· '.3B's::::::

Biomaterials
Biodegradables
Biomimetics

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

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

















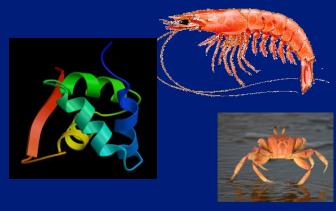


European Institute of Excellence on Tissue Engineering and Regenerative Medicine - Headquarters



DEVELOPMENT AND MODIFICATION OF NATURAL ORIGIN MATERIALS







At 3B's we mainly use natural origin materials:

- -blends of corn starch with several synthetic polymers
- biomaterials from marine origin namely chitin and chitosan derivatives, carragenan, alginates, ceramics of algae origin, ulvan, marine collagen...
- hyaluronic acid, gellan gum, silk fibroin,
 soy bean, casein, chondroitin sulphate,
 etc...





MAIN SOURCES OF FUNDING (FP7)





MSFRP (NMP)

– FIND & BIND





Iberomare

MSFRP (KBBE) - SPECIAL

MARMED (Large Euro-Atlantic Project) **IBEROMARE** (Large Collaboration PT-SP)



LSCRP - DISCREGENERATION



MIT-Portugal: Bio-Engineering Systems









3B's - U. Minho Funding



ComplexiTE – European Research Council (ERC) Advanced Grant (AdG) to Rui L. Reis

Rui L. Reis is PI of projects of more than 34 MEuros with a total budget for U. Minho of more than 20 MEuros



ISWA - Immersion in the Science Worlds through Arts (CSA)

BioHybrid: Biohybrid templates for peripheral nerve regeneration (Collaborative - SME-targeted)

MultiScaleHuman – Multi-scale Biological Modalities for Physiological Human Articulation (MC - ITN)

NANOMABIO – Cost Action

Several National (FCT, QREN,...) and Industrial Funded Projects

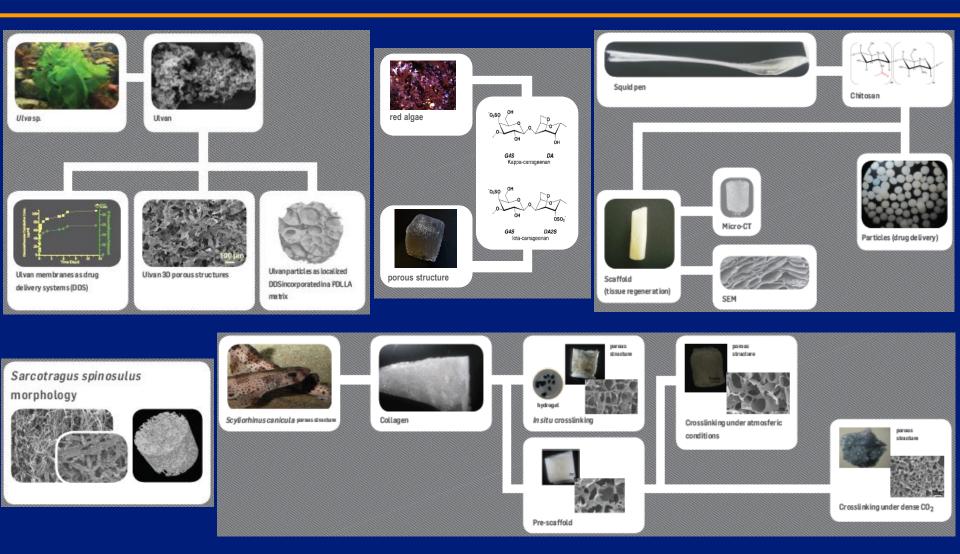
QREN- Large Integrated Project ICVS/3B's







MARINE BIOMATERIALS



Tiago H. Silva, ..., Rui L. Reis, International Materials Reviews, 57 (2012): 276-306.









Contacts

Rui L. Reis Chairman/President / CSO

Rui A. Sousa

CEO

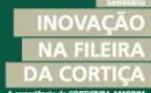
Tel. +351-253-540100

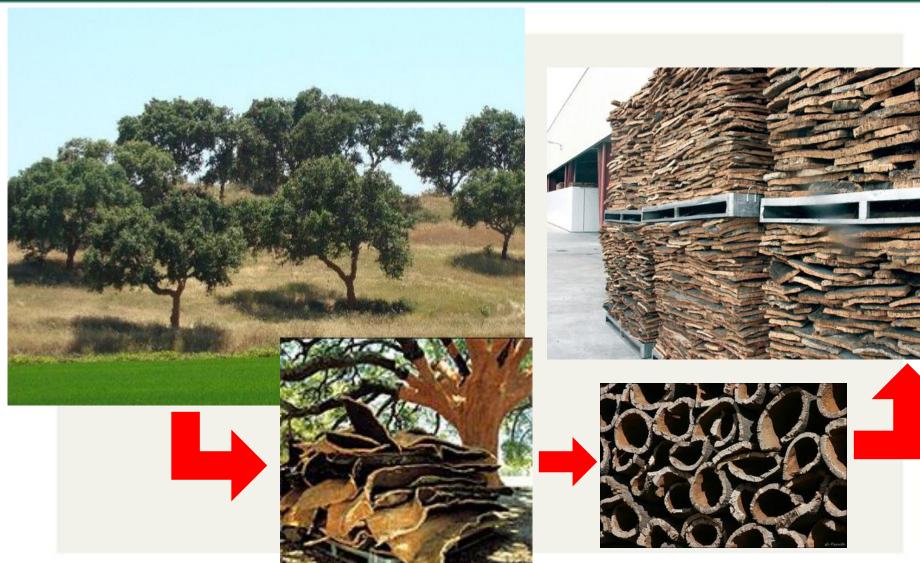
Fax. +351-253-540199

E-mail: rasousa@stemmatters.com

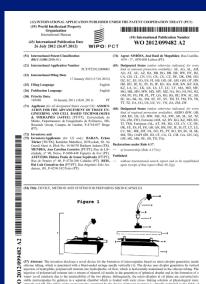
AMORIM

Cork - Quercus suber L. 1919



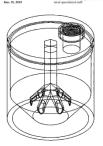


IP Strategy



(12) Patent Application Publication (10) Pub. No.: US 2010/0273253 A1 (43) Pub. Date:

as United States



(19) World Intellectual Property Organization
International Publication Date
(43) International Publication Date
(43) International Publication Number
(10) International Publication Number WO 2011/119059 A1

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT) (19) World Intellectual Property Organization
International Publication Date
(43) International Publication Date
(10) International Publication Number WO 2010/064943 A1 | Designated States online of sources and source of sources and source of sources and source of sources and source | Description | April | April

(16) International Publication Number WO 2011/014085 A2

- (21) International Application Number:
- (26) Publication Language: (30) Priority Data: 104704 31 July 2009 (31.07.2009) PT
- (72) Inventors; and
 (75) Inventors/Applicants (for US only): FERNANDES,
 Emmod Mouta [PT/PT]: Rut ds Seara, it 309, Vilar do
 Pinheiro, P-4485-883 Vila do Conde (PT). SILVA, Vitor
 Manuel Carrelo da [PT/PT]: Travessa Dustor Francisco

 **Conditional Conference of the April 1987 of the Condition of the April 1987 of the Condition of the April 1987 of the Ap
- (71) Applicant (for all designated States except US): AMOR-IM REVESTIMENTOS, S.A. [PTIPT]: Rus do Ribeir-inho, n° 202, 7-435-9078. En jud of Colicino (designated States (index) otherwise indicated, for kind of regional protection available): ARIPO (1988). | Designation State | Proceedings | Proceedi

(81) Designated States (unless otherwise indicated, for

(54) Title: FIBRE-REINFORCED CORK-BASED COMPOSITES

100 (b) the random control of the random con

- Very clear strategy
- **Strong Investment**
- + 25 patents in the last 5 years









SPonge Enzymes and Cells for Innovative AppLications



THE CONCEPT

SPECIAL project

to establish sustainable, controlled technologies for the production of sponge materials

project that addresses bottlenecks in culture methods for marine organisms

Intracellularly produced compounds

secondary metabolites with anticancer potential

Extracellularly produced biomaterials



biosilica





THE CONSORTIUM

Participant no.	Participant organisation name	Country
1 (Coordinator)	University of Minho (UMINHO)	Portugal
2	Tel Aviv University (TAU)	Israel
3	Porifarma BV (PF)	Netherlands
4	Studio Associato Gaia SNC dei Dottori Antonio Sarà e Martina Milanese (GAIA)	Italy
5	University of Genova (UNIGE)	Italy
6	University of Mainz (UMC)	Germany
7	National Research Center for Geoanalysis (NRCGA-CAGS)	China
8	Karolinska Institute (KI)	Sweden
9	Arthrahasis (ATR)	Italy
10	University of Azores (UAzores)	Portugal
11	NanotecMARIN GmbH (NTM)	Germany







Multipolar Centre for the Valorization of Marine Resources and Residues

POCTEP 2007-2013 - Project 0330_1_P





MARMED PROJECT - overview



Development of innovating biomedical products from marine resources valorisation

Main goal

Create a route of sustainable exploitation of marine and aquatic resources for biomedical applications

Evaluation of the potential for valorisation of marine resources and sub-products



- proof-of-concept

Collaboration with companies:

- Marine subproducts
- Valorisation
- Biomedical







MARMED PROJECT - consortium

Participant no.	Participant organisation name	Country
1 (Coordinator)	University of Minho	Portugal
2	Institute of Biomedical Sciences Abel Salazar of University of Porto	Portugal
3	Institute of Marine Research – CSIC	Spain
4	Technological Centre of the Sea – CETMAR	Spain
5	University of Vigo	Spain
6	Portuguese Institute of Sea and Atmosphere	Portugal
7	University of Western Bretagne	France
8	Queen's University Belfast	Northern Ireland
9	National University of Ireland Galway	Ireland
10	University of Algarve	Portugal

A project co-funded by **ERDF** under **Atlantic Area** Transnational Cooperation Programme







