FWO DMP Template

Project supervisors (from application round 2018 onwards) and fellows (from application round 2020 onwards) will, upon being awarded their project or fellowship, be invited to develop their answers to the data management related questions into a DMP. The FWO expects a **completed DMP no later than 6 months after the official start date** of the project or fellowship. The DMP should not be submitted to FWO but to the research co-ordination office of the host institute; FWO may request the DMP in a random check.

At the end of the project, the **final version of the DMP** has to be added to the final report of the project; this should be submitted to FWO by the supervisor-spokesperson through FWO's e-portal. This DMP may of course have been updated since its first version. The DMP is an element in the final evaluation of the project by the relevant expert panel. Both the DMP submitted within the first 6 months after the start date and the final DMP may use this template.

1. General Information	
Name applicant	**Claire Villette**
FWO Project Number & Title	1265822N – BOOST: stimulating BOne remOdelling against metaSTasis
Affiliation	☒ KU Leuven ☐ Universiteit Antwerpen ☐ Universiteit Gent ☐ Universiteit Hasselt ☐ Vrije Universiteit Brussel ☐ Other:
2. Data description	
Will you generate/collect new data and/or make use of existing data?	☒ Generate new data ☒ Reuse existing data

Describe the origin, type and format of the data (per dataset) and its (estimated) volume *If you **reuse** existing data, specify the **source** of these data.* *Distinguish data **types** (the kind of content) from data **formats** (the technical format).*	New data generated: **a.** Numerical scripts coding for the models (MATLAB/ R / C++ programming languages) and inputs to finite element solvers (text files and Python scripts for ABAQUS) **b.** Numerical outputs of models (text, Excel, ABAQUS .odb) **c.** Experimental results from fluorescence, qRT-PCR, Western blot analyses (TIFF/JPEG, Excel) **d.** Experimental immunohistochemistry (TIFF/JPEG) and nanoCT (images) **e.** Experimental protocols (text) and lab notebooks (manuscripts) Existing data reused: **a.** Experimental data on cell survival assays from the literature (Excel) **b.** Anonymised patient donor (osteoprogenitor cells) characteristics : age, weight, known congenital defect of the musculoskeletal system (Excel)

3. Ethical and legal issues	
Will you use personal data? If so, shortly describe the kind of personal data you will use AND add the reference to your file in your host institution's privacy register. *In case your host institution does not (yet) have a privacy register, a reference is not yet required of course; please add the reference once the privacy register is in place in your host institution.*	☒ Yes ☐ No If yes: - Privacy Registry Reference: NA - Short description of the kind of personal data that will be used: The applicant will comply with and follow the principles outlined by the European Commission Directive 95/46/EC on the protection of individuals with regard to the processing of personal data, and on the movement of such data. Personal data related to osteoprogenitor cell donors will be limited to patient age, sex and the (known) presence of congenital defects with an impact on the musculoskeletal system (in accordance with ethics committee approval and verified for GDPR compliance). It will only be disclosed to the researcher on a need-to-know basis, and only accessible on password protected computer systems. Subject data will be appropriately coded and identifiable by a unique identifier.

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 ☐ No If yes: - Reference to ethical committee approval: • Central approval for use of donor hPDCs: S64471 • Specific ethical approval to be sought before the start of the concerned experiments planned for a later stage of the project.
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?	☐ Yes ☒ No If yes, please comment:
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?	☐ Yes ☒ No If yes, please comment:

4. Documentation and metadata	
What documentation will be provided to enable understanding and reuse of the data collected/generated in this project?	• Algorithms and scripts will be commented and extensively documented. Scripts will be version-controlled and tracked using git via version numbers, tags and commit IDs (hashes). When scripts are finalized, they will be made publicly available (e.g. via GitHub) and described in their documentation and in manuscripts. • Metadata (excel file) will be provided on the in-vitro experiments: cell type, carriers, type of mechanical stimulation, culture conditions, as well as sampling, imaging and analysis dates. • Protocols will be provided on in-vitro experiments and sample processing (word documents)

Will a metadata standard be used? If so, describe in detail which standard will be used. If not, state in detail which metadata will be created to make the data easy/easier to find and reuse.	☐ Yes ☒ No If yes, please specify: A logical folder hierarchy will be applied. The folder names will be descriptive. File names will have a clear meaning and the following information will be included in the file names: experiment or simulation name (or an acronym of it), name of the researcher or author of the file (or initials where better suited), date, type of data and version number of the file. For each experimental dataset or computer script repository/branch, a ReadMe file will be provided, including information on the methodology used to collect the data. A data dictionary will be provided with labels for all naming conventions, analysis endpoint names, units of measurement and key identifiers for a data file. Standard operating procedures codes and lab protocols will be included.

5. Data storage & backup during the FWO project	
Where will the data be stored?	Hard copy experimental data will be stored in closed cabinets in the offices of the host group. Upon generation, standard electronic data will be stored on the 'drive' available on the user's computer and connected to the KU Leuven central storage infrastructure. Larger datasets (e.g. CT) will be stored on the Large Volume Storage of the KU Leuven ICTS (double back-up). Long term storage is offered by the KU Leuven for large quantities of data not subject to much change and will be used to retain data after project completion (standard policy in research group).
How will the data be backed up?	Electronic data is backed up on the ICTS data centre through automatic backups using "snapshot" technology and online storage of incremental data changes. When a file is stored, there is an immediate replication to the second ICTS data centre. ICTS can get the disaster copy active (online) within the hour.

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 Several storage options with associated back-up capacity are available depending on dataset size and frequency of access/edition: KU Leuven central storage infrastructure, Prometheus platform 'Cranium' drive, and KU Leuven ICTS. ☐ No If no, please specify:
What are the expected costs for data storage and backup during the project? How will these costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of* ***the allocated project budget*** *to be used to cover the cost incurred.*	Storage and back-up of electronic data during and after the project are 125€/TB/year. They are covered by the host group and the central budget or the Prometheus platform it is part of. Storage of computer scripts (with historical versioning) is free on GitHub for the expected volume of user access.
Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?	Access to the shared drive will be given only to authorized researchers.

6. Data preservation after the end of the FWO project FWO expects that data generated during the project are retained for a period of minimally 5 years after the end of the project, in as far as legal and contractual agreements allow.	
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, ...).	All data stored during the project will be kept for at least 5 years after project completion.

Where will these data be archived (= stored for the long term)?	Hard copy experimental data will be stored for at least 5 years after project completion in closed cabinets in the offices of the host group. Long term storage is offered by the KU Leuven for large quantities of electronic data not subject to much change and will be used to retain data after project completion for at least 5 years after the project ends ('project end' refers here to the end of the research line within the group, which is more extensive than the FWO mandate this DMP relates to).
What are the expected costs for data preservation during these 5 years? How will the costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	Storage and back-up of electronic data during and after the project are 125€/TB/year. They are covered by the host group and the central budget or the Prometheus platform it is part of. Storage of computer scripts (with historical versioning) is free on GitHub for the expected volume of user access.

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)?	☐ Yes ☒ No If yes, please specify:
Which data will be made available after the end of the project?	The final computer scripts will be made available in GitHub open access repository. The experimental data might be shared upon request by email.
Where/how will the data be made available for reuse?	☒ In an Open Access repository ☐ In a restricted access repository ☒ Upon request by mail ☐ Other (specify):
When will the data be made available?	The data will be made available after the associated manuscripts are published.

Who will be able to access the data and under what conditions?	Computer scripts will be available to all interested parties on GitHub Experimental data might be shared upon request to complement published manuscripts according to the publisher's requirements.
What are the expected costs for data sharing? How will these costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	Storage of computer scripts is free on GitHub for the expected volume of user access.

8. Responsibilities	
Who will be responsible for the data documentation & metadata?	Dr Villette is responsible for commenting the computer scripts and documenting the experiments.
Who will be responsible for data storage & back up during the project?	Dr Villette is responsible for maintaining her lab books and personal electronic folders on all storage platforms.
Who will be responsible for ensuring data preservation and sharing?	Prof Geris is responsible for data preservation after project completion. Dr Villette is responsible for uploading the computer scripts on GitHub open access platform.
Who bears the end responsibility for updating & implementing this DMP? *Default response: The PI bears the overall responsibility for updating & implementing this DMP*	Dr Villette bears the overall responsibility for updating & implementing this DMP.