

RSpace

**An open ELN + sample management
system designed to integrate with
research infrastructure and enable
FAIR workflows**

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Research Space**

**NFDI4Ing Conference 2022
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Preparation

Active Research

Archiving, Storage & Reuse

Data Management Plans

DMPTool **Soon** | **DMP ONLINE** **Soon** | **DMP ASSISTANT** **Soon**

Raw / Big Data

Institutional File Stores | Lab File Stores | **iRODS** **Soon**

Documents / Small Data

Google Drive | Dropbox | OneDrive | GitHub | owncloud | EGN*TE | box | Nextcloud | Office 365 | Collabora Online **In-app viewing & editing**

Animal Data

PyRAT Colony Management

Equipment Data

clustermarket Equipment Management

Field Data

FAIMS PROJECT **In Development**

Protocols

protocols.io | YouTube | jove | Mendeley

RSpace + RSpace Inventory

Experimental Data | Sample Data

RSpace API: 3rd Party Data | Push & Pull Data

LIMS

Various systems

Chemistry & Biology

ChemDraw | ChemAxon | SnapGene

Programming

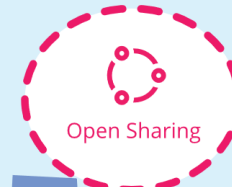
Jupyter | R Studio **In Development**

Collaboration

Teams | Slack

Lab Ops

ELEMENTAL MACHINES **Soon** | ELEMENTA **Soon**



Repositories

The Dataverse Project | figshare | DRYAD | zenodo **Soon**

Export

Data PIDs | File Links | Metadata | ORCID | XML | PDF | HTML | Word

Other Tools

Other ELNs | Office Documents | RSpace | Other

Storage & Archiving

Various storage facilities | S3

An Ecosystem Supporting Reproducibility and FAIR data

Best-of-breed API facilitates connecting with other tools and building extensions

RSpace API:



3rd Party
Data



Push & Pull
Data

Demo

Current development focus: Metadata

- Incorporation into RSpace**
- Passage to other resources**

Current development 1 PIDS



We are working with DataCite to enable association of IGSNS with samples in RSpace

The screenshot displays the RSpace interface. On the left is a navigation sidebar with options like 'Inventory', 'Create', 'Import', 'My Bench', 'Containers', 'Samples', 'Templates', 'Export Data', 'RSpace ELN', 'Need Help?', and 'Sign Out'. The 'Samples' section is active, showing a table of items. The 'Circuit Board' item is selected and highlighted with a red box. The main area shows the 'Circuit Board' details page, which includes a search bar, filters, and a list of identifiers. A green notification box indicates that an identifier was found and metadata was imported.

Name	Global ID
Circuit Board	SA2359297
Breadboard	SA2359296
Transistor	SA2326529
Resistor	SA2326528
Capacitor	SA2293765
PCB	SA2293764
Heatsink	SA2293761
GPU	SA2293760
Proximity sensor	SA459162
IR sensor	SA2195458

Identifier found! ✓
Title: Circuit Board AB-123
Vendor: PCBWay
Cat: 5200.123.8000
Metadata has been imported.

Current development 2

ONTOLOGIES



We are working with the Garabedian group from KIT to enable association of ontologies with datasets in RSpace



List terms New term

Available terms

Vocabulary Graph

- Block Specimen approved
- General Info approved type: dictionary
- Location not approved type: dictionary
- Operator in Charge not approved type: dictionary
- First Name not approved type: string
- Last Name not approved type: string



Inventory

Search

Type ▾ Owner ▾ Bench ▾ Status ▾ Barcode ▾

Saved Searches ▾ Baskets ▾

Type: Samples Status: Current

429 samples found.

	Name	Global ID
<input type="checkbox"/>	Circuit Board	SA2359297
<input type="checkbox"/>	Breadboard	SA2359296
<input type="checkbox"/>	Transistor	SA2326529
<input type="checkbox"/>	Resistor	SA2326528
<input type="checkbox"/>	Capacitor	SA2293765
<input type="checkbox"/>	PCB	SA2293764
<input type="checkbox"/>	Heatsink	SA2293761
<input type="checkbox"/>	GPU	SA2293760
<input type="checkbox"/>	Proximity sensor	SA459162
<input type="checkbox"/>	IR sensor	SA2195458

LOGGED IN AS V P (validatest)

Circuit Board

SA2359297

Info Edit Duplicate Move Transfer Split Create Template

Overview

Details

Barcodes

Ontology

Select an ontology

ExampleIndustrialOntology

Select an ontology class

PrintedCircuitBoard

Entity found! ✓

Name: PrintedCircuitBoard

URI: <http://exampleontologyhost.org/ExampleIndustrialOntology.owl#PrintedCircuitBoard>

ID: EIO:000042

Metadata has been imported.

Link with an ontology >

Attachments

Access Permissions

Custom Fields

Current development 3

EXPORT OF DOMAIN-SPECIFIC METADATA TO REGISTRIES AND REPOSITORIES

1. Import template from domain database

E.g., Genbank

Captured at: 2022/05/30 10:18 AM URL: <https://www.ncbi.nlm.nih.gov/genbank/samplerecord/>

LOCUS [SCU49845](#) [5028 bp](#) [DNA](#) [PLN](#) [21-JUN-1999](#)
DEFINITION Saccharomyces cerevisiae TCP1-beta gene, partial cds, and Axl2p
(AXL2) and Rev7p (REV7) genes, complete cds.
ACCESSION U49845
VERSION U49845.1 [GI:1293613](#)
KEYWORDS .
SOURCE Saccharomyces cerevisiae (baker's yeast)
ORGANISM Saccharomyces cerevisiae
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
Saccharomycetales; Saccharomycetaceae; Saccharomyces.
REFERENCE 1 (bases 1 to 5028)
AUTHORS Torpey,L.E., Gibbs,P.E., Nelson,J. and Lawrence,C.W.
TITLE Cloning and sequence of REV7, a gene whose function is required for
DNA damage-induced mutagenesis in Saccharomyces cerevisiae
JOURNAL Yeast 10 (11), 1503-1509 (1994)
PUBMED 7871890
REFERENCE 2 (bases 1 to 5028)
AUTHORS Roemer,T., Madden,K., Chang,J. and Snyder,M.
TITLE Selection of axial growth sites in yeast requires Axl2p, a novel
plasma membrane glycoprotein
JOURNAL Genes Dev. 10 (7), 777-793 (1996)
PUBMED 8846915
REFERENCE 3 (bases 1 to 5028)
AUTHORS Roemer,T.
TITLE [Direct Submission](#)
JOURNAL Submitted (22-FEB-1996) Terry Roemer, Biology, Yale University, New
Haven, CT, USA
FEATURES Location/Qualifiers

2. Populate templates in RSpace

The screenshot shows the RSpace interface with a search for 'Genbank'. The search results list one entry: 'Genbank sequence' with Global ID 'IT2129931'. The details view for this entry shows the owner 'Rob Principal', a 'Preview Image' placeholder, and the name 'Genbank sequence'.

Search: Genbank | 1 search results found. | AZ

Name	Global ID
Genbank sequence	IT2129931

Owner: Rob Principal

Preview Image
Tap to view at full resolution, scroll to exit (or pinch on mobile)

Name
Genbank sequence

The screenshot shows the RSpace interface with a search for 'Saccharomyces U 49845'. The search results list one entry: 'Saccharomyces U 49845' with Global ID 'SA2129932'. The details view for this entry shows the locus '5CU49845', accession 'U49845', version 'U49845.1', source 'Saccharomyces cerevisiae (baker's yeast)', and organism 'Saccharomyces cerevisiae, Eukaryota; Fungi; Dikarya; Ascomycota; Sac'.

Search: Saccharomyces U 49845 | Found SA2129932. | AZ

Name	Global ID
Saccharomyces U 49845	SA2129932

More Fields

Locus
5CU49845 5028 bp DNA Linear PLN 29-OCT-2018

Accession
U49845

Version
U49845.1

Keywords
None

Source
Saccharomyces cerevisiae (baker's yeast)

Organism
Saccharomyces cerevisiae, Eukaryota; Fungi; Dikarya; Ascomycota; Sac

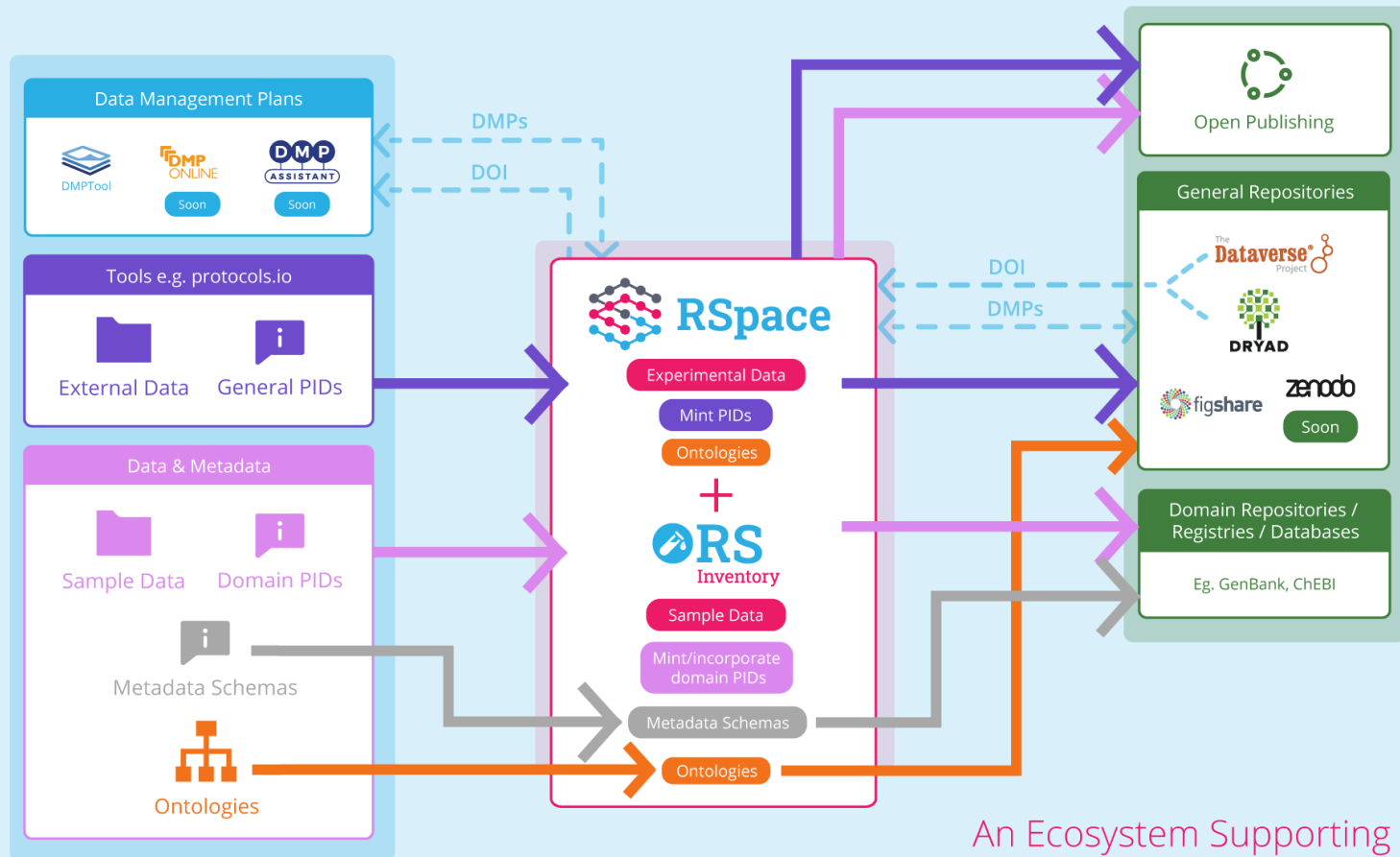
Reference 1
1 (bases 1 to 5028)

3. Export populated templates to domain database

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
# RSpace Inventory Export														
# Exported content: SAMPLES														
# Exported by: Rob Principal														
# Exported at: 2022-05-30T13:16:43Z														
# RSpace URL: https://demos.researchspace.com														
# RSpace version: 1.78.0														
# Export mode: FULL														
# Export scope: SELECTION														
Global ID	Name	Tags	Owner	Description	Parent Temp	Parent Template (nar	Total Quanti	Expiry Date	Sample Source	Stor	Stor	Locus (TEXT, IT2129931)	Accession (STRING,	Version (STR
SA2129932	Saccharomyces	U49845	rdprincipal	<pre	IT2129931	Genbank sequence	1 -μl		LAB_CREATED	-30	-18	<pre class="genbank"> SCU49845	U49845	U49845.1
# RSpace Inventory Export														
# Exported content: SUBSAMPLES														
# Exported by: Rob Principal														
# Exported at: 2022-05-30T13:16:43Z														
# RSpace URL: https://demos.researchspace.com														
# RSpace version: 1.78.0														
# Export mode: FULL														
# Export scope: SELECTION														
Global ID	Name	Tags	Owner	Description	Parent Samp	Parent Container (Glc	Quantity	Notes						
SS2162708	Saccharomyces	U49845 .0	rdprincipal		SA2129932	BE950274	1 -μl							

Objective: Extend support for FAIR workflows to include metadata as well as data

Preparation → Active Research → Archiving, Storage & Reuse



An Ecosystem Supporting
Reproducibility and FAIR data

We would love to work with you!

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