

BRICS Seminar

Thor and Thor Minor: Enhancements

Looking Ahead: The Underdog Release

Biomedical Research Informatics Computing System (BRICS)

March 13th, 2025



MTBI²



Audio/Video	Please keep your microphone muted
Recording	<ul style="list-style-type: none">• Today's session will be recorded• Will be posted on the BRICS website: https://brics.cit.nih.gov/demo
Questions & Comments	<ul style="list-style-type: none">• We encourage your participation today• Please use the chat for questions & comments. The chat will be monitored throughout today's demo.• There will also be time after each speaker and at the end of the demo to ask live questions.



Agenda

Time	Topic	Speaker(s)
9:30 AM-9:55 AM	Release Updates	Preeti Roy
9:55 AM-10:00 AM	Closing Remarks	Dr. Matthew McAuliffe





BRICS

Biomedical Research
Informatics Computing System

Biomedical Research Informatics Computing System (BRICS)

Thor and Thor Minor Enhancements

Preeti Roy



MTBI²






Thor Release

- **Deployed to Production – December 14th, 2024**
- **Release consisted of the following:**
 - Expanded workflows for the **Meta Study** module
 - Pilot launch of **Globus** endpoints for submitting large datasets using the Submission Tool.
 - **UI improvements**
 - Critical Security Fixes
 - Deployed two new BRICS environments: **Intramural** and **Sandbox**
 - **Designed, developed and deployed** and a new public site for [Cerebral/Cortical Visual Impairment \(CVI\)](#)

Thor Release

Meta Study – Expanded Workflows

Menu ▼


Meta Study Administration


Manage Meta Studies >

Meta Study Administration ▼

Manage Meta Studies

Manage Meta Study Data

Manage Meta Studies

 A Meta Study contains findings from other studies that could be used by researchers to conduct additional analysis. The information within the Meta Study can be used in publications and is accessi...




Column Visibility ▼

Meta Study Information Report

Meta Study Access Report

Meta Study Submission Report

Search:

#	META STUDY TITLE	ORGANIZATION	META STUDY ID	PRINCIPAL INVESTIGATOR	DATA TYPES	# SUBJECTS	PERMISSION	STATUS	DELETION REQUESTED
<input type="checkbox"/>	Development and Validation of Handheld Dried-Plasma Biosampling Lateral Flow (LF) Technology for TBI Protein and Metabolites Diagnostics	Morehouse School of Medicine	FITBIR-META-STUDY0000244	Kevin Wang			Admin	Draft	No
<input type="checkbox"/>	Development of a Mental health Outcomes Screening Tool (MOST) after mild traumatic brain injury in adolescents: The MOST-mTBI study	University of Cincinnati and Cincinnati Children's	FITBIR-META-STUDY0000253	Brad Kurowski			Admin	Draft	No
<input type="checkbox"/>	Dissertation Proposal FITBIR Data Information	Clemson university	FITBIR-META-STUDY0000232	Samantha Kanny			Admin	Draft	No
<input type="checkbox"/>	Exploration of Symptom Clusters and Symptom Profiles in adults with Mild Traumatic Brain Injuries	University of Washington	FITBIR-META-STUDY0000246	Jessica Ziemek			Admin	Draft	No
<input type="checkbox"/>	Finding Anatomical and Functional Imaging Markers for Post Traumatic Epilepsy	University of Southern California	FITBIR-META-STUDY0000221	Anand A Joshi			Admin	Draft	No

Narrow your search

[Clear Filters](#) [Restore Default](#)

Resource ▼

FITBIR NTRR

Ownership ▼

All Mine

Status ▼

Archive Requested

Archived

Awaiting Publication

Deleted

Draft

[show more](#)

Request to Delete ▼

All

Thor Release

Globus Integration – Submission Tool

Data Repository

Validate and Upload Tool (Submission Tool) - JavaScript Application

Getting started and need help? Download the [Submission Tools User Guide \(pdf\)](#)

Validation Tool | Upload Tool

Working Directory

Upload Directory **Choose Directory** **Load Directory**

Upload Files associated files, choose 'Upload Directory':

- Upload Directory
- Upload Via Globus**

Hidden files will not be displayed on this table. Ex: .DS_Store, Thumbs.db, desktop.ini

Color Legend ■ Requires Validation ■ Valid ■ Excluded ■ Error

Include Files **Exclude Files** Search:

NAME	TYPE	STRUCTURE	STATUS	RESULT	SUMMARY
No data available in table					

Showing 0 to 0 of 0 entries (0 row selected of 0)

Validate Files **Build Submission Package**



Thor Release New Tools Page

Menu

- Tools
 - Download Tool
 - Validate & Upload Tool
 - Image Packaging Tool

Tools



Download Tool

The Download Tool provides the capability to export packages (single or multiple datasets) from the system. Users may download selected packages from the Data Repository, Query Tool, Meta Study, or Subject Management to their own system using [Read more](#)

LAUNCH DOWNLOAD TOOL

[Click here](#) to view the Download Tool User Guide.



Submission Tool: Validate & Upload

The Validate & Upload Tool assists researchers with the validation and upload of data into the repository. The validation component verifies that submitted data conforms to the required format and range values defined in the Data Dictionary. The [Read more](#)

LAUNCH VALIDATE & UPLOAD TOOL

[Click here](#) to view the Validate & Upload Tool User Guide.



Submission Tool: Image Packaging

The Image Packaging Tool allows users to submit unprocessed brain images in DICOM format and processed images in a variety of formats including DICOM, BIDS, MINC 1.0 and 2.0, Analyze, NIFTI-1, AFNI and SPM. If you are using a different file format [Read more](#)

LAUNCH IMAGE PACKAGING TOOL

[Click here](#) to view the Image Packaging Tool User Guide.



Data Element to UMLS Mapping Tool

The BRICS Data Element to UMLS Mapping Tool was created to assist in assigning Unified Medical Language System Concept Unique Identifiers (UMLS CUIs) to BRICS Common Data Elements (CDEs). The tool provides search features by keyword or key phrase [Read more](#)

LAUNCH UMLS MAPPING TOOL



Fast Healthcare Interoperability Resources (FHIR)

The Fast Healthcare Interoperability Resources (FHIR) tools are part of our efforts to enhance Findability, Accessibility, Interoperability, and Reusability (FAIR) capabilities within BRICS. They are able to facilitate seamless ingestion, into [Read more](#)

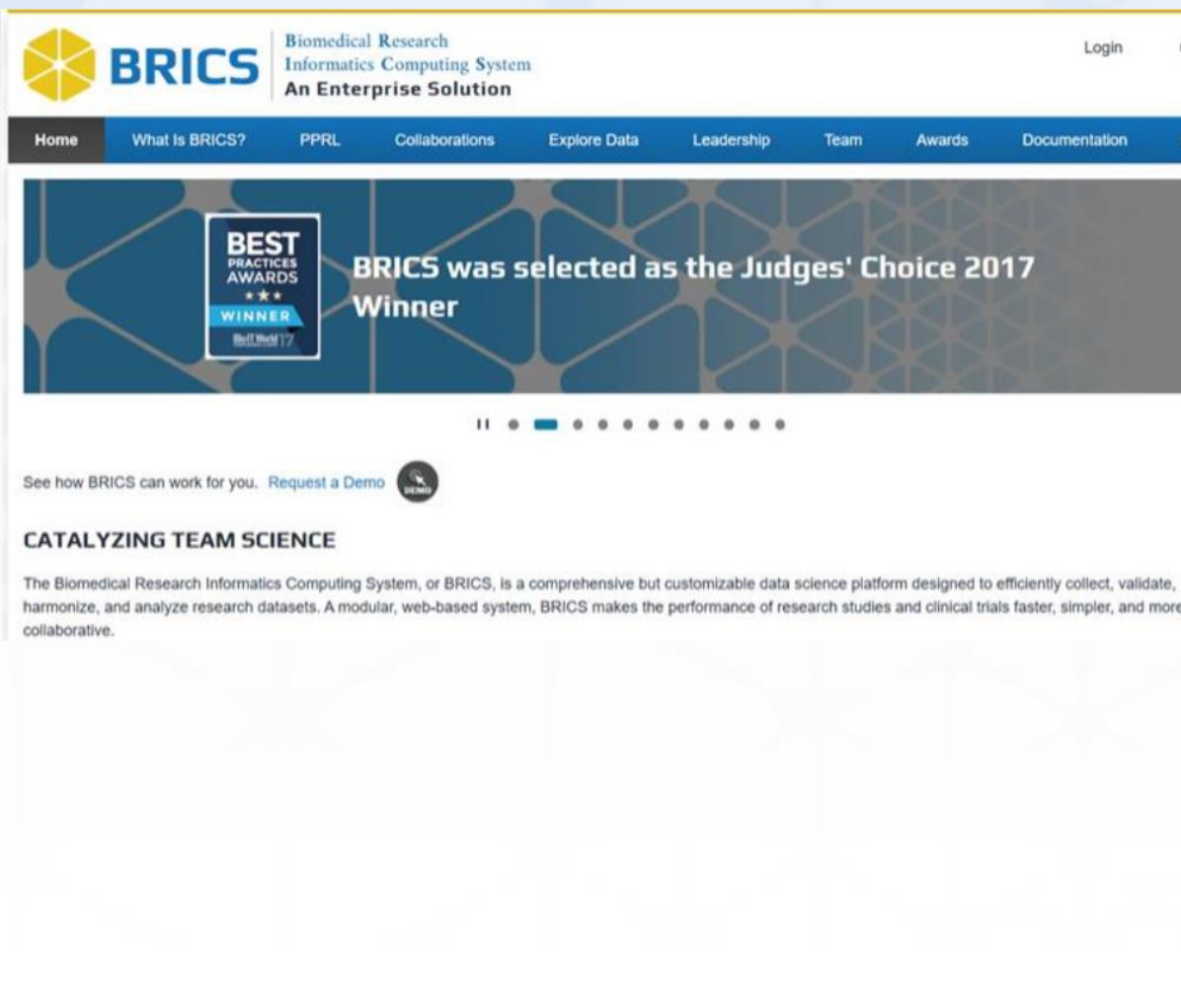
LAUNCH FHIR TOOL



Thor Release

BRICS Intramural Website

BRICS Sandbox



The screenshot shows the BRICS website homepage. At the top left is the BRICS logo and the text "Biomedical Research Informatics Computing System An Enterprise Solution". To the right is a "Login" link. Below this is a navigation menu with items: Home, What Is BRICS?, PPRL, Collaborations, Explore Data, Leadership, Team, Awards, and Documentation. The main content area features a large blue banner with a "BEST PRACTICES AWARDS WINNER" badge and the text "BRICS was selected as the Judges' Choice 2017 Winner". Below the banner is a "Request a Demo" button. The section is titled "CATALYZING TEAM SCIENCE" and contains a paragraph describing BRICS as a comprehensive but customizable data science platform designed to efficiently collect, validate, harmonize, and analyze research datasets.

- **Intramural Website**
 - Setup in AWS
 - Available to Intramural Users
- **Sandbox Website**
 - Setup on premise
 - For internal usage



Thor Release

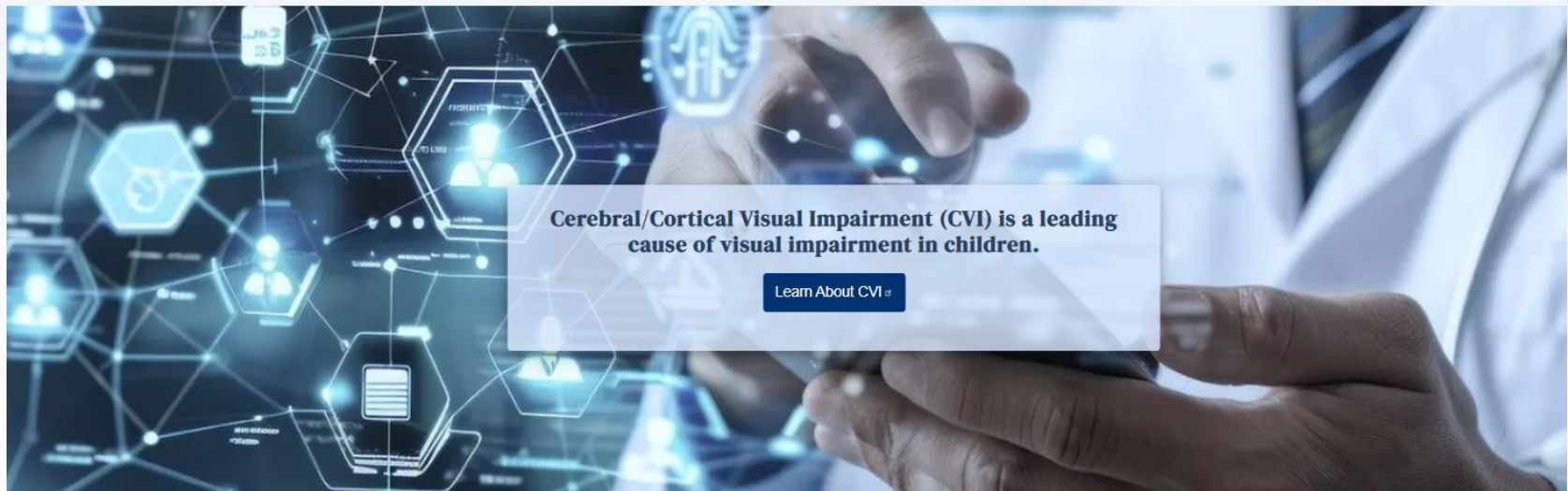
[CVI Website](#)

cvi.nih.gov



NIH NIH CVI Registry

[Home](#) [About](#) [Contact Us](#)



Cerebral/Cortical Visual Impairment (CVI) is a leading cause of visual impairment in children.

[Learn About CVI](#)

NIH CVI Registry and Research Resource:

The NIH CVI Registry is under development and will be a multi-institutional protocol coordinated by the National Eye Institute.

The NIH CVI Registry aims to gain insights into current diagnostic and rehabilitation practices, characterize various presentations of CVI, and facilitate further research into the condition.





Thor Minor Release

- **Deployed to Production – February 15th, 2025**
- **Release consisted of the following:**
 - CASA Code Merge to THOR Minor Code
 - Data Dictionary Enhancements
 - Account Module Enhancements
 - API Endpoints
 - eyeGENE Public Site Changes
 - NTRR and FITBIR Public Site Changes
 - DMT Tool
 - CDISC Tool
 - AIMS4DE Tool



Thor Minor Release

eyeGENE : Design Changes

[Participate](#)[Researcher Login](#)[About](#)[How To](#)[Participate](#)[Data](#)[Contact Us](#)

Preserving Vision through Research




The eyeGENE® Program is building a data and DNA resource for researchers to facilitate the investigation into rare inherited eye diseases.

[Participate](#)

Datasets and DNA Samples

Researchers and clinicians are actively developing gene-based therapies to treat ophthalmic genetic diseases that were once considered untreatable. The eyeGENE® Research Resource (RRID:SCR_004523) is an open resource for approved studies with access to data and DNA samples.

Researchers can apply for three types of access:

-  Access to datasets (demographics, genetics, clinical)
-  Access to both datasets and DNA samples
-  Contact potential participants for other studies

[Explore eyeGENE® Data](#)[Apply for Access](#)**6,000+**

Participants

**35+**Rare inherited eye
diseasesAccess to both datasets
and DNA Samples

Thor Minor Release

FITBIR|NTRR: New Infographics

GETTING STARTED WITH NTRR

In order for you to contribute or access data in NTRR, you will first need an account. Before you can create an account, you need to understand what permissions you will need and how NTRR works.

Let's get started!

OVERVIEW: HOW TO START USING NTRR

- 1 Set Up Your Researcher Auth Service Account**
NTRR requires multi-factor authentication through the Researcher Auth Service (RAS). Please sign in using RAS on the NTRR Log In page with a Smart Card or Login.gov account.
- 2 Create Your New NTRR Account**
Once you have signed into RAS, you can create a new NTRR account.
- 3 Determine Your Permissions**
Review a list of permissions, and determine which are relevant to your NTRR usage.
- 4 Download, Fill Out, And Submit Your Forms**
Different account types have different forms. Once you've determined your account type, fill out and submit the correct forms.
- 5 Determine Your Account Type**
The permissions you need determine the type of account that you will need to request: Data Submission, Data Access, or both.
- 6 Get Account Approval**
After approval from the Data Access and Quality Committee, you will receive an email from the system letting you know your account has been approved. You and your research team may now begin submitting or accessing data.

1 Set Up Your Researcher Auth Service Account



The security system, designed to help protect your confidential information when you are doing sensitive research, requires authentication.

Use your NTRR smart card
Please contact FITBIR Support at 800.537.4634 or 800.537.4634 ext. 6000 for further assistance.
Access FITBIR NTRR.

Use your Login.gov account
Please contact FITBIR Support at 800.537.4634 or 800.537.4634 ext. 6000 for further assistance.

Remember:
The NTRR system is a secure system. When you log in to the system, you are required to use a secure connection. All information you provide is protected. We will not release your information to anyone without your permission. We will not release your information to anyone without your permission. We will not release your information to anyone without your permission.

Please see our privacy policy for more information.

SMART CARD:

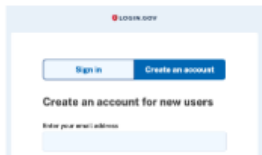
If you have a Smart Card (NIH PIV, VA PIV, or DoD CAC), you can use this to login to NTRR through the Researcher Auth Service (RAS).

After clicking 'Log In,' select PIV/Smart Card as your identification method. Select the appropriate certificate and enter your pin to complete your authentication.

LOGIN.GOV:

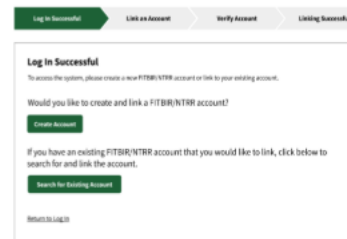
If you do not have a Smart Card (NIH PIV, VA PIV, or DoD CAC), you must create a Login.gov account via the link on the NTRR Log In page.

Create your Login.gov account with your desired email and verify the email address to finish creating the account. Once your Login.gov account has been created, navigate back to the NTRR Log In page and click 'Log In with RAS.' Select 'Login.gov' as your identification method, and enter your Login.gov credentials to sign in. You will need to grant permission for NTRR to access your basic profile information to proceed.



2 Create Your New NTRR Account

Once you have logged in with RAS, you can create a new NTRR account by clicking 'Create Account' on the Login In Successful page.



3 Download, Fill Out, And Submit Your Forms

Before you can request your permissions and determine your account type, you must complete required documentation. Let's take a look at how to download and submit your forms, and what to expect after doing so.



DOWNLOAD FORMS

Download a Data Access form, a Data Submission form, or both.

FILL OUT AND UPLOAD FORMS

After you have filled out your forms, they must be uploaded to NTRR in order to request an account. Edit your profile and select the Add Files step to upload these forms to your account.

4 Determine Your Permissions

Your role requires you to have access to certain permissions. Determining what those permissions are will help you to determine which you need, and what account type to apply for.



DATA DICTIONARY

The Data Dictionary is used for defining and validating Data. A user can search, create, and manage data elements and form structures. Research data is validated against the defined validation rules.



SUBJECT MANAGEMENT

Subject Management uses the Global Unique Identifier System (GUID) allows researchers to share data specific to study participants. Participants can be correlated across studies without exposing personally identifiable information (PII).



DATA REPOSITORY

The Data Repository is used for study management and data submission. Users can contribute, upload, and store research data here. This is where study information and access are defined and managed.



PROFORMS



QUERY TOOL



MFTA STUDY

Thor Minor Release

Stand Alone Tools

CDISC to BRICS

Convert Your CDISC to BRICS formatted Data Elements and Form Structures

To convert your CDISC, please select a compatible file. Once your file has been selected, click Generate to generate a CSV file of BRICS formatted data elements and a JSON file of a form structure.

You will be able to download a zip file once generated. If you close this page, your work will not be saved.

File: No file chosen


Artificial Intelligence Meaningful Search for Data Elements (AIMS4DE) - Beta Version

Description: The AI Meaningful (Semantic) Search Tool can be used for cross-mapping new study variables to previously used/standardized data elements archived in the FITBIR data dictionary. The semantic search tool employs an embedding model to convert text to a numerical representation, so unlike a traditional keyword-matching search, this algorithm enables the user to search the FITBIR data element dictionary based on the phrase's meaning, regardless of spelling. Note, queries including more complex/complete information using common language tend to perform better here. Questions, comments, or suggestions: please email maria.bagonis@nih.gov, and/or visit <https://fitbir.nih.gov/forum>.

Batch Mode 

Enter descriptive text describing your new study variable of interest:

Choose a CSV file of searchqueries 

 Drag and drop file here
Limit 200MB per file

Number of results to return: 



Similarity Score Cutoff: 0 (least similar) to 1 (most similar) 





Thor Minor Release

Stand Alone Tools

Data Mapping and Transformation tool

Getting started and need help? Download the [Data Mapping and Transformation Tools User Guide \(pdf\)](#)

Mapping Tool

Transformation Tool

Select Instance

Select the BRICS instance you would like to submit your data to.

Instances:

FITBIR

Source Data Elements File

Select Data Elements File:

No file chosen

How to format your source data element file:

Column headings are in the first row and should be exactly as shown below. Element name, Title, Type, Permissible Values (PVs), and PV Descriptions must be included.

Sample CSV:

ELEMENT NAME	TITLE	TYPE	PERMISSIBLE VALUES	PV DESCRIPTION
adnew5	Data Element Title	Numeric	1,2,3,4	High,Low,Lower,Low est
truefalse	Data Element Title	Boolean	0,1	False,True

Form Structures

Search and select the form structure containing the data elements you want to pair your data elements with.

Search:

- 10-Item Neuro-Ophthalmic Supplement to the NEI-VFQ-25
- 12-item Short Form Health Survey Version 2 (SF-12v2)
- 15D Quality of Life Questionnaire ver 2 (15D.2)
- 36-Item Short Form Health Survey (SF-36) Optum (TM) version 2
- 36-Item Short Form Health Survey (SF-36) version 1
- 36-Item Short Form Health Survey (SF-36) version 2
- 36-Item World Health Organization Disability Assessment Schedule 2



BRICS

Biomedical Research
Informatics Computing System

Questions?





BRICS

Biomedical Research
Informatics Computing System

Biomedical Research Informatics Computing System (BRICS)

The Underdog Release

Preeti Roy



MTBI²



Struts Upgrade Release

- **Scheduled to be Deployed to Production – March 29th, 2025**

- **Release will have the following items:**
 - STRUTS Upgrade
 - Tomcat Upgrade
 - Upgrades to various libraries
 - Spring
 - Spring Boot
 - Spring Security
 - Jakarta EE
 - Jakarta Servlet API
 - Hibernate
 - Virtuoso JDBC
 - Google Gson
 - Apache CXF
 - log4j, etc.



Underdog Release

- **Scheduled to be Deployed to Production – June 28th, 2025**

- **Release will have the following items:**
 - **Query Tool – AI integrated searches**
 - **Incremental Loads in Query Tool**
 - Real time data transfer from ProFoRMS
 - **Globus Integration**
 - Uploads for Meta Study
 - Integration with BRICS Download Tool
 - **FITBIR | NTRR enhancements**
 - **UI improvements**



Underdog Release

Globus Integration-Uploads for Meta Study

Workspace ProFoRMS Subject Management Data Dictionary Data Repository Query **Meta Study** Account Management Forum

Meta Study

View Meta Studies > Dixon Meta Study Test > Edit Data

Edit Meta Study: Dixon Meta Study Test

Meta Study Overview Meta Study Details Documentation **Data** Permissions

Data

Upload via Globus

To upload files using Globus, select 'Upload via Globus' from the dropdown menu. If this is your first time using the Globus Web App, [click here](#) to get started.

- The following file types cannot be uploaded: .exe, .sh, .bash, .csh, .zsh, .sct, .php, .pl, .sql, .dmg, .pkg, .msi, .cmd, .ini
- The maximum single file upload size is 100 GB and the maximum number of files is 1000.
- Descriptions for each data type are:

Upload via Globus

If files have not been transferred to the server endpoint in Globus, please visit <https://app.globus.org> to complete the transfer.

After your files are uploaded, enter the folder name where they are located and click "Load Directory."

Showing 0 to 0 of 0 entries

Continue Save & Finish Cancel

Search:

ION ERRORS UPLOAD PROGRESS

First Previous 1 **2** 3 4 ... 10 Next Last

Underdog Release

Globus Integration-Downloads

Package Contents

Search:

SELECT	NAME	STUDY	FILE TYPE	SIZE	STATUS
<input checked="" type="checkbox"/>	DOD_fitbir_upload_ravlt_2018.09.csv	A Magnetic Resonance Imaging Based Classifier to Accurately Diagnose Persistent Post-Traumatic Head... more	-	82.53 KB	READY
<input checked="" type="checkbox"/>	data_element_details.csv	A Magnetic Resonance Imaging Based Classifier to Accurately Diagnose Persistent Post-Traumatic Head... more	-	34.2 KB	READY

Showing 1 to 2 of 2 entries (2 rows selected of 2)

Globus Folder Path:





BRICS

Biomedical Research
Informatics Computing System

Questions?





BRICS

Biomedical Research
Informatics Computing System

Thank you for joining in!

