Robotic-assisted Biofabrication of Mycelium-Based Composite Panels for Architectural Fit-Out Systems
DPIA

DPIA

Have you performed a DPIA for the personal data processing activities for this project?

- Not applicable

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GDPR

Have you registered personal data processing activities for this project?

- No

1. Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

				Only for digital data	Only for digital data	Only for digital data	Only for physical data
Dataset Name	Description	New or reused	Digital or Physical	Digital Data Type	Digital Data format	Digital data volume (MB/GB/TB)	Physical volume
		Please choose from the following options: • Generate new data • Reuse existing data	*Please choose from the following options:* • Digital • Physical	*Please choose from the following options:* • Observational • Experimental • Compiled/aggregated data • Simulation data • Software • Other • NA	*Please choose from the following options:* • .por, .xml, .tab, .csv,.pdf, .txt, .rtf, .dwg, .gml, … • NA	*Please choose from the following options:* • <100MB • <1GB • <100GB • <1TB • <5TB • <10TB • <50TB • >50TB • NA	
Mycelium Species	Mycelium species stored in liquid spawn	Generate new data	Physical	Other	NA	NA	500 mL
Influence of growth parameters	Mechanical and acoustic data of mycelium composite material	Generate new data	Digital	Experimental	.csv	<100GB	
Fabrication control software	Software to control to robot to produce mycelium composite materials	Generate new data	Digital	Software	.gh	<100GB	
Ender 3 V3	3D model of the robot	Reuse existing data	Digital	Software	.step	<100GB	
Fabrication tool path simulations		Generate new data	Digital	Simulation data	.gcode	<100GB	
Mechanical and Acoustic simulations		Generate new data	Digital	Simulation data	.csv	<100GB	

Mechanical and Acoustic material properties		Generate new data	Digital	Experimental	.csv	<100GB	
Biofrabrication framework	Framework explaining the influence of growth parameters on material properties	Generate new data	Digital	Compiled/aggregated data	.pdf	<100GB	
Fabrication components	3D models of newly designed components	Generate new data	Digital	Compiled/aggregated data	.step	<100GB	
Mycelium composites samples		Generate new data	Physical	Other	NA	NA	NA

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

Ender 3 V3 - https://github.com/Creality3DPrinting/Ender-3

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? Describe these issues in the comment section. Please refer to specific datasets or data types when appropriate.

- Yes, human subject data

There will be no experiments on humans. I will only conduct questionnaires with stakeholders.
Personal data that has been de-identified, encrypted or **pseudonymised** but can be used to re-identify a person remains personal data and falls within the scope of the GDPR.

Will you process personal data? If so, briefly describe the kind of personal data you will use in the comment section. Please refer to specific datasets or data types when appropriate.

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.

- Yes

1. Fabrication control software
2. Fabrication tool path simulations
3. Biofrabrication framework
4. Fabrication components

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements/ research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

2. Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g., in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded).

A maximum of data and documents will be centrally saved on the Cloud application on Microsoft Teams (99,9% uptime) to facilitate collaboration and avoid data duplication. Teams is suitable for strictly confidential data with KU Leuven Authenticator App activated. The PhD students and supervisors have access to this, the supervisors grant permission to the respective researchers. The ICT support is provided by LUCA.

Will a metadata standard be used to make it easier to find and reuse the data? If so, please specify (where appropriate per dataset or data type) which metadata standard will be used. If not, please specify (where appropriate per dataset or data type) which metadata will be created to make the data easier to find and reuse.

- Yes

We will use the KU Leuven RDM tools. By planning to deposit and share research data via KU Leuven RDR DataCite will be used as a metadata standard.

3. Data storage & back-up during the research project

Where will the data be stored?

SharePoint online-site and Teams-site
Regular Back-ups stored on the J-disk in Leuven / Department of Architecture.

How will the data be backed up?

Regular Back-ups stored on the J-disk in Leuven / Department of Architecture.
Storage cabinets in the new bioscience lab of KU Leuven

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

We have 1TB on SharePoint online-site & Teams-site each.

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

1. SharePoint online-site & Teams-site
2. All physical data is stored in locked rooms with key access.

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

The costs are free for KU Leuven employees.
The long-term storage is guaranteed up to 10 years after the end of a project. This is stored on servers in Leuven, on the K-disk. The members of the research group have access to the data with the permission of the supervisor.

4. Data preservation after the end of the research project

Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

The data will be preserved for 10 years according to KU Leuven RDM policy

Where will these data be archived (stored and curated for the long-term)?

KU Leuven RDR

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

KU Leuven LUCA covers the costs of data preservation.

5. Data sharing and reuse

Will the data (or part of the data) be made available for reuse after/during the project? In the comment section please explain per dataset or data type which data will be made available.

- Yes, in a restricted access repository (after approval, institutional access only, ...)
- Yes, in an Open Access repository

Data restricted open acces
publicationFor open acces - green open acces by KULeuven

If access is restricted, please specify who will be able to access the data and under what conditions.

Professor Jan Wurm will provide data access to whoever needs it for further research.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain in the comment section per dataset or data type where appropriate.

- No

Where will the data be made available? If already known, please provide a repository per dataset or data type.

KU Leuven RDR

When will the data be made available?

Data should will be made available as early as possible upon acceptance of the publication or at the end of the project.
Data availablilty extended with patents Explain if data sharing has to be postponed for a certain time, for example to protect IP during patent application.

Which data usage licenses are you going to provide? If none, please explain why.

1. Attribution-NonCommercial-ShareAlike 4.0 International

Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, you have the option to provide it in the comment section.

- Yes

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

Deposition of smaller datasets in data repositories is usually covered by the repository and for sharing physical data the cost are typically paid by the researcher requesting the materials. For larger datasets repositories may charge a fee.

6. Responsibilities

Who will manage data documentation and metadata during the research project?

Andreas Biront

Who will manage data storage and backup during the research project?

Andreas Biront & KU Leuven

Who will manage data preservation and sharing?

Jan Wurm & KU Leuven

Who will update and implement this DMP?

Andreas Biront