

# Whole-body Dermoscopic Imaging in the Visible and Infrared Spectral Ranges (Project. No.: LU-BA-PA-2024/1-0006)

Version 1

## Description

The Data Management Plan (DMP) is developed in the framework of the Recovery and Resilience Facility project “Internal and External Consolidation of the University of Latvia; (No.5.2.1.1.i.0/2/24/I/CFLA/007), grant project “Whole-body Dermoscopic Imaging in the Visible and Infrared Spectral Ranges”, No.: LU-BA-PA-2024/1-0006.

This interdisciplinary (medicine - medical engineering – biophotonics) project aims at developing an advanced diagnostic methodology for fast grouping of whole-body detected skin malformations and identifying dermal-invaded malignancies, including skin melanomas. The proposed methodology is based on combining the triple spectral line whole-body imaging at the visible spectral range with parallel imaging at a near-infrared (NIR) spectral band. A prototype equipment for such combined whole-body multispectral imaging will be developed and clinically validated on volunteers, with subsequent elaboration of diagnostic protocol for clinical implementation. At the current stage, three visible spectral line images allow detecting all patient's skin lesions sized larger than 1 mm and mapping the content changes of main skin chromophores at each of them, with their further sorting into appropriate pathology groups. Thanks to deeper light penetration into skin, the NIR band images taken in parallel will allow immediate detection of the malignant tumors that invade the skin's dermal layer.

### Funder

European Commission | | EC

### Grant

Recovery and Resilience Facility  
(ESS2024/465-PA-10 )

### Researchers

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(orcid:0000-0003-3000-4486), Marta Lange (orcid:0000-0002-6938-  
0924), Edgars (0000-0001-8569-4117), Ilze Irbe (0000-0001-7087-  
8327)

### Organizations

University of Latvia

# 1. Main Info

Title of DMP: [Whole-body Dermoscopic Imaging in the Visible and Infrared Spectral Ranges \(Project. No.: LU-BA-PA-2024/1-0006\)](#)

Description:

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Researchers:

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Organizations:

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## 2. Funding

Funding organizations: [European Commission](#) | [EC](#)

Grants: [Recovery and Resilience Facility \(ESS2024/465-PA-10\)](#)

Project: [Whole-body Dermoscopic Imaging in the Visible and Infrared Spectral Ranges](#)  
(Project. No.: LU-BA-PA-2024/1-0006)

## 3. License

License: [CC-BY-4.0](#)

Access Rights: [Public](#)

Publication Date: [2024-11-28](#)

## 4. Templates

### Descriptions

### Imaging Device and Multispectral Images of Skin Lesions

Description regarding the data to be published

Template: [LCS FARP](#)

Type: [Dataset](#)

#### 1 Data Summary

##### 1.1 Data Summary

##### 1.1.1 What is the purpose of the data collection/generation?

High-resolution photography in RGB laser lighting from several positions, for each pose a file in Sony RAW format (60 MB) is obtained. After that, each file is opened, the face and intimate areas of the body, tattoo areas are obscured, and the data is saved in the 16-bit RGB "TIF" format of a high-resolution image (360 MB file). This

format is needed to perform quick calculations for determining the parametric data of formations.

The data is stored in the University of Latvia OneDrive Cloud storage in separate folders that have access to individual persons: Folder "Data", files in Sony RAW "ARW" format (60MB) – access to the person who performs the measurements and the person performing the first processing of images; Folder "Anonymized", files in high-resolution "TIF" format (360MB) – access to a person who performs measurement processing for the calculation of diagnostic parameters and the developer of a computer program;

Folder "Anonymized", files in high-resolution "TIF" format (360MB) – access to a person who performs measurement processing for the calculation of diagnostic parameters and the developer of a computer program;

Folder "For audit", files in "JPG" format, lower quality (<100kB) – access to a larger audience, including the person carrying out the project audit.

Description file of patients and measurements in the form of an MS Excel table with password – access to the person who records the measurements and the dermatologist.

### 1.1.2 Type of data generated/collected

- Experimental data
- Textual data
- Other

Multispectral Images

### 1.1.3 Format of data generated/collected

- PDF
- TIFF

- PNG

- JPG

1.1.4 Expected size of the data – give expected size and choose unit of measurement

a. 5

GB

1.1.5 Are you re-using this data set?

No

1.1.8 To whom the data might be useful ("data utility")? Other relevant remarks)

Other skin cancer researchers

## 2 Research Data Management

### 2.1 Metadata and documentation

2.1.1 Will data be attributed with standard identification mechanism (e.g. persistent and unique identifiers such as Digital Object Identifiers – DOI)?

No

2.1.2 Do you plan to provide metadata for your data?

No

2.1.4 Will search keywords be provided that optimize possibilities for re-use?

Yes

### 2.2 Making data openly accessible

2.2.1 What type of access the data generated/produced will have (choose one)?

restricted, request access (access is restricted, but request with collaboration proposal could be submitted to the authors)

2.2.3 Will data, associated metadata, documentation and code be made accessible with means of a repository?

No

## 2.4 Increase data re-use

2.4.1 How will the data be licensed to permit the widest re-use possible? Indicate the license planned to use

Creative Commons Attribution 4.0

## 3 Resources and Security

### 3.1 Allocation of resources

3.1.2 Who will be responsible for data management in your project?

Janis Spigulis (orcid: [0000-0003-3000-4486](https://orcid.org/0000-0003-3000-4486))

### 3.2 Data security

3.2.1 What security measures will be used for data security?

- Encryption
- Passwords

### 3.3 Ethical aspects

3.3.1 Are there any ethical or legal issues that could have an impact on data collection and sharing?

Yes

Possibility of cyberattack

3.3.2 Have you got/will you get permission from ethics committee to collect and process data (if applicable)?

Yes

3.3.3 Is informed consent for data sharing and long term preservation included in questionnaires dealing with personal data, if applicable?

Yes

3.3.4 Will data collected/generated include personal data/ sensitive information?

Yes

3.3.5 If yes, what are the methods used to process and access personal data/sensitive information

- Anonymising data
- Data accompanied by informed consent statements
- National laws
- Pseudonymization

The personal data collection will be done on a separate file, that will be available only to a specific person or two from the project, protected by a password. The other data - multicpectral images will not contain any personal information.

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