Multimodal Spectral Imaging for Canine Skin Erythema Estimation: from the Lab to the Clinic – DogSPEC

Fact Sheet

Project Information

DogSPEC

Grant agreement ID: 745396

Project website

DOI
10.3030/745396

Project closed

EC signature date
17 March 2017

Start date
22 August 2017

End date
13 April 2020

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost
€ 145 904,40

EU contribution
€ 145 904,40

Coordinated by
LATVIJAS UNIVERSITATE
Latvia

Objective

In this action, we propose a novel portable and cost-effective multispectral device for smartphones that will monitor dog skin health in terms of erythema. Up to 50-% of European households own a dog, and the five of the ten most common reasons for a veterinary visit can be reflected in erythematous skin. Currently, there are no methods for the objective estimation of the intensity of erythema. In this action, we will first develop multispectral near-infrared device for the detection of extra

absorption peaks of hemoglobin. In order to learn about hemodynamics, we will continue with objective measurements of capillary refill time. Then, we will develop a device for the multimodal acquisition of visible multispectral and fluorescence images and near-infrared multispectral data. This will serve for an estimation of erythema intensity by calculating an erythema index. The latter will be validated using existing dermatological tests (e.g. CADESI) in order to study whether erythema index can replace erythema visual assessment. Finally, we will investigate if there is any correlation between erythema and underlying causes (tumors). The proposed methods can simplify and improve current diagnostic procedures in veterinary dermatology.
The action will improve the experienced researcher's knowledge and skills in both fields of his profession: biophotonics and veterinary medicine, which will lead to well integrated interdisciplinary knowledge. This will allow the researcher to address interdisciplinary research challenges much better and, consequently, enhance his future career prospects. Furthermore, he will also obtain additional training to acquire extra professional skills (e.g. mentorship). Moreover, the beneficiary's biophotonic techniques will be upgraded and promoted in the new scientific field (i.e. veterinary medicine). Additionally, the host will be able to better validate his work with higher number of samples, which will make research in human medicine much safer.

Fields of science (EuroSciVoc)

agricultural sciences > **veterinary sciences**

medical and health sciences > clinical medicine > **dermatology**

agricultural sciences > animal and dairy science > **domestic animals**

engineering and technology > electrical engineering, electronic engineering, information engineering > information engineering > telecommunications > **mobile phones**

Programme(s)

H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions MAIN PROGRAMME

H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

Topic(s)

MSCA-IF-2016 - Individual Fellowships

Call for proposal

H2020-MSCA-IF-2016

See other projects for this call

Funding Scheme

MSCA-IF-EF-ST - Standard EF

Coordinator

LATVIJAS UNIVERSITATE

Net EU contribution

€ 145 904,40

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Address

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Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

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