

German Neuroinformatics Node

Research Data Management, Hosting and Sharing

The GIN research data platform and associated tools

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GIN - G-Node Infrastructure

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GIN

Modern Research Data Management for Neuroscience

...distributed version control, flavoured for science



Manage your research data

Upload your data to private repositories.
Synchronise across devices.
Securely access your data from anywhere.



Share your data

Collaborate with colleagues.
Make your data public.
Make your data citable with the GIN DOI service.



Version your data

Uploaded files are automatically versioned.
Retrieve any previously uploaded version of a file.
Never lose file history.



Open Source

Based on open source projects such as [Git](#), [git-annex](#),
and [Gogs](#). You can even set it up in your lab!

Scientific data hosting service

[Search](#)

[doi / Resolving_and_rescuing_developmental_miswiring_in_a_mouse_model_of_cognitive_impairment](#) ★ 0 0 0

Updated 1 week ago



[hiobeen / Mouse_hdEEG_ASSR_Hwang_et_al](#) ★ 0 0 0

A set of high-density EEG (electroencephalogram) recording obtained from awake, freely-moving mice (*mus musculus*).

Updated 1 week ago



[mdp10yy / DCA](#) ★ 0 0 0

Supplementary Figure 1. Human bile increased afferent firing frequency in mouse proximal colon

Updated 5 months ago



[pgoltstein / Mini1p2pcomparison_Glas_Goltstein_2018](#) ★ 0 0 0

Dataset of "Benchmarking miniaturized microscopy against two-photon calcium imaging using single-cell orientation tuning in mouse visual cortex". By Annet Glas, Mark Hübener, Tobias Bonhoeffer & Pieter M Goltstein; Max Planck Institute of Neurobiology

- Neuroscience data repository recommended by:



- Statistics
 - 3000+ repositories (~1200 public)
 - ~2900 users
 - 62 TB of research data

General features

- Github like service
 - Public and private repositories
 - Access control via user permissions, organizations and teams
 - Issues, pull requests, wiki
- Platform independent data access
- Enables easy data publishing (DOI)

General features

- Indexing and search of text file content
- Built-in file versioning
- Manual and automated workflow integration
- Specific handling of large files via git annex
 - Handles large files better than git
 - Enables to keep only required file content locally

Handle collaboration

- Repositories and permissions
 - add registered users to a repository
 - Invite non-registered users by email address
 - assign Read only; Write access; Admin access

- Organisations
 - Create repositories using the organisation
 - Create teams using the organisation
 - assign read; write; admin; owners
 - add registered users to teams

Handling data using the web interface

- Upload files
- Create new folders and files
- Edit files online
- Delete files
- Download single files
- Download repository zip
 - Download large file content separately
- Extensive user documentation

<https://gin.g-node.org/G-Node/Info/wiki/Web+Interface>

Handling data using the gin command line client

- Simplified git commands
 - Download, upload
 - Local user login
 - Version control
 - Local large file content handling
 - Work with different remotes
 - Work with different servers
 - Extensive command help
- Full git and git annex commands supported

Handling data using the gin command line client

- Automatic ssh key session handling
- Automate workflows; integrate into scripts
- Handle large file content
 - download only content required
 - specify file size as large file content
- Available for all operating systems
<https://gin.g-node.org/G-Node/Info/wiki/GIN+CLI+Setup>
- Beginner and advanced usage documentation
<https://gin.g-node.org/G-Node/Info/wiki/GIN+CLI+Usage+Tutorial>

Handling data using the datalad client



- Use the datalad client with GIN
- ssh upload and download supported
- Requires ssh key upload
- GIN specific how-to documentation

<https://handbook.datalad.org/en/latest/basics/101-139-gin.html>

Data publication



- Free data publication service
- Citable datasets (DOI)
- 290+ published data sets
- Total published data size: 14TiB

<https://doi.gin.g-node.org>

- Free for all public repositories on gin
- Requirements
 - Provide metadata about the dataset
 - Add an appropriate license
- How-to documentation

<https://gin.g-node.org/G-Node/Info/wiki/DOI>

Deploy own GIN instance

- Open source
- Docker deployment
 - Pre-built Container available
 - Build your own container
- Local or public
- Customizable look
 - stylesheets
 - templates
- Use gin command line client with all GIN instances
- Full installation documentation

<https://gin.g-node.org/G-Node/in-house-gin>

Repository validation service

- Companion service to gin <https://valid.gin.g-node.org>
- Validate repository content
 - BIDS repository format
 - NIX neuroscience data file format
 - odML metadata file format
- Login using gin credentials
- Validate any public GIN repository
- Set up automatic validation on upload to owned repository
- Link results badge on GIN repository

Repository validation service

[Back to GIN](#)[Repositories](#)[One-time validation](#)[msonntag \(logout\)](#)

BIDS validation for msonntag/bids_format_valid validation warning

History:

validation warning

2022-06-13 14:58:36

validation warning

2021-11-30 13:01:25

validation warning

2021-11-30 13:00:13

warning, SLICE_TIMING_NOT_DEFINED

Reason: You should define 'SliceTiming' for this file. If you don't provide this information slice time correction will not be possible. 'Slice Timing' is the time at which each slice was acquired within each volume (frame) of the acquisition. Slice timing is not slice order -- rather, it is a list of times containing the time (in seconds) of each slice acquisition in relation to the beginning of volume acquisition.

Filename: sub-01_task-Emotionregulation_run-01_bold.nii.gz (Code: 13)

Path: /gin-valid/tmp/bids381485986/bids_format_valid/bids_example/sub-01/func/sub-01_task-Emotionregulation_run-01_bold.nii.gz

Filename: sub-01_task-Emotionregulation_run-02_bold.nii.gz (Code: 13)

Path: /gin-valid/tmp/bids381485986/bids_format_valid/bids_example/sub-01/func/sub-01_task-Emotionregulation_run-02_bold.nii.gz

Filename: sub-01_task-Emotionregulation_run-03_bold.nii.gz (Code: 13)

Path: /gin-valid/tmp/bids381485986/bids_format_valid/bids_example/sub-01/func/sub-01_task-Emotionregulation_run-03_bold.nii.gz

Filename: sub-01_task-Emotionregulation_run-04_bold.nii.gz (Code: 13)

Path: /gin-valid/tmp/bids381485986/bids_format_valid/bids_example/sub-01/func/sub-01_task-Emotionregulation_run-04_bold.nii.gz

<https://valid.gin.g-node.org>

Repository validation service

- Submit custom validators
 - Core code easy to extend
 - Bash, python, npm scripts, executables
 - Validator extension documentation
- Run your own validation server
 - Open source
 - Build on all platforms and deploy via docker
 - Connect to GIN or to self-hosted GIN service

<https://github.com/G-Node/gin-valid>

Resources

Linklist

<https://gin.g-node.org>

<https://gin.g-node.org/G-Node/Info/wiki>

<https://doi.gin.g-node.org>

<https://gin.g-node.org/G-Node/Info/wiki/In+House>

<https://github.com/G-Node/gogs>

<https://gin.g-node.org/G-Node/in-house-gin>

<https://valid.gin.g-node.org>

Get in touch

info@g-node.org

<http://www.g-node.org>