

# Public nEUro: a european platform to share neuroimaging datasets publicly

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Authors:

Cyril Pernet<sup>1</sup>, Melanie Ganz<sup>2</sup>, Gitte Knudsen<sup>1</sup>

Institutions:

<sup>1</sup>Neurobiology Research Unit, Copenhagen, Denmark, <sup>2</sup>University of Copenhagen, Copenhagen, Denmark

First Author:

Cyril Pernet, PhD

Neurobiology Research Unit  
Copenhagen, Denmark

Co-Author(s):

Melanie Ganz, PhD

University of Copenhagen  
Copenhagen, Denmark

Gitte Knudsen, MD, DMSc

Neurobiology Research Unit  
Copenhagen, Denmark

Introduction:

Data sharing using a web-platform is becoming an integral part of the research life cycle. Not only data sharing allows reproducing analyses, a tenet of experimental research, but it also allows deepening analysis of existing datasets, combining data, meta-analysing and asking outright new question. Because neuroimaging data can be seen as personal data, this activity is challenging for EU-based researchers who have to comply with the General Data Protection regulation - the law that protects EU citizens from misusing their personal data. Here we introduce Public nEUro (<https://public-neuro.github.io/index.html>), a platform for EU-regulation-compliant data sharing.

Methods:

(1) We constructed a legal framework allowing data providers to share their neuroimaging data using institution-specific data user agreements (figure 1)

- (2) We created a governance framework ensuring fair, legal and secure data sharing
- (3) Leveraging Denmark's national life science super-computing facility (computerome) we can offer secured hosting of datasets
- (4) Using DataLad (Halchenko et al., 2021) data catalogue (<https://docs.datalad.org/projects/catalog/en/latest/>) we are developing tools to share openly metadata, making EU dataset findable.
- (5) Using verified user registration, we can make EU neuroimaging data accessible.

## Results:

- (1) We have successfully established connections with several institutions whose legal teams agreed with the 'terms and conditions' - illustrating the generalizability of our concept to share EU data.
- (2) Datasets are being uploaded and processed for data sharing. Each dataset must be BIDS (Gorgolewski et al., 2016) compliant (<https://bids.neuroimaging.io/>) ensuring interoperability and reusability.

## Conclusions:

The sharing of EU protected neuroimaging data is possible, without the need of data lakes thereby bringing users to the data. Instead, by allowing data creator to use institution specific data user agreements, verifying users identities and controlling data access, one can bring data to users, a model we believe to be more relevant in many cases, as proven by the success of OpenNeuro. Public nEUro aims to achieve more than just providing data access, but to also make data public, that is create a public record of metadata to enhance findability.

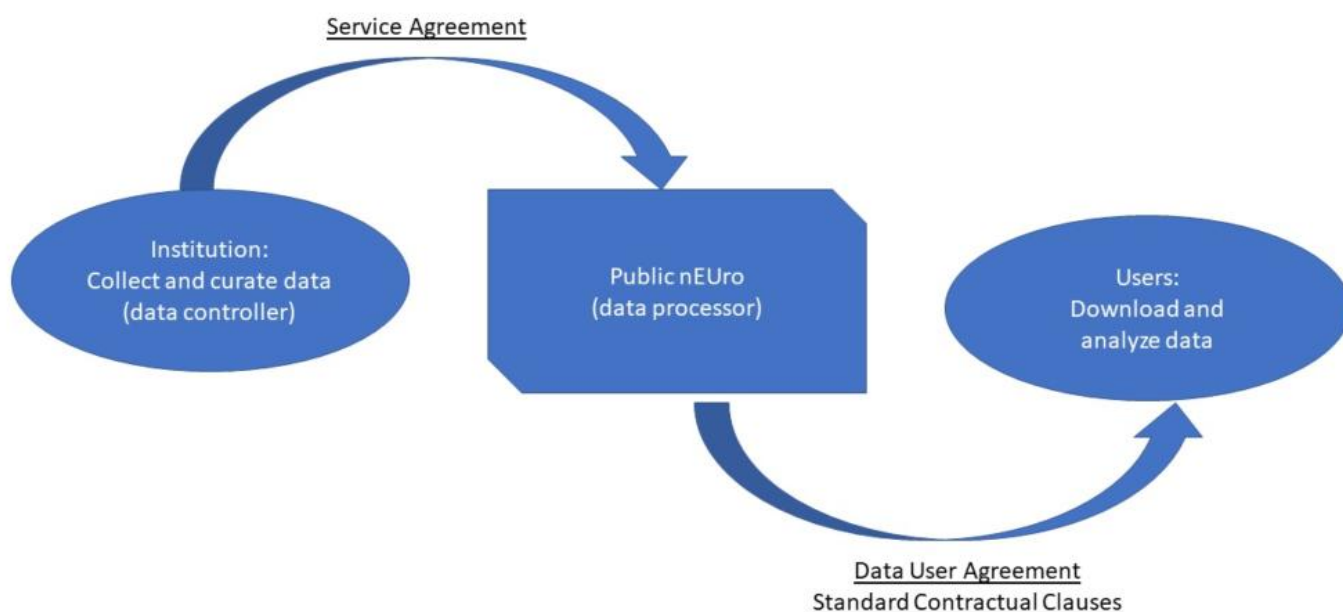
## Neuroinformatics and Data Sharing:

Databasing and Data Sharing <sup>1</sup>  
 Informatics Other <sup>2</sup>

## Keywords:

Informatics  
 Open Data  
 Other - GDPR

<sup>1|2</sup>Indicates the priority used for review



·Figure 1: schematic of data flow and responsibilities of different parties

## Abstract Information

My abstract is being submitted as a Software Demonstration.

No

Please indicate below if your study was a "resting state" or "task-activation" study.

Other

Healthy subjects only or patients (note that patient studies may also involve healthy subjects):

Patients

Was any human subjects research approved by the relevant Institutional Review Board or ethics panel? NOTE: Any human subjects studies without IRB approval will be automatically rejected.

Not applicable

Was any animal research approved by the relevant IACUC or other animal research panel? NOTE: Any animal studies without IACUC approval will be automatically rejected.

Not applicable

Please indicate which methods were used in your research:

PET

Functional MRI

EEG/ERP

MEG

Neurophysiology

Structural MRI

Diffusion MRI

Behavior

Neuropsychological testing

For human MRI, what field strength scanner do you use?

1.5T

3.0T

7T

Which processing packages did you use for your study?

Other, Please list - BIDS validator, DataLad

Provide references using author date format

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