

**Short Name: PATHOS**

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# DATA MANAGEMENT PLAN

Grant Agreement number: 828946

Project short name: PATHOS

Project full title: Photonic and nanometric high-sensitivity biosensing

Data management plan 1<sup>st</sup>  2<sup>nd</sup>  3<sup>rd</sup>  4<sup>th</sup>  5<sup>th</sup>

**TABLE OF CONTENTS**

1	Data management plan .....	2
1.1	Data summary.....	2
1.2	Findable, Accessible, Interoperable and Reusable (FAIR) Data.....	2
1.2.1	Making data findable, including provisions for metadata .....	2
1.2.2	Making data openly accessible.....	3
1.2.3	Making data interoperable .....	5
1.2.4	Increase data re-use (through clarifying licenses).....	5
1.3	Allocation of resources .....	6
1.4	Data security .....	6
1.5	Ethical aspects .....	6
1.6	Other .....	7

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**Report Status: CO Confidential, only for members of the consortium (the European Commission Services)**

## 1 Data management plan

### 1.1 Data summary

Questions	Answers
What is the purpose of the data collection/generation?	Data Repository
What is its relation to the objectives of the project?	Objectives 1,2,3.
What types and formats of data will the project generate/collect?	a) reference data (XML, ASCII, csv, R, CSV or RDF) b) documents (docx, pdf, ASCII, xlsx) c) e-mail lists (docx, xlsx)
Will you re-use any existing data and how?	The response shall be made after the selection of use-cases and reference databases.
What is the origin of the data?	Scientific data
What is the expected size of the data ( <i>if known</i> )?	Some Gb
Outline who might find it useful ( <i>'data utility'</i> )?	Scientific community

### 1.2 Findable, Accessible, Interoperable and Reusable (FAIR) Data

#### 1.2.1 Making data findable, including provisions for metadata

A FAIR (findable, accessible, interoperable and re-usable) data management has been defined under the rules of Horizon 2020. The network's Data Management Plan detailing data collection, processing and storage, proposes to make published data acquired during the course of this study publicly available. The format of the acquired data will be dependent on the type of data; for the magnetic resonance case this will include standard formats (Bruker, Varian, etc.), while for home-built instrumentation data the format will be specified. Non-published data will also be made available upon request after publication, pending resolution of IP issues. These data will be archived locally by the respective data-generating partner in appropriate storage structures with redundancy and backup implementation, guaranteeing availability after end of project life time. Pipelines and metadata requirements (based on the Bruker data format) will also be deposited and kept for easing of further processing by external and future scientists. Curated spectroscopic data, and other data such as protocols, programme code, design drawings or other laboratory data will be housed in a searchable data portal, which will be linked to each consortium's member own web page. This will contain experimental details under each project. Where appropriate, data will be deposited in repositories such e.g. github or the Bruker user's page for programme code, or the Open Science Framework (OSF). For maximum visibility and easy access, accompanying publications such as e.g. "Data in Brief" (Elsevier), or publication in journals such as e.g. GigaScience will be considered for all publications. The image below gives an example of openly deposited pulse programs for L-PROSY, a Weizmann-developed pulse sequence associated to the anti-Zeno experiments described in parts of PATHOS that has been made available to Bruker NMR/MRI users (no IP rights were here involved).

## Short Name: PATHOS

AVANCE NEO

AVANCE 3

AVANCE 2

uxnmr



The very first pulse programs available can be found and downloaded below.

You can begin to [support the library with your own submissions right now](#).

1 - 5 of 8

1

2



[NOAH NUS.zip](#)

NOAH Experiments with Non-Uniform Sampling (NUS)

[L-PROSY.zip](#)

Looped-PROJected Spectroscopy (L-PROSY) applied to 15N-1H HMQC-NOESY experiment

Questions	Answers
Are the data produced and/or used in the project discoverable with metadata?	The response shall be made after the selection of use-cases and reference databases.
Are the data identifiable and locatable by means of a standard identification mechanism ( <i>eg persistent and unique identifiers such as Digital Object Identifiers</i> )?	The response shall be made after the selection of use-cases and reference databases.
What naming conventions will you follow?	The response shall be made after the selection of use-cases and reference databases.
Will search keywords be provided that optimise possibilities for re-use?	The response shall be made after the selection of use-cases and reference databases.
Will you provide clear version numbers?	The response shall be made after the selection of use-cases and reference databases.
What metadata will be created? <i>If metadata standards do not exist in your discipline, please outline what type of metadata will be created and how.</i>	The response shall be made after the selection of use-cases and reference databases.

### 1.2.2 Making data openly accessible

#### 1.2.3

Questions	Answers
Which data produced and/or used in the project will be made openly available as the default? <i>If certain datasets cannot be shared (or need to be shared under restrictions), explain why, clearly separating legal and contractual reasons from voluntary restrictions.</i>	Results are made openly available as default.

**Short Name: PATHOS**

How will the data be made accessible ( <i>e.g. by deposition in a repository</i> )?	The response shall be made after the selection of use-cases and reference databases.
What methods or software tools are needed to access the data?	The response shall be made after the selection of use-cases and reference databases.
Is documentation about the software required in order to access the data included?	The response shall be made after the selection of use-cases and reference databases.
Is it possible to include the relevant software ( <i>e.g. in open source code</i> )?	The response shall be made after the selection of use-cases and reference databases.
Where will the data and associated metadata, documentation and code be deposited? <i>Preference should be given to certified repositories that support open access where possible.</i>	The response shall be made after the selection of use-cases and reference databases.
Have you explored appropriate arrangements with the identified repository?	See 1.2.1
If there are restrictions on use, how will access be provided?	The response shall be made after the selection of use-cases and reference databases.
Is there a need for a data access committee?	There is no need for a data access committee.
Are there well described conditions for access ( <i>i.e. a machine readable license</i> )?	The response shall be made after the selection of use-cases and reference databases.
How will the identity of the person accessing the data be ascertained?	The person accessing the data will not be ascertained.

## Short Name: PATHOS

### 1.2.4 Making data interoperable

Questions	Answers
Are the data produced in the project interoperable, that is allowing data exchange and re-use between researchers, institutions, organisations, countries, etc. ( <i>i.e. adhering to standards for formats, that are as far as possible compliant with available (open) software applications, and in particular facilitating re-combinations with different datasets from different origins</i> )?	Documents and formats used are interoperable.
What data and metadata vocabularies, standards or methodologies will you follow to make your data interoperable?	The response shall be made after the selection of use-cases and reference databases.
Will you be using standard vocabularies for all of the data types present in your data set, to allow inter-disciplinary interoperability?	The response shall be made after the selection of use-cases and reference databases.
If it is essential to use uncommon, or generate project specific, ontologies or vocabularies, will you provide mappings to more commonly used ontologies?	It is not necessary to use unusual ontologies.

### 1.2.5 Increase data re-use (through clarifying licenses)

Questions	Answers
How will the data be licensed to permit the widest re-use possible?	The response shall be made after the selection of use-cases and reference databases.
When will the data be made available for re-use? <i>If an embargo is required to allow time to publish or seek patents, specify why and how long this will apply, bearing in mind that research data should be made available as soon as possible.</i>	The response shall be made after the selection of use-cases and reference databases.
Are the data produced and/or used in the project useable by third parties, in particular after the end of the project? <i>If the re-use of some data is restricted, explain why.</i>	The response shall be made after the selection of use-cases and reference databases.
How long will the data remain re-usable?	The response shall be made after the selection of use-cases and reference databases.
Are data quality assurance processes described?	Not required.

## Short Name: PATHOS

### 1.3 Allocation of resources

Questions	Answers
What are the estimated costs for making data Findable, Accessible, Interoperable and Reusable (FAIR) in your project?	The costs are low.
How will these costs be covered?	The costs for the operation of the website will be covered by PATHOS Project e.V.
Who will be responsible for data management in your project?	WEIZMANN is responsible for the data management in the project.
What are the costs and potential value of the long term preservation of the data ( <i>also state who decides on what data will be kept and for how long</i> )?	There are no additional costs.

### 1.4 Data security

Questions	Answers
What provisions are in place for data security ( <i>including data recovery as well as secure storage and the transfer of sensitive data</i> )?	Documents during its development are stored locally on storage areas that are regularly backed up.
Is the data safely stored in certified repositories for long term preservation and curation?	Data are safely stored locally.

### 1.5 Ethical aspects

Questions	Answers
Are there any ethical or legal issues that could impact on data sharing? <i>You can also discuss this in the context of the outcomes of the ethics review and if relevant, include references to ethics report(s) and the ethics section in the Annex 1.</i>	There is no ethical concern to share the data from the project.
Is informed consent for data sharing and long term preservation included in questionnaires dealing with personal data?	The consent to the processing of personal data will be obtained in appropriate questionnaires or by e-mail correspondence

### 1.6 Other

Question	Answer
Do you use other national/funder/sectorial/depart mental procedures for data management? If yes, which ones?	Other procedures are not used.