

DMP title

Project Name PhD plan (FWO DMP) - DMP title

Project Identifier 1S60923N

Principal Investigator / Researcher Quinten Wouters

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Institution KU Leuven

1. General Information

Name applicant

Quinten Wouters

FWO Project Number & Title

Project number: 1S60923N

Title: A comprehensive toolset for in-tissue micro- and nanoplastic detection and characterisation.

Affiliation

- KU Leuven

Centre for Membrane Separations, Adsorption, Catalysis and Spectroscopy for Sustainable Solutions (cMACS)

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B-3001 Heverlee, Belgium

2. Data description

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

- Generate new 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).

Type	Format	Volume	Creation
Microscopy images	.tif; .jpeg; .lif	5 mB - 2 GB	Confocal microscopy on Leica SP8X for cell and tissue imaging
Microscopy images	.tif; .jpeg; .oif	5 - 500 mB	Confocal microscopy on Olympus FluoView for cell and tissue imaging
Spectral data	.fs; .txt; .cvs	1 mB	Fluorescence spectral data from spectral scanning on Edinburgh FLS980 fluorimeter or Leica SP8X
Raman spectral data	.txt; .tvb	100 kB	Raman spectra from S&I Raman spectroscope
Images of experiments	.jpeg; .HEIC	5 mB	Images of experiments
Statistical data	.xlsx	50 mB	Excel sheets for statistical analysis
Matlab code	.m; .fig; .txt	50 mB	Matlab code, images and figures for data analysis

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.

- Yes

The personal data that could possibly be used within the project is already pseudonymized into an identification number (ID) by previous research within the framework of ENVIRONAGE.

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

The placental tissue samples originate from the ENVIRONAGE program. The ENVIRONAGE birth cohort enrolls mothers giving birth in the East-Limburg Hospital (ZOL; Genk, Belgium) and is approved by the Ethics Committee of Hasselt University and East-Limburg Hospital (09/080U; EudraCT B37120107805). The study is conducted according to the guidelines laid down in the Declaration of Helsinki. All participating women provided informed written consent.

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

IP restrictions, patenting and valorisation options are being investigated. This text will be updated when more information is available.

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?

1. For microscopy images, the metadata is included in the generated files. For the Raman microspectroscope, this is a .tvb file, for the Olympus microscope a .oif, .lut and .roi file and for the Leica microscope it is a .lif, .xsl and .xml file.
2. Experimental setups and protocols are described in the Onenote diary as a .one file.

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

1. Microscopy images are always accompanied by all the necessary information to recreate the image in the microscopy image file set. This includes the metadata files that are produced by the microscope. Additionally, the settings are also always disclosed in the file name, which is also marked with the date. Furthermore, the experimental setup is always noted in detail in the research diary in the form of a Onenote file. For each microscopy setup that is used, a manual is also written, such that anyone with access to the same materials and microscopes can reproduce the experiments.
2. A MS Onenote file containing a daily diary of the experimental and research work will be maintained. Here, manuals and protocols for each experiment are written, to provide a guideline for experiment repetitions.
3. In the Matlab scripts, descriptions of the code carrying out the data analysis will be written in-line. This allows anyone to follow the data processing.

5. Data storage and backup during the FWO project

Where will the data be stored?

1. A master copy of all the data will be kept on the KU Leuven Research Data Repository (RDR) as it comes available this year.
2. During the project, KU Leuven OneDrive will be used for storage of data.

How is backup of the data provided?

The KU Leuven OneDrive has an automatic back-up system in place.

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

The KU Leuven OneDrive provides 2 TB of storage, which can be further expanded if required.

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

The KU Leuven OneDrive is centrally financed for up to 5 TB per user.

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

The personal KU Leuven OneDrive is secured with two-factor authentication by university standards.

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, ...).

Due to the limited size of the data, all of it can be preserved. This allows for complete transparency and reuse.

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

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.

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

All storage on the KU Leuven OneDrive is centrally financed for up to 5 TB per user.

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 full dataset and all research documents will be uploaded to the Lirias Open Access platform

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

- In an Open Access repository

The full dataset and all research documents will be uploaded to the Lirias Open Access platform.

When will the data be made available?

- Immediately after the end of the project
- After an embargo period. Specify the length of the embargo and why this is necessary
- Upon publication of the research results

Save for an embargo on (part of) the data due to a 3rd party agreement, the data will be made available immediately after publishing or at the end of the project. Otherwise, a 6 month embargo will be in place before Open Access is granted.

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

The full dataset and all research documents will be uploaded to the Lirias Open Access platform and will therefor be available to anyone, under the terms of use of the Lirias platform.

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

The new Belgian copyright regulation allows researchers to comply with the Open Access requirements by the FWO without costs. The Lirias Open Access platform can be used free of charge. If a 3rd party agreement is in place, there will be a 6 month embargo on providing Open Access. After expiration of this period, the data will be Open Access. In any case, no charges apply for complying to the FWO Open Access requirements. Costs will be covered form the bench fee.

8. Responsibilities

Who will be responsible for data documentation & metadata?

Quinten Wouters

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

Quinten Wouters

Storage on the KU Leuven OneDrive is automatically backed-up.

Who will be responsible for ensuring data preservation and reuse ?

Quinten Wouters

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

Quinten Wouters