Wednesday 5th September at TERMIS-EU will be dedicated to all aspects of European funding – how to get it, use it (when you get it), how to find (and keep) research partners and how successful projects have gone in the past.

To highlight the last of these – how successes have worked out – there will be 3 Euro-programme sessions and projects from Framework 6:

3G Scaffolds	(3G SCAFF)
Cornea Engineering	(Cornea)
Systems Approach to Tissue Engineering	(STEPS)

Details of these programmes (from CORDIS website) are summarised below –

1. 3G-SCAFF: Third Generation Scaffolds for Tissue Engineering and Regenerative Medicine

Action Line: NMP-2003-3.4.2.2-3 Intelligent' bio-materials for tissue repair and regeneration

Coordinator	
Contact Person: Name: HILBORN, Jöns Tel: +46-18-4713839 Fax: +46-18-4713477 Email: Contact	Organisation: UPPSALA UNIVERSITY Department of Materials Chemistry, Polymer Chemistry S.t Olofsgatan 10B PO BOX 256 PO BOX 256 UPPSALA SWEDEN

The project proposed is therefore a radically new approach to fabricate safe bioactive materials for tissue engineering and regenerative medicine. We propose to use cells as micro-factories to produce and assemble the molecular components at the nanometre level which is not possible by conventional mechanical engineering. This cellular engineering will be used to produce the supportive structure with desired shape, compliance and mechanical strength at meso- and macroscale levels. We achieve this by engineering cells to express the desired components creating bioartificial scaffolds which mimic the natural extracellular matrix and will fulfil the requirements of mechanical support, compartmentalisation, storage and sequestration of molecules. This also will have correct porosity allowing for diffusion of soluble molecules and access to cells, exposing ligands for adhesion and proliferation and being degradable by enzymatic mechanisms to allow body directed remodelling.

Project details	
Project Reference: 13602	Contract Type: Specific Targeted Research Project
Start Date: 2005-03-01	End Date: 2008-02-29
Duration: 36 months	Project Status: Execution
Project Cost: 1.8 million euro	Project Funding: 1.7 million euro
Participant Organization: KAROCELL TISSUE	Country: SWEDEN

ENGINEERING AB	
Participant Organization: HOSPICES CANTONNAUX, CENTRE HOSPITALIER UNIVERSITAIRE VAUDOIS	Country: SWITZERLAND
Participant Organization: SWISS FEDERAL INSTITUTE OF TECHNOLOGY LAUSANNE	Country: SWITZERLAND
Participant Organization: RHEINISCH- WESTFÄLISCHE TECHNISCHE HOCHSCHULE AACHEN	Country: GERMANY
Participant Organization: UNIVERSITY COLLEGE LONDON	Country: UNITED KINGDOM
Participant Organization: THE UNIVERSITY OF MANCHESTER	Country: UNITED KINGDOM

2. CORNEA ENGINEERING: THREE-DIMENSIONAL RECONSTRUCTION OF HUMAN CORNEAS BY TISSUE ENGINEERING

Coordinator	
Contact Person: Name: HULMES, David John Stuart Tel: +34-72-722667 Fax: +33-47-2722604 Email: Contact	Organisation: CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE Institut de Biologie et Chimie des Protéines - UMR5086 Rue Michel Ange 3 75794 PARIS FRANCE

The goal of the proposed research project is to reconstruct a human *cornea* in vitro, for use both in corneal grafting and as an alternative to animal models for cosme-to-pharmacotoxicity testing. The project responds to the urgent need to develop new forms of corneal replacements as alternatives to the use of donor corneas, in view of the worldwide shortage of donors, the increasing risk of transmissible diseases, the widespread use of corrective surgery, which renders corneas unsuitable for grafting, and the severe limitations of currently available synthetic polymer-based artificial corneas (keratoprostheses). The originality of the proposal lies in the use of recombinant human extra cellular matrix proteins to build a engineered-engineered scaffold to support growth of the different cell types found in the *cornea*, cells to be derived from human adult stem cell pools. The development of a reconstructed human *cornea* will represent a real breakthrough, allowing diseased or damaged corneas to be replaced by tissue-engineered human corneal equivalents that resemble in all respects their natural counterparts. The proposal also responds to impending ED legislation banning the marketing of cosmetic products that have been tested on animals, using procedures such as the Raise rabbit eye irritation test. The development of tissue-engineered corneas will provide a non-animal alternative, which will therefore alleviate animal suffering. The project will lead to a transformation of industry to meet societal needs using innovative, knowledge-based approaches integrating Nan technology and biotechnology. The project brings together 14 participants with complementary expertise from 9 different countries, including basic scientists, ophthalmologists and industrialists (three Sees). Ethical and standardisation aspects will also be included.

Project details	
Project Reference: 504017	Contract Type: Specific Targeted Research Project
Start Date: 2004-01-01	End Date: 2006-12-31
Duration: 36 months	Project Status: Completed
Project Cost: 4.23 million euro	Project Funding: 2.56 million euro
Participant Organization: ENGELHARD LYON SA	Country: FRANCE
Participant Organization: FONDAZIONE CENTRO SAN RAFFAELE DEL MONTE TABOR	Country: ITALY
Participant Organization: COLETICA SA	Country: FRANCE
Participant Organization: LABORATOIRES IOLTECH SA	Country: FRANCE
Participant Organization: UNIVERSITY OF OULU	Country: FINLAND
Participant Organization: TEL AVIV UNIVERSITY	Country: ISRAEL
Participant Organization: LUNDS UNIVERSITET	Country: SWEDEN
Participant Organization: UNIVERSITE DE LIEGE	Country: BELGIUM

Participant Organization: ASSISTANCE PUBLIQUE - HOPITAUX DE PARIS	Country: FRANCE
Participant Organization: FIBROGEN EUROPE OYJ	Country: FINLAND
Participant Organization: FONDAZIONE BANCA DEGLI OCCHI DEL VENETO - O.N.L.U.S.	Country: ITALY
Participant Organization: UNIVERSITY OF DUNDEE	Country: UNITED KINGDOM
Participant Organization: UNIVERSITAETSKLINIKUM HAMBURG-EPPENDORF	Country: GERMANY
Participant Organization: ORTA DOGU TEKNIK UNIVERSITESI	Country: TURKEY
Participant Organization: BANQUE FRANCAISE DES YEUX	Country: FRANCE

3. STEPS A Systems Approach to Tissue Engineering Processes and Products

Coordinator	
Contact Person: Name: ALESSANDRA, Pavesio Tel: +39-04-98232888 Fax: +39-04-9823557 Email: Contact	Organisation: FIDIA ADVANCED BIOPOLYMERS S.R.L. FAB Research and Development Via Ponte della Fabbrica 3/B ITALY

Tissue Engineering is an emerging collection of technologies aimed at the regeneration of tissues and organs. Whilst TE potentiality on healthcare has already been demonstrated, there has been a marked lack of link between the different components such that TE cannot deliver its promise at present. STEPS addresses this by introducing a systems approach to TE and associated technologies. Our objective is to provide a new infrastructure, based on the hypothesis that the only way to successfully implement TE is to link together all aspects of this multi-disciplinary process by applying the logistics of systems engineering. Specifically, the technological components will include cell sourcing and manipulation, novel biomaterial development, bioreactor design and the integration of TE constructs into the living host. The programme incorporates a determination of the socio-economic issues related to ethics and health economics. This will include an assessment of the public acceptability of these emerging technologies and the ability of private and public health insurance to pay for it without detracting from more traditional medical procedures. The Consortium has designed an objective-driven approach, set to deliver radical innovations in the long term as well as new processes, methodologies and products in the short and medium term.

The potential world market for TE products is estimated at 100 billion and we believe that our approach will transform the TE industrial infrastructure to the point to deliver to this market. The Consortium comprises 23 partners from 13 European Countries. It includes 6 industrial organizations (4 SMEs) and 17 academic centres. To develop such a highly innovative systems approach to TE, the contribution of a multidisciplinary Consortium, of a critical mass in manpower, and of a substantial financial commitment, is required. These multidisciplinary skills can be found within this European cooperation.

Project details	
Project Reference: 500465	Contract Type: Integrated Project
Start Date: 2005-03-01	End Date: 2009-02-28
Duration: 48 months	Project Status: Execution
Project Cost: 22.32 million euro	Project Funding: 13.06 million euro
Participant Organization: ISTITUTI ORTOPEDICI RIZZOLI	Country: ITALY
Participant Organization: THE UNIVERSITY OF BIRMINGHAM	Country: UNITED KINGDOM
Participant Organization: RIGA STRADINS UNIVERSITY	Country: LATVIA
Participant Organization: CHARITÉ UNIVERSITÄTSMEDIZIN BERLIN	Country: GERMANY
Participant Organization: UNIVERSITÄT ULM	Country: GERMANY
Participant Organization: UNIVERSITAT POLITÈCNICA DE CATALUNYA	Country: SPAIN

Participant Organization: CELLMATRIX AB	Country: SWEDEN
Participant Organization: BIOMATECH	Country: FRANCE
Participant Organization: UNIVERSITY OF TWENTE	Country: NETHERLANDS
Participant Organization: LGC LIMITED	Country: UNITED KINGDOM
Participant Organization: SOFRADIM PRODUCTION	Country: FRANCE
Participant Organization: ISTITUTO DI RICERCHE FARMACOLOGICHE "MARIO NEGRI"	Country: ITALY
Participant Organization: KATHOLIEKE UNIVERSITEIT LEUVEN	Country: BELGIUM
Participant Organization: THE UNIVERSITY OF BRISTOL	Country: UNITED KINGDOM
Participant Organization: CONSIGLIO NAZIONALE DELLE RICERCHE	Country: ITALY
Participant Organization: UNIVERSITY OF LIVERPOOL	Country: UNITED KINGDOM
Participant Organization: UNIVERSITY OF BASEL	Country: SWITZERLAND
Participant Organization: POLITECHNIKA WARSZAWSKA (WARSAW UNIVERSITY OF TECHNOLOGY)	Country: POLAND
Participant Organization: MEDICAL UNIVERSITY OF VIENNA	Country: AUSTRIA
Participant Organization: GOTEBORGS UNIVERSITET (GOTEBORG UNIVERSITY)	Country: SWEDEN
Participant Organization: NATIONAL UNIVERSITY OF IRELAND, GALWAY	Country: ÉIRE/IRELAND
Participant Organization: APPLIKON DEPENDABLE INSTRUMENTS B.V.	Country: NETHERLANDS