



## Nuno Felício

**New Bus. Devel. Coordinator**

Fraunhofer Portugal AICOS

<http://www.fraunhofer.pt>

### Bilateral Meetings

- Monday 14:30 - 18:00

#### Description

Fraunhofer Portugal Research Center for Assistive Information and Communication Solutions (Fraunhofer AICOS), located in Porto, is the first research center operated by Fraunhofer Portugal. It aims to enhance people's living standards by offering them intuitive and useful technology solutions, capable of facilitating their access to Information and Communication Technologies, and therefore leading to the integration of an increasingly large part of the population in the Information and Knowledge Society.

Fraunhofer AICOS focuses its activity in the areas of Ambient Assisted Living (AAL) and Information and Communication Technologies for Development (ICT4D), and fosters the creation of innovative solutions by cooperating closely with several companies interested in outsourcing and co-developing their applied research projects. By embracing a "living lab" concept, Fraunhofer AICOS is specialized in competences focused on the improvement of end-users experience, usability of applications and technological development. This expertise contributes to the market success of its client's products and services. Within these broadly defined Activity Areas, Fraunhofer AICOS has been giving priority to the following Research Areas:- Human-Computer Interaction- Information Processing- Autonomic Computing

And the following Application Areas in terms of priority industry and business sectors:- Fall and Activity Monitoring- Chronic Disease and Well-Being Management- Assistive Environments- m-Government- m-Health- m-Agriculture- ICT for Very Small Enterprises

#### Organization Type

University / R&D institution / Accelerator

#### Offer

### **Melanoma Risk Assessment App - Patient-oriented system of skin lesion analysis using a smartphone**

Skin cancer corresponds to about one third of all cancers detected each year, affecting 1 in every 7 people throughout life. It is estimated that malignant melanoma accounts for only 8% of skin cancers detected, but is responsible for more than 70% of the skin cancer deaths. Early diagnosis of melanoma is extremely important since the success rates of curing skin cancer are very high if detected during the early stages of its development.

This mobile technology is a patient-oriented and self-monitoring system of skin lesion analysis using a smartphone which collects, processes and stores information of skin lesions through automatic classification. This classification is

made by algorithms that measure and quantify features based on the ABCD rule which consists of 4 visual features highly relevant for skin cancer detection (asymmetry, border, color and differential structures).

The system is formed by 3 main blocks:

- Front-end Device (the patient's smartphone): used to take photos to skin moles and send them to a server;
- Server: used to process the image and store the analysis results;
- Back-end Device: the device that receives the analysis information collected by the server (smartphones, laptops, etc.).

Potential Market Applications:

- Mobile app for end user to track evolution of skin lesions and report data to HIS;
- Wide scale solution to screen skin lesions in primary care Health Centers.

Innovative aspects and main advantages:

- Simple solution based on a smartphone that allows to screen and track the evolution of skin lesions;
- Can be used in health centers as screening tool providing quantitative analysis of risk of skin lesion;
- Easy to integrate on HIS providing quality data to dermatologists that need to follow up the patients.

Keywords: Melanoma mHealth m-Health eHealth Dermatology

Cooperation Offered

1. Outsourcing co-operation
2. Technical co-operation
3. License agreement

Cooperation Requested

1. Technical co-operation
2. Investment/Financing