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EBRAINS Knowledge Graph

Find, use and share scientific data

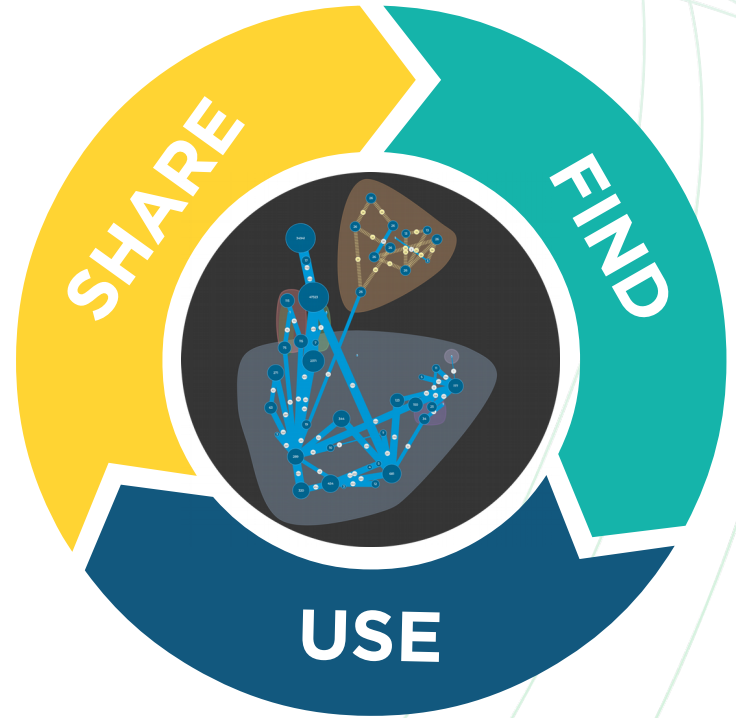
EBRAINS workshop - Madrid – Oliver Schmid - 12.11.2019



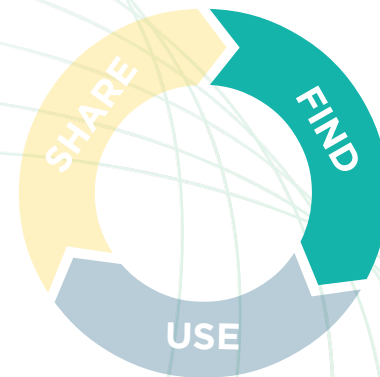
EBRAINS

EBRAINS Knowledge Graph

The one-stop shop
for scientific metadata
management



Find @ <https://kg.ebrains.eu/search>



The screenshot shows the EBRAINS search interface. At the top, there is a search bar with the text '3D reconstruction' and a 'SEARCH' button. Below the search bar, there are four filter tabs: 'Project' (20 Results), 'Dataset' (67 Results), 'Model' (1 Result), and 'Contributor' (28 Results). The 'Dataset' tab is selected. On the left, there are 'FILTERS' including 'SPECIES' (Homo sapiens, Mus musculus, Rattus norvegicus), 'EMBARGO' (Free, Embargoed), and 'METHODS' (silver staining, magnetic resonance imaging (MRI), cytoarchitectonic mapping, Two-photon microscopy, Confocal Microscopy, CLARITY/TDE, Light Microscopy). The main content area shows 'Viewing 1-20 of 67 results'. The first result is '3D reconstructions of pyramidal cells in the human neocortex' with 48 results. The second result is '3D reconstruction of the vascular system of the mouse brain' with 6 results. A 'Log in' button is at the bottom left.

The screenshot shows the dataset detail page for 'Corrected 3-D reconstruction and surface parcellation of an infant brain'. The page includes a 'DATASET' header, a description of the infant brain template, and a DOI for the data. A large image shows a cross-section of the brain with a 3D reconstruction overlaid. Below the main image are two smaller images showing different views of the brain. The page also lists the project name, custodians, and brain region (Amygdala, Angular gyrus, Anterior cingulate gyrus, Calcarine sulcus, Caudate). A 'Log in' button is at the bottom left.

DATASET

Corrected 3-D reconstruction and surface parcellation of an infant brain

Description:
The infant brain template is a corrected three-dimensional reconstruction of a single MRI brain scan of a single human infant (female, age: 71 weeks) with a high resolution (1.1 mm isotropic). The inner cortical surface was segmented using a semi-automatic segmentation pipeline dedicated to T2-weighted MRI images of the infant brain, followed by manual correction, when local inaccuracies were detected. On the basis of the segmented sulci, 47 anatomical regions were delineated in each hemisphere, using the same principles as the AAL atlas (Automated Anatomical Labelling).

DOI for these data:
Kabdebon, C., Leroy, F., Simmonet, H., Perrot, M., Dubois, J., & Dehaene-Lambertz, G. (2019). *Corrected 3-D reconstruction and surface parcellation of an infant brain* [Data set]. Human Brain Project Neuroinformatics Platform.
DOI: [10.25493/490Z-AWZ](https://doi.org/10.25493/490Z-AWZ)

Contributors: [Kabdebon, C.](#); [Leroy, F.](#); [Simmonet, H.](#); [Perrot, M.](#); [Dubois, J.](#); [Dehaene-Lambertz, G.](#)

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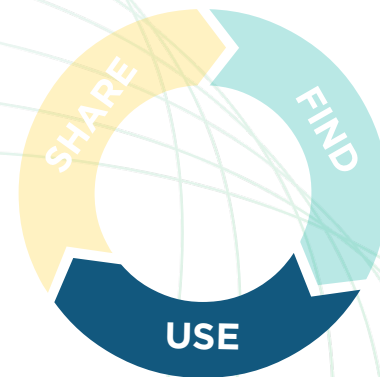
Project: [Infant atlas and major tracts in infant brains](#)

Custodians: [Dehaene-Lambertz, Ghislaine](#)

Brain region:

- Amygdala
- Angular gyrus
- Anterior cingulate gyrus
- Calcarine sulcus
- Caudate
- ...

Use



swagger Select a spec: default

KG Core API 1.0.0

[Terms of service](#)
[Contact the developer](#)
[Apache 2.0](#)

clients Clients

instances Instances

- GET** /instances getInstances
- POST** /instances Create new instance with a system generated id
- GET** /instances/{id} getInstanceById
- POST** /instances/{id} Create new instance with a client defined id
- DELETE** /instances/{id} Deprecate instance
- PATCH** /instances/{id} Contribute to existing instance
- GET** /instances/{id}/resolvedId resolveId

Knowledge Graph Editor

Click on "Save As" to save your query. Reset Save As

Field o... Query spec... Results: JS... Results: Tab

Size: 20 Start: 0

Select space: Released

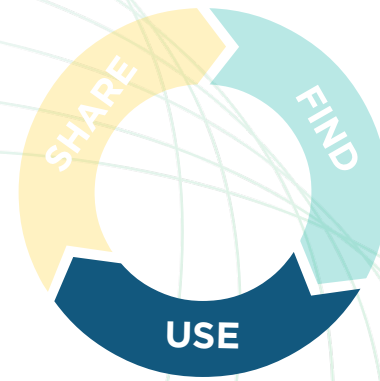
Strip vocab: ▼

Run it

```
{ 5 items
  "importantMessage" :
    string "This query is executed with a mode thought for query
testing only (with throttled performance). Please register your
query if you're happy with it. It's easy and you gain speed
);"
  "results" : [ 20 items
    0 : { 3 items
      "name" :
        string "Probabilistic cytoarchitectonic map of Area hIP7
(IPS) (v7.1)"
      "description" :
        string "This dataset contains the distinct architectonic
```



Use



swagger Select a spec: default

KG Core API ^{1.0.0}

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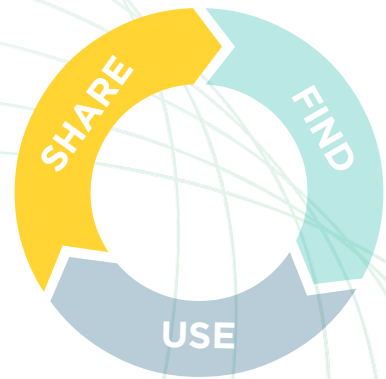
Strip vocab: ▼

Run it

```
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  "importantMessage" :
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    ;)!"
  "results" : [ 20 items
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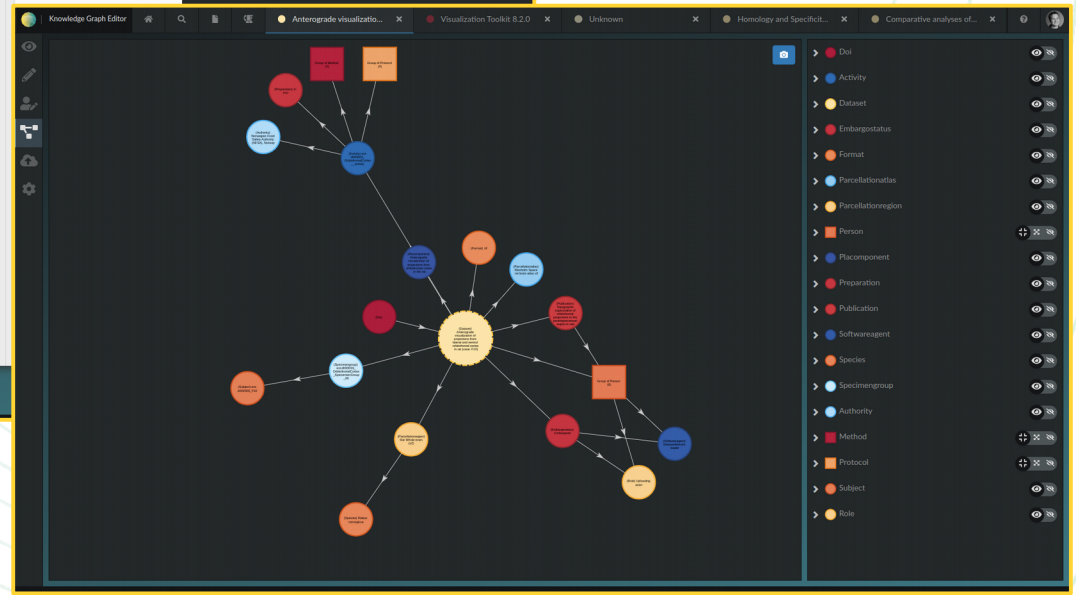
Share



The screenshot shows the Knowledge Graph Editor interface. The main panel displays details for a dataset named 'minds/core/dataset/v1.0.0'. The description reads: 'High-resolution bright-field microscopy images (86) of serial coronal brain sections showing anterogradely labeled axons in orbitofrontal cortex (OFC) in a female adult Sprague Dawley rat. Two anterograde tracers, biotinylated dextran amine (BDA) and Phaseolus vulgaris-leucoagglutinin (PHA-L), were injected into the lateral (LOC) and ventral orbitofrontal cortex (VOC), respectively. Brain sections are 300 µm apart and 50 µm thick. The dataset contains two complete series throughout the anterior-posterior extent of the brain, contributing to visualization of a topographically organized connectivity from OFC throughout the brain, including the published data on a topographically organized projection to the parahippocampal areas.'

Activities section shows an activity named 'ext-d000003_OrbitofrontalCortex...' with a description field.

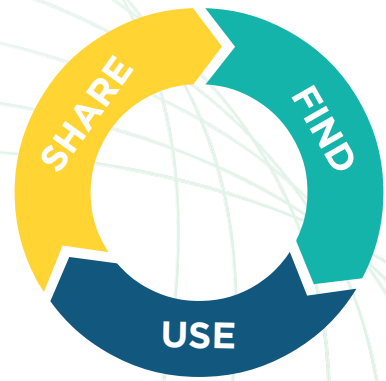
Project field is 'Anterograde visualization of projec...'. Modality includes 'expression' and 'anatomy'. Container URL is 'https://object.cscs.ch/d1/ALITH_4791e0a3b3de43e2840fe4d9dc2'.



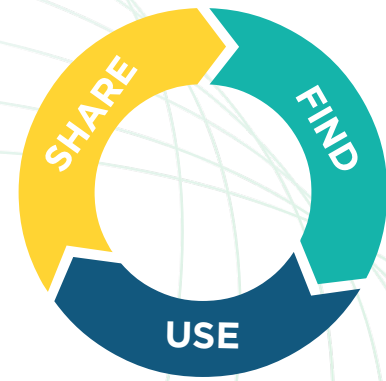
What is coming up?

EBRAINS Knowledge Graph v2

- More fine-grained permission management
- Simplified APIs (for ingestion and query)
- Compatibility and integration with various external systems
- Improved maintainability and scalability
- ... and much more



Want to know more?



Visit **<https://kg.ebrains.eu>**

Send an e-mail to **kg@ebrains.eu**

Have a



with us (in-person or via VC) :)



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