DMP title

Project Name My plan (KU Leuven DMP)
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1. Data Description

What data will you collect or create? Fill out the table below and/or describe.

Type of data	Format	Volume	How created?
e.g observational, experimental, reference data,...	e.g. textual, numerical, multimedia	e.g 200MB, 1GB	Computer task, observations, blood sample, ...
Microscopy images	tif or jpeg	up to 10G	Microscope images of device structures in large areas, to help integration team to define the process
Scanning electron microscope images	tif or jpeg	up to 10G	To look into device center to define the size of nanopore, or crosssection image of the device structure
Transmission electron microscope images	tif or jpeg	up to 10G	To check the exact size of nanopore, and the crossection of nanopore
Electrical characterization curves	xlsx or csv or opju	up to 100G	device characterization data from probe station
Nanopore characterization curves	tdms or pdf or python script	up to 300G	Nanopore characterization raw data from lab
FET and nanopore co-related data	tdms or pdf or python script or opju format	up to 300G	Nanopore co-related FET data for biosensing, including raw data and data after processed

Do you intend to reuse existing data?

Yes, only for analyzing and comparison or benchmarking, I will specify the source and copyright if it's needed.

Do you use personal data (i.e. all data possibly identifying an individual)?

- No

Usually not necessary to possibly identify an individual

2. Documentation and Metadata

Describe the documentation that will be created for the data. This section deals with the way in which you will document how the dataset was created and subsequently processed.

1. For images (microscope, SEM, TEM, XSEM and so on), the date, labels, the key information of each images will be added as the key information within these image saved format.

2. For electrical characterization data, usually, the CSV or xlsx file will contain the key measurement variables, measurement conditions (i.e. temperature, measurement type for example if it is an automatic run), time and date, and the number or orders of the device values in the begining of the CSV file. And I will put also some notes accompany with the original CSV file for people (me myself mainly) to process and visualize the data through other tools such as the opju generated by originalab.

3. For other data, for example nanopore data, there are always notes together with tdms file generated by labview for every single measurement. All the possible condition for experiment and the different phonomena will be recorded.

Describe the metadata for the data. This section deals with metadata: information contained in your dataset about the research data.

One of the main data file is tdms, which contains both matadata and raw data. For example,

sample ID and notes all acompany with the data points with different recording time and date.
I will use python script to read and output visualized plots

3. Ethical, Legal and Privacy Issues

Are there any ethical issues concerning the creation and/or use of the data?

No

Did you consider all issues about copyrights and IPR?

I have considered all issues and discussed with my advisor.

Are the collected data considered to be â€œdata containing personal informationâ€ and are all the requirements about the collection of these data met?

Data collected will not contain personal information

4. Data storage and Backup during Research

How and where will the data be stored during research?

- Centrally on storage facilities of the research unit

Which back-up procedures are in place?

imec use onedrive and sharepoint to store data, I will also put the data in mostly onedrive.

Describe the data security procedures and who has access to the data.

The data stored in onedrive with only myself with my code have the access to. I can share data with my key collegues and collaborators also if needed. In the meantime, my advisor, Pol Van Dorpe has the access to all of the data that I obtained.

5. Data selection and Preservation after Research

What is the long-term preservation plan for these dataset(s)?

Usually, imec use onedrive, sharepoint, github.imec.be for standard data storage and management and usually for a quite long time longer than 5 years.

Data Selection: Which data will have long time value for the research and will be preserved?

CSV file for electrical measurement as well as tdms file for nanopore measurement are the most key data for this project and they are worth preserving for long time.

The meaning of these data is for possible analyzing with future experiment potentially for other researchers with same or similar topics for comparison and benchmarking

6. Data Sharing

Are there any restrictions for sharing the data?

Usually the data will be processed and published in journals or conference. The raw data might be shared to collaborators. Also, my advisor, Pol Van Dorpe will have the access to all data and can also decide which part can be shared.

If there are no restrictions, which mechanisms will be in place to assure that the data are discoverable, accessible and intelligible?

The data folder will be created in onedrive for storing all raw data.

Each data has specific time, date, and notes, and it should be available for tracing back the exact experiment.

The data format is usually easy to be processed and read by third parties

How will you share the data?

- Publication
- Other, specify

The most important way to share the data is through publication, for example journal articles or letters. Also, for some step progress, conference meeting presentations and posters are also ways for sharing the data

With whom will the data be shared?

- On request

7. Responsabilities and Resources

Who is responsible for Data Management during the project? This will be the person who might receive questions on the data management aspects of the research project.

The advisor (PI), Prof. Pol Van Dorpe is responsible for data management, end responsibility of updating and implementing the DMP

Which additional resources are needed for the execution of the Data Management Plan?

currently no

Did you read the KU Leuven Data Management Policy? (find the link to the policy in the guidance).

- Yes