DMP title

Project Name My plan (FWO DMP) - DMP title

Grant Title 1260722N

Principal Investigator / Researcher Charalampos Androulidakis

Project Data Contact charalampos.androulidakis@kuleuven.be

Description This project involves the study of the mechanical response of cells and tissues. The goal is to understand how the cells/tissues deform and fracture under mechanical deformation, and the relative biological mechanism that underlines the sensing of the stimuli by the cell through mechano-sensors such as ion channels. The data are collected and created in order to understand the mechanical response of the biological materials.

Institution KU Leuven

1. General Information

Name applicant

Charalampos Androulidakis

FWO Project Number & Title

1260722N - Deciphering the non-linear mechanical properties of engineered enthesis tissues through the use of tailored composite biohybrids

Affiliation

- KU Leuven

2. Data description

Will you generate/collect new data and/or make use of existing data?

- Generate new data
- Reuse existing data

Describe in detail the origin, type and format of the data (per dataset) and its (estimated) volume. This may be easiest in a table (see example) or as a data flow and per WP or objective of the project. If you reuse existing data, specify the source of these data. Distinguish data types (the kind of content) from data formats (the technical format).

This project will generate data consisting of analytical readouts such as cell viability, cell proliferation, cell culture medium analyzer, fluorescent activated cell sorting. The research data will be single numerical values.

fluorescence data in .vsi, images in .tiff and estimated volume >1000 GB.

Data from mechanical testing and topography using atomic force microscopy will be generated in the form of images and numerical values.

Images in .tiff and estimated volume 5-10 GB.

3. Legal and ethical issues

Will you use personal data? If so, shortly describe the kind of personal data you will use. Add the reference to your file in KU Leuven's Register of Data Processing for Research and Public Service Purposes (PRET application). Be aware that registering the fact that you process personal data is a legal obligation.

- No

Privacy Registry Reference:

Short description of the kind of personal data that will be used:

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, add the reference to the formal approval by the relevant ethical review committee(s)

- Yes

ethical committee number = S64471
The title = Characterization of human periosteum-derived cells for defining Tissue-Engineered Advanced Therapy Medicinal Products for bone regeneration in nonunion/large defect

Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data and which restrictions will be asserted?

- No

Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?

- No

4. Documentation and metadata

What documentation will be provided to enable reuse of the data collected/generated in this project?

The protocols that will be used for the project willl be saved in the lab's protocol database in sufficient detail and clarity for reuse.

Regarding experimental procedures and data collection from instruments, the coniditions and settings used will be also described in detail.

Will a metadata standard be used? If so, describe in detail which standard will be used. If no, state in detail which metadata will be created to make the data easy/easier to find and reuse.

- No

The research data generated within this project will be managed and stored as much as feasible according to “FAIR” principle, that is findable, accessible, interoperable and re-usable.

5. Data storage and backup during the FWO project

Where will the data be stored?

The host lab provides the necessary storage capacity in its internal (KU Leuven managed) large volume data drive (Cranium) both during the research and for a period of at least 5 years after the research. Said centralized storing system is currently running at a capacity of 5.21 PB (petabytes).

Copies can be made and kept on personal devices.

How is backup of the data provided?

Automatic back-up is provided by the host servers in KU Leuven handled by the IT personnel.

Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available then explain how this will be taken care of.

- Yes

There is currently sufficient storage capacity for the needs of the project. If more storage will be needed in the future, it will be provided by the budget of the working group.

What are the expected costs for data storage and back up during the project? How will these costs be covered?

The costs are covered by the hosting lab and are expected to be roughly € 300 per year. If needed, part of the project's budget will be used for data storage needs.

Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

The stored in the above mentioned servers have restricted access to authorized only personnel.

6. Data preservation after the FWO project

Which data will be retained for the expected 5 year period after the end of the project? In case only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues, ...).

Only the published data after the 5-year period due to physical preservation, cost and storage issues. Unpublished data will be stored in personal units, judging by future needs after critical selection to eliminate the storage requirements.

Where will the data be archived (= stored for the longer term)?

1. The data will be stored on the university's central servers (with automatic back-up procedures) for at least 10 years, conform the KU Leuven RDM policy.
2. Our project will generate a large volume of data, some of which may not be appropriate for sharing since it involves a small sample that is not representative. The investigators will work with staff of the KU Leuven Libraries to determine what to archive.

What are the expected costs for data preservation during the retention period of 5 years? How will the costs be covered?

The data that will be produced will be saved in KU Leuven's servers supported by ICTS. The cost is € 99,55 per TB and per year. The size of the stored data is expected to be 1-3 TB, thus the total maximum is € 298.65 per year**.**

7. Data sharing and reuse

Are there any factors restricting or preventing the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

- No

Which data will be made available after the end of the project?

The experimental data obtained during the execution of the project will be made available by publications. Unpublished data will be available by request.

Where/how will the data be made available for reuse?

- In an Open Access repository

When will the data be made available?

- Upon publication of the research results

Who will be able to access the data and under what conditions?

The created data will be available to anyone, provided that appropriate credits are given to the creators.

What are the expected costs for data sharing? How will the costs be covered?

Some costs are expected for open access publication of the results, which will be covered by the budget of the project. The cost varies with the journal mostly in the range € 1000-5000 per publication. To reduce the cost in case of multiple publications, other options such as availablility of the published data in repositories such as arXiv after an embargo period.

8. Responsibilities

Who will be responsible for data documentation & metadata?

The PI of the project.

Who will be responsible for data storage & back up during the project?

The PI of the project.

Who will be responsible for ensuring data preservation and reuse ?

The PI of the project and the host lab.

Who bears the end responsibility for updating & implementing this DMP?

The PI bears the end responsibility of updating & implementing this DMP.