ICT-2011-8

Collaborative Project (Large-scale integrating project)

FAMOS

Functional anatomical molecular optical screening

Contract Number 317744

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(lead contractor for deliverable)

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PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Additional document information

Insert additional relevant document information (if applicable)

Deliverable Report

Executive Summary

A set of powerpoint slides were prepared describing the objective of FAMOS, the motivation, the methodology, impact, consortium members by type, management and contact details. This is made available for posting on the FP7 CORDIS fact sheet site.

The same information also appears on the FAMOS consortium website, with more details of the consortium partners. www.famos-fp7.eu

The project headline description is:

FAMOS will develop a new generation of light sources with step-changes in performance beyond the state-of-the-art to radically transform biophotonic technologies for point-of-care diagnosis and functional imaging.

Below appear a copy of the public presentation slides:

FAMOS
FP7 Project Overview

Name

Organisation

Objective of FAMOS

FAMOS will develop a new generation of light sources with step-changes in performance beyond the state-of-the-art to radically transform biophotonic technologies for point-of-care diagnosis and functional imaging.

This will enable optical diagnostics with superior sensitivity, specificity, reliability and clinical utility at reduced cost, heralding an imaging renaissance in Europe.

Why?

*"Lasers and light-based methods have long promised to deliver benefits to clinicians through **faster**, **more accurate**, **more sensitive**, and **more cost-effective** diagnosis of cancer and other important diseases, but so far most optical diagnostic instruments are expensive, complex and have limited performance.*

*A key reason for this is that the lasers and light sources they use, are adapted from other industrial and scientific applications, and have **not been optimized** for these new clinical uses.*

*Now in FAMOS, we will develop and demonstrate the next generation of light sources to produce **step changes in cost/performance** that will trigger development of a whole new world of non-invasive clinical diagnostic tools"*

- Prof Wolfgang Drexler, Medical University of Vienna, Project Leader

Example un-met clinical needs targeted by FAMOS:

- Replacing surgery with non-invasive treatments as the standard for the commonest type of skin cancer, by better monitoring of tumour response and clearance
- Reducing mortality from melanoma and colorectal cancers by earlier detection and accurate non-invasive diagnosis
- Reducing blindness from the increasingly common diseases such as diabetes and age-related macular degeneration (AMD) by earlier detection and better monitoring of novel emerging drug treatments
- …..and many others!

How?

- FAMOS will develop new light sources and photonic technology with step-change in performance over existing state-of-the-art
- FAMOS will develop & build prototype instruments based on these new devices
- FAMOS will perform preliminary clinical evaluation of the prototypes, to demonstrate new capability
- FAMOS will disseminate the results and seek commercial exploitation

FAMOS Key Facts:

- FAMOS is a 4-year project, started in October 2012
- FAMOS consortium has 10 SMEs and 7 academic organisations with world-leading expertise in laser physics, optical engineering, signal and image processing, medical physics and biophotonic instrument design
- FAMOS is funded by €10.1M from the European Commission and €3.2M from the partner's resources
- FAMOS is led by Professor Wolfgang Drexler of the Medical University of Vienna

FAMOS Consortium Members

- 7 Photonics research & technology supply partners
  - Who will develop the new light sources and photonic technology
- 6 Biomedical and translational research partners (including clinical expertise)
  - Who will provide expertise for applying the new sources/ photonics to unmet clinical needs
- 4 Medical instrument manufacturers
  - Who will develop & build prototype instruments based on the new sources/photonics

Photonics Research & Technology Supply Partners

- Technical University of Denmark
  - Biophotonic sources and instruments
- Ferdinand Braun Institute, Germany
  - Compound semiconductor devices, components and systems
- EXALOS AG, Switzerland
  - Swept-source lasers
- NKT Photonics, Denmark
  - Ultrabroadband supercontinuum light sources
- Femtolasers Productions GmbH, Austria
  - Ultra-fast pulsed laser systems
- Elforlight Ltd, UK
  - Diode-pumped solid state lasers
- InnoLas
  - Pulsed YAG lasers

Biomedical and translation research partners

- Medical University of Vienna (PROJECT LEADER), Austria
  - Biomedical science and engineering
- University College London, UK
  - Photoacoustic imaging
- Helmholtz Zentrum Muenchen, Germany
  - Imaging technology
- Weizmann Institute of Sciences, Israel
  - Coherent Anti-Raman Stokes spectroscopy
- University of St Andrews, UK
  - Light manipulation and imaging
- XVUE Ltd, Greece
  - Imaging and image processing

Medical Instrument Manufacturers

- Michelson Diagnostics Ltd, UK
  - OCT scanners for dermatology
- Imagine Eyes SA, France
  - Ophthalmic instruments
- iThera Medical, Germany
  - Photoacoustic instruments
- JenLab GmbH, Germany
  - Multiphoton tomography systems for dermatology

FAMOS Clinical Advisory Board

Advising the FAMOS consortium on clinical needs are:

- Professor Dr. Gregor Jemec, Chair of Dept. of Dermatology, University of Copenhagen, Roskilde Hospital, Denmark
- Professor Dr. Alain Gauderic, Department of Ophthalmology, Hôpital Laribosière, Paris, France
- Professor Dr. J Bergman, Director of Endoscopy, Dept. of Gastroenterology & Hepatology, University of Amsterdam, Netherlands
- Professor Dr. James G Fujimoto, Dept. of Electrical Engineering and Computer Science, MIT, USA
- Professor Dr. Leonard Fass, Department of Bioengineering, Imperial College, UK

Contacts:

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  - Imagine-Eyes
- Endoscopy Application Group
  - iThera