

# NIH U19 Data Science Consortium

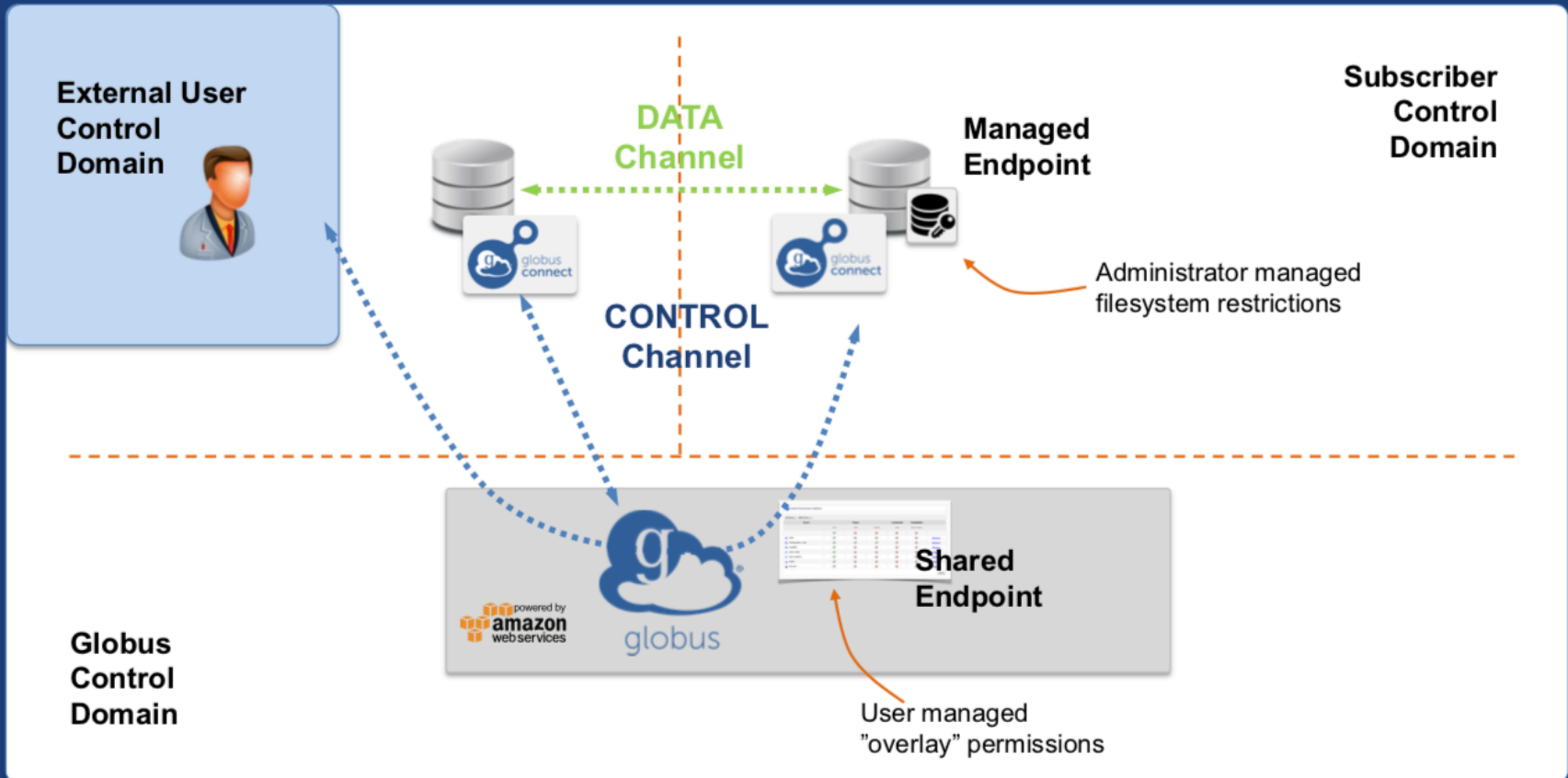
## Data Analysis/Data Platforms Subgroup

April 13, 2019, 5<sup>th</sup> Annual BRAIN Investigators Meeting

- PART 1: Examples of current U19 project approaches
  - MoC3 (Costa) and MouseV1 (Miller) U19s
    - Globus use examples: MouseV1 U19; International Brain Lab (IBL); Mesoscale project: Svoboda Lab, DOE (Dimitri Yatsenko)
  - ABC (Kleinfeld) U19, UCSD system?
  - Sensation (Maunsell) U19, BRAIN platform, Fraunhofer Center for Experimental Software Engineering
  - Learning2Learn (Buffalo) U19, PanNeuro (Ariel Rokem)
- PART 2. Review/Discussion of archives listed in NIH Notice of Data Sharing Policy
- PART 3. Other Topics
  - Access control in storage spaces; path from project-only to public sharing
  - Publishing data and allowing others to simultaneously mine shared data sets

# Globus

## Conceptual architecture: Sharing



# BRAIN Initiative Notice of Data Sharing Policy

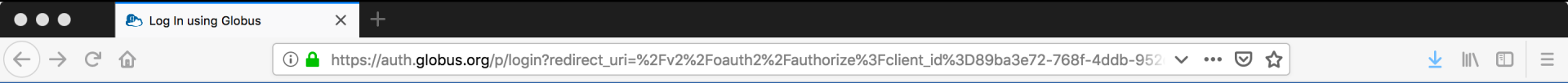
## ([NOT-MH-19-010](#))

Applicants to BRAIN Initiative funding opportunity announcements need to 1) submit their data to one of the BRAIN data archives for sharing; 2) include specific required elements in the Resource Sharing Plan as in the policy; and 3) include costs attributed to data preparation and submission to a data archive in grant applications.

The list of archives includes:

- 1) The Neuroscience Multi-omic Data Archive (<https://nemoarchive.org/about.php>, R24MH114788) to hold data from -omics experiments.
- 2) The Brain Image Library (<http://www.brainimagelibrary.org/index.html>, R24MH114793) to hold microscopy data.
- 3) Data Archive for the BRAIN Initiative (<https://dabi.loni.usc.edu>, R24MH114796) to hold data related to human electrophysiology experiments.
- 4) OpenNeuro (<https://openneuro.org/>, R24MH117179) to hold magnetic resonance imaging data.
- 5) Block and Object Storage Service (<https://bossdb.org/>, R24MH114785) to hold electron microscopy data.

[See also Neurodata (<https://neurodata.io>)]




## Log in to use Globus Web App

Use your existing organizational login

e.g., university, national lab, facility, project

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Or

 Sign in with Google

 Sign in with ORCID ID

# Globus

The screenshot shows the Globus File Manager interface. The browser address bar displays the URL: [https://app.globus.org/file-manager?origin\\_id=5fef5838-fe4b-11e8-9f96-0a06afd4a22e&origin\\_path=%2FSample\\_Data%2F](https://app.globus.org/file-manager?origin_id=5fef5838-fe4b-11e8-9f96-0a06afd4a22e&origin_path=%2FSample_Data%2F). The interface includes a sidebar with navigation options: RECENTLY USED (no activity), PINNED BOOKMARKS (no pinned bookmarks), and a Bookmark Manager. The main area shows the 'File Manager' view for the collection 'u19-vision' at the path '/Sample\_Data/'. The file listing includes:

Item	Created	Size
Folder: ephys	03/13/2019 02:26pm	-
Folder: optical	03/13/2019 02:28pm	-
File: vip_retinotopy_data_struct.mat	03/27/2019 01:54pm	288.36 MB

On the right side of the file listing, a context menu is open, showing options such as Permissions, Transfer or Sync to..., New Folder, Rename, Delete Selected, Preview (limited), Download (https), Open (https), Get Link, and Show Hidden Items.

# Globus

The screenshot displays the Globus File Manager interface. The browser address bar shows the URL: [https://app.globus.org/file-manager?destination\\_id=5fef5838-fe4b-11e8-9f96-0a06afd4a22e&destination\\_path=%2F&...](https://app.globus.org/file-manager?destination_id=5fef5838-fe4b-11e8-9f96-0a06afd4a22e&destination_path=%2F&...)

The interface includes a left sidebar with navigation options: File Manager, RECENTLY USED (u19-vision, RKB\_zrcd\_mbp17), PINNED BOOKMARKS (You have no pinned bookmarks), Bookmark Manager, Activity, Endpoints, Publish, Groups, Console, Account (rb2568@columbia.edu), and Help.

The main content area is titled "File Manager" and shows the following details:

- Collection: RKB\_zrcd\_mbp17
- Path: /~/Documents/CU/CU\_ZI/U19/201904\_BRAIN\_Invest
- Search: u19-vision

The file list is divided into two columns:

File Name	Date/Time	Size
tut04_Best_Practices_Data_Sharing.pdf	04/09/2019 03:52pm	4.45 MB
U19_Data_Science_dadp_subgroup_Bose.pdf	04/11/2019 04:48pm	535.75 KB
U19_Data_Science_dadp_subgroup_Bose.pptx	04/11/2019 04:47pm	630.89 KB
U19_Data_Science_dadp_subgroup_draft1.pptx	04/11/2019 04:11pm	3.17 MB
U19_Data_Science_dadp_subgroup_draft2.pdf	04/11/2019 04:48pm	535.75 KB
U19_Data_Science_dadp_subgroup_draft2.pptx		

The right column shows a folder structure:

- Meeting\_Video-Recording (12/20/2018 04:21pm)
- Sample\_Data (03/27/2019 01:53pm)
- U19\_Data\_Science\_dadp\_subgroup\_Bose... (04/13/2019 12:46pm, 535.75 KB)

At the bottom, there are "Start" buttons and a "Transfer & Sync Options" dropdown menu.

# Globus



## Globus by the numbers

**1,042**

most shared  
endpoints  
at a single  
institution

**400 PB**

transferred

**66 billion**

files processed

**100,000**

users

**24**

Petabyte+  
institutions

**15,000**

active transfer users

**3 months**

longest running transfer

**20,000**

active endpoints

**500+**

identity providers

**1 PB**

largest single  
transfer to date

**8,000**

active shared  
endpoints

**99.9%+**

availability