Contribution ID: **7**   Type: **Talk**

Wearable light logger and dosimetry data: Harmonizing a heterogenous field and enabling novel research in the MeLiDos project

Tuesday 10 October 2023 11:30 (20 minutes)

Personalized light exposure data is progressively gaining importance in various sectors, including research, occupational affairs, and fitness tracking. Data are collected through a proliferating selection of wearable loggers and dosimeters, varying in size, shape, functionality, and output format. Despite or maybe because of numerous use cases, the field lacks a unified framework for collecting, validating, and analyzing the accumulated data. This issue increases the time and expertise necessary to handle such data and also compromises the FAIRness (Findability, Accessibility, Interoperability, Reusability) of the results, especially in meta-analyses. MeLiDos is a joint, EURAMET-funded project involving sixteen partners across Europe, aimed at developing a metrology and a standard workflow for wearable light logger data and optical radiation dosimeters. Its primary contributions towards fostering FAIR data include the development of a common file format, robust metadata descriptors, and an accompanying open-source software ecosystem. The software ecosystem will encompass tools for:

- Generation of data and metadata files
- Conversion of popular file formats
- Validation of light logging data
- Verification of crucial metadata
- Calculation of common parameters
- Semi-automated analysis and visualization (both command-line and GUI-based)
- Integration of data into a unified database for cross-study analyses

This presentation will provide a concise overview of light logging and dosimetry, including its inherent complexity concerning the produced data and the current fragmented approaches to managing this complexity. It will also introduce the MeLiDos project. The core of the talk will concentrate on presenting a proposed metadata descriptor for personalized light exposure data, which will be implemented as a JSON Schema encapsulating all aspects at the study, participant (wearer), dataset, and device levels. The discussion will conclude with a forecast of the project timeline and the integration of the metadata descriptor within the broader software ecosystem.

Please assign your contribution to one of the following topics

Data interoperability through harmonised metadata and interoperable semantics

Please specify "other" (stakeholder)

In addition please add keywords.

light logging; dosimetry; JSON Schema; metadata descriptor

Please assign yourself (presenting author) to one of the stakeholders.

Researchers

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