



**UNDERSTANDING INTERACTION LIGHT - BIOLOGICAL SURFACES:
POSSIBILITY FOR NEW ELECTRONIC MATERIALS AND DEVICES**

Phobios Database

User Manual

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1. Introduction

As part of the **Phobios** project, a publicly accessible database has been developed and deployed at the following URL: <https://serbot.ujaen.es/database>. This initiative provides researchers with a specialized repository service for bibliographical references, enabling them to:

- Register and describe scientific datasets using structured metadata.
- Link associated publications via DOI.
- Manage dataset visibility settings (public, private, or restricted).
- Submit datasets to be reviewed and published by system administrators.

User roles and Permissions

The platform distinguishes between two user roles, see Table. 1.1, to manage access and workflow effectively.

Role	Description
Researcher (user)	Can register, browse, and create datasets.
Administrator (admin)	All researcher capabilities plus user management and dataset approval.

Table. 1.1. User roles and Permissions.

2. Getting Started

This section provides a straightforward, step-by-step guide to help you set up your account, understand the validation process, and manage your active user sessions securely.

2.1 Creating an Account

Obtaining a user account is necessary to access the database, and as such, represents the initial interaction with the platform. The subsequent steps required to create an account are detailed below.

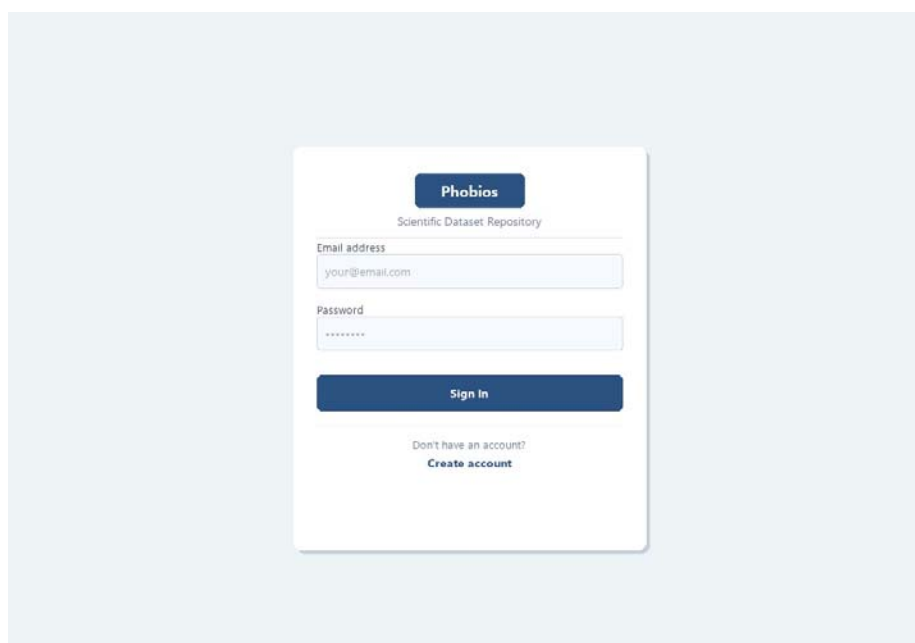


Fig. 2.1. Login Page.

Steps

1. Open your browser and navigate to <https://serbot.ujaen.es/database>, Fig. 2.1.
2. Click Create account below the sign-in form.
3. Fill in the registration form, Fig. 2.2:
 - First name and Last name
 - Email address — use your institutional email.
 - Password — choose a secure password and confirm it.
4. Click Create account.

⚠ Note: Your account is not immediately active. It is placed in Pending status until an administrator approves it.

Create your account
Access to the scientific dataset repository

First name: Jane Last name: Doe

Email address: jane.doe@ujaen.es

Password: ***** Confirm password: *****

Create account

Your account will be reviewed by an administrator before you can log in.

[Already have an account? Sign in](#)

Figure 2.2. Registration form.

2.2 Account Approval

To maintain the security, integrity, and academic quality of the Phobios repository, all new registrations undergo a verification process. An administrator will review your details (such as your institutional email) to ensure you are an authorized researcher before activating your account. This prevents spam and unauthorized data entries.

Therefore, after registering you will see: "Your account will be reviewed by an administrator before you can log in." Contact your system administrator if approval is taking longer than expected.

2.3 Logging In

The login process serves as a security gatekeeper for the repository. The primary functions of the login mechanism in this database are:

- **Access Control & Security:** It ensures that only registered and administrator-approved users can interact with the restricted features of the platform.
- **Role-Based Permissions:** Once a user authenticates, the system checks their role (Researcher or Administrator) to grant the appropriate level of access (e.g., giving administrators the ability to approve datasets, while keeping researchers focused on data entry).
- **Data Traceability (Audit Trail):** It links actions (such as uploading or editing a dataset) to a specific user account. This ensures data accountability and tracking within the Phobios project.
- **Session Management:** It initializes a secure, time-limited session (lasting 1 hour) to protect user data from unauthorized access if a terminal is left unattended.

Once your account has been approved by an administrator, you can log in to the platform to start managing your datasets. Follow these simple steps to access your account:

1. Navigate to <https://serbot.ujaen.es/database>
2. Enter your email address and password.
3. Click Sign In. You will be redirected to the Dashboard automatically.

 **Note:** Your session lasts 1 hour. After that you will be signed out automatically.

2.4 Logging Out

To protect your data and secure your account when you are finished working, you should properly terminate your session. You can log out of the platform in the following ways:

- **Manual Sign-Out:** Click your role badge (located at the top-right of the navigation bar) to access and select the sign-out option.
- **Closing the Browser:** Simply close the browser tab or window.

 **Note:** For your security, if you leave the platform idle, the session will expire automatically after one hour.

3. Dashboard

Upon logging in, you are greeted by the **Dashboard**, Fig 3.1, the central hub of the platform. Designed to give you an immediate overview of the repository, this screen allows you to track system-wide statistics, locate specific data using robust search tools, and manage existing entries through visual dataset cards.

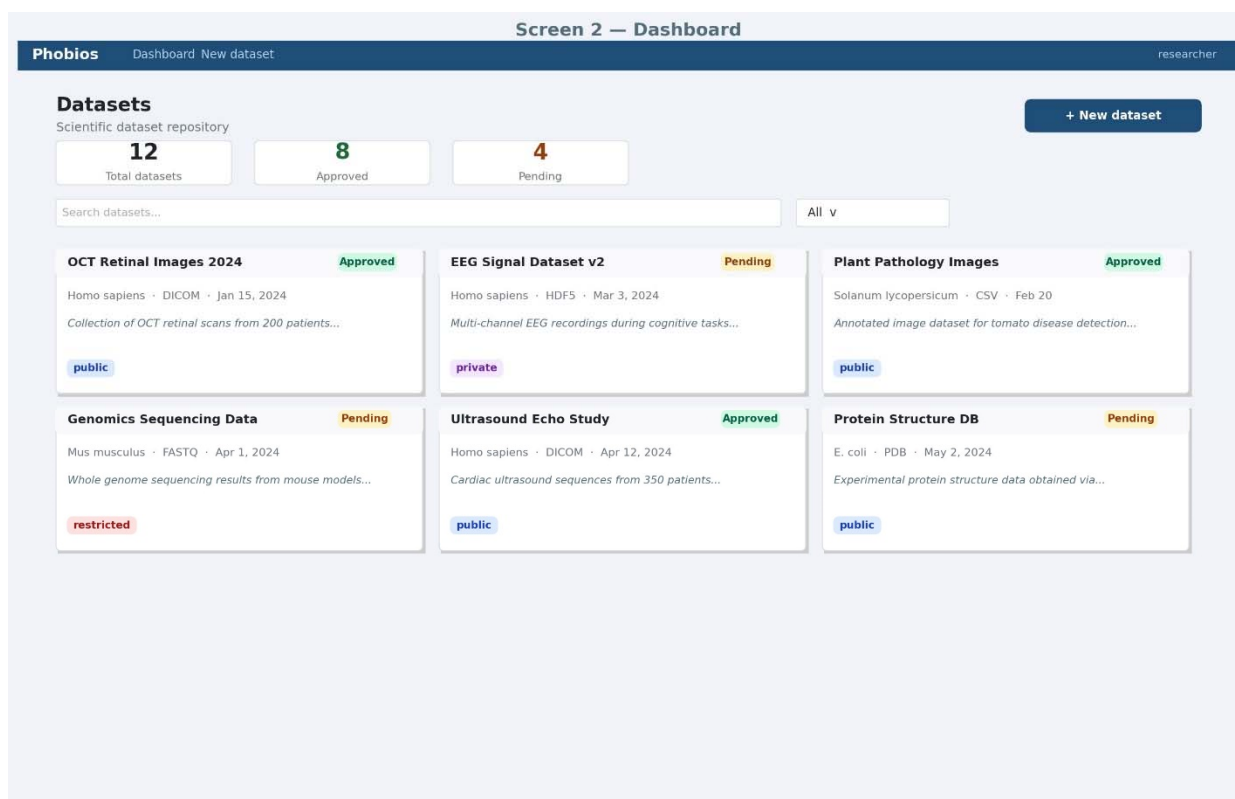


Fig.3.1. Dashboard

Summary statistics

Counter	Description
Total datasets	All datasets in the system.
Approved	Datasets reviewed and published by an admin.
Pending	Datasets awaiting admin review.

Table 3.1. Summary Statistics.

Searching and filtering

- Search bar — type any text to filter datasets by name, organism, or description.
- Filter dropdown — All, Approved, Pending, or My datasets.

Dataset cards

- Name and approval status badge (green = Approved, yellow = Pending).
- Organism · Format · Date on the second line.
- Short abstract and footer badges for visibility and technique.

💡 Quick Actions: Click anywhere on a card to open its Dataset Detail page, or click the + New dataset button to launch the creation wizard.

4. Creating a Dataset

To make data entry as straightforward as possible, the platform features a step-by-step creation wizard. This setup guides you through the process sequentially using three specialized tabs at the top of the screen.

4.1 Step 1 — Basic Information

The first step in the wizard gathers the core details of your dataset. In the **Basic Information** tab, Fig. 4.1, you will need to fill out the following fields to establish the identity, biological context, and format of your data:

The screenshot shows the 'New dataset' form in the Phobios dashboard. The form is titled 'New dataset' and has a subtitle 'Fill in the scientific dataset details'. It is divided into three tabs: '1. Basic information' (selected), '2. Technical details', and '3. DOIs & keywords'. The 'Basic information' tab contains the following fields:

- Dataset name ***: A text input field with a placeholder 'e.g. OCT Retinal Images 2024'.
- Abstract**: A large text area with a placeholder 'Abstract of the dataset...'.
- Source organism ***: A text input field with a placeholder 'e.g. Homo sapiens'.
- Organism localization**: A text input field with a placeholder 'e.g. University Hospital'.
- Format ***: A dropdown menu with a placeholder 'Select format' and a list of options: CSV, JSON, DICOM, NIfTI, HDF5, Parquet, XML, and TXT.
- Visibility**: A dropdown menu with a placeholder 'Public' and a list of options: Public, Private, and Restricted.

A 'Next →' button is located at the bottom right of the form.

Fig. 4.1. Step 1: Basic information

Field	Required	Description
Dataset name	Yes	A short, descriptive title.
Abstract	No	A summary of the dataset's content and purpose.
Source organism	Yes	Scientific name (e.g. Homo sapiens).
Organism localization	No	Where the samples were collected.
Format	Yes	CSV, JSON, DICOM, NIfTI, HDF5, Parquet, XML, TXT, or Other.
Visibility	No	Public, Private, or Restricted (default: Public).

Table 4.1. Basic Information.

💡 Quick Actions: Click Next → to continue to Step 2.

4.2 Step 2 — Technical Details

After completing the basic information, the second step of the wizard allows you to specify the technical parameters of your dataset. In the **Technical Details** tab, Fig. 4.2, you can document the specific experimental conditions, instruments, and source references. While all fields in this section are optional, completing them enhances the reuse value of your data for other researchers.

The screenshot displays the 'New dataset' wizard in the Phobios application. The user is currently on the '2. Technical details' step. The form includes fields for 'Data source (DOI)', 'Data quantity', 'Measurement technique', 'Instrument used', and 'Measurement notes'. A green notification box indicates that the DOI entered in the 'Data source (DOI)' field has been validated against CrossRef. The 'Measurement technique' field is currently empty, and the 'Instrument used' field contains the example text 'e.g. Spectralis OCT Heidelberg'. The 'Measurement notes' field is empty. The 'Previous' and 'Next' buttons are located at the bottom of the form.

Fig. 4.2. Step 2: Technical details.

Field	Required	Description
Data source (DOI)	No	DOI of the original data source. Validated against CrossRef.
Data quantity	No	Number of records, samples, or images.
Measurement technique	No	Select existing or type a new one and click + Add.
Instrument used	No	The device used to acquire the data.
Measurement notes	No	Additional observations about the acquisition process.

Table 4.2. Technical details.

⚠ Note: DOI validation: if you enter a data source DOI, the system verifies it against CrossRef before saving. An invalid DOI will produce an error.

4.3 Step 3 — DOIs & Keywords

The final stage of the creation wizard allows you to enrich your dataset with academic connections and search terms. In the **DOIs & Keywords** tab, Fig.4.3, you can link related research articles, tag your dataset for better discoverability, and submit the final record to the repository. Follow the procedures below to complete the submission process:

Fig. 4.3. Step 3: DOIs and keywords

Article DOIs

1. Type a DOI in the input field (e.g. doi:10.1038/nature12373).
2. Click + Add or press Enter. Each DOI is validated against CrossRef.
3. Added DOIs appear as removable chips. Click × to remove one.

Keywords

Click any existing keyword chip to select it (turns blue). To create new keywords: type in the text field and click + Add. New keywords are saved globally.

Submitting

Click ✓ Create dataset. The system saves the record, DOI links, and keywords, then redirects to the Dataset Detail page.

⚠ Note: Your dataset will be in Pending status until an administrator approves it.

5. Viewing a Dataset

Once a dataset is selected, the platform displays its complete record in a structured, dual-panel layout. The **Dataset Detail** page, Fig. 5.1, provides a comprehensive overview of all registered metadata, bibliographic connections, and management options. To access this page and explore its components, use the following layout guide:

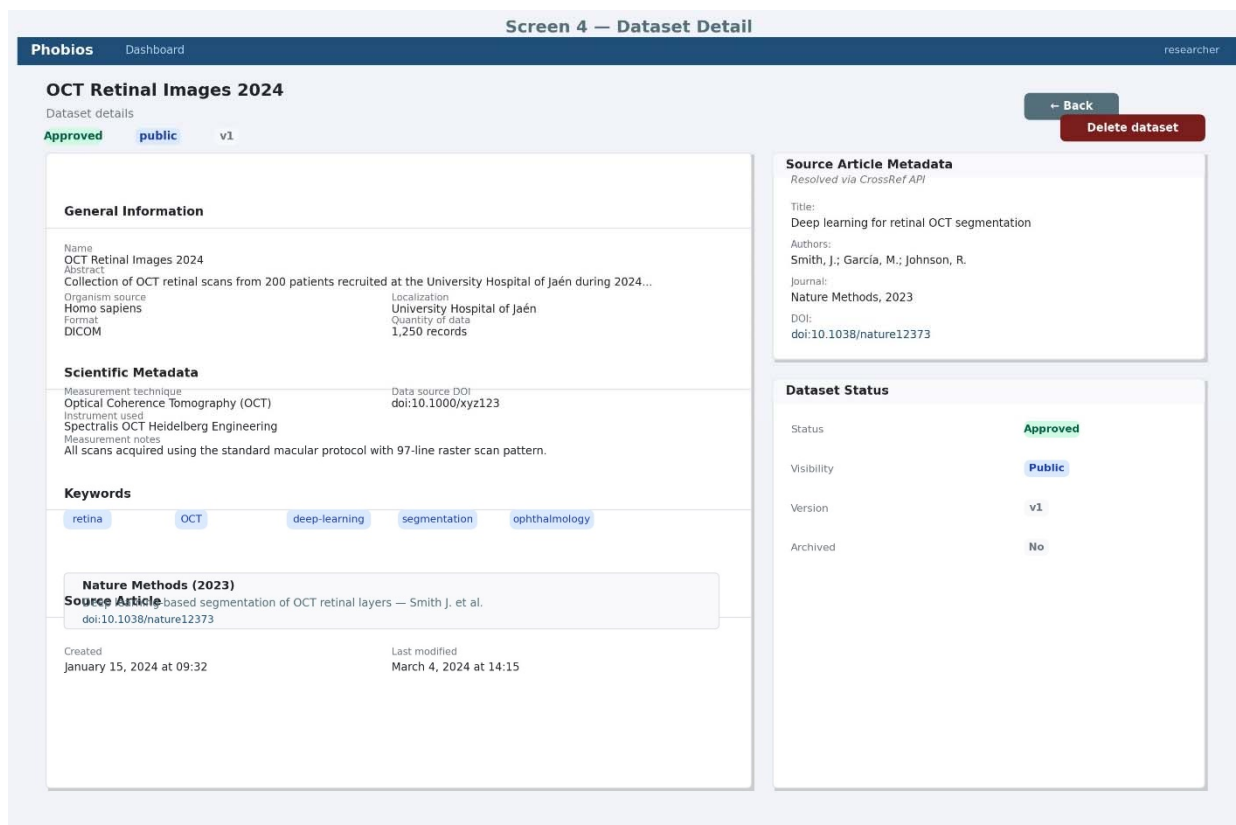


Fig.5.1. Dataset Detail page

Left panel — Dataset information

Section	Contents
General Information	Name, abstract, source organism, localization, format, quantity.
Scientific Metadata	Measurement technique, instrument, data source DOI, notes.
Keywords	All keywords linked to this dataset (shown as blue chips).
Source Article	Linked article DOIs resolved via CrossRef (title, authors, journal, year).

Table 5.1. Dataset Information

Right panel — Status

Shows approval status, visibility level, version number, and archive state.

Admin actions

- Approve — publishes the dataset (sets status to Approved).
- Delete dataset — permanently removes the dataset. A confirmation dialog appears first.

6. Admin Guide

Administrators have two dedicated panels accessible from the navigation bar: Users and Approvals.

6.1 Approving User Accounts

To ensure that only authorized researchers can contribute to the repository, all new registrations must be manually validated. The **User Management** panel, Fig. 6.1, provides administrators with a secure interface to review registration requests and grant access permissions. Follow these steps to activate pending user accounts:

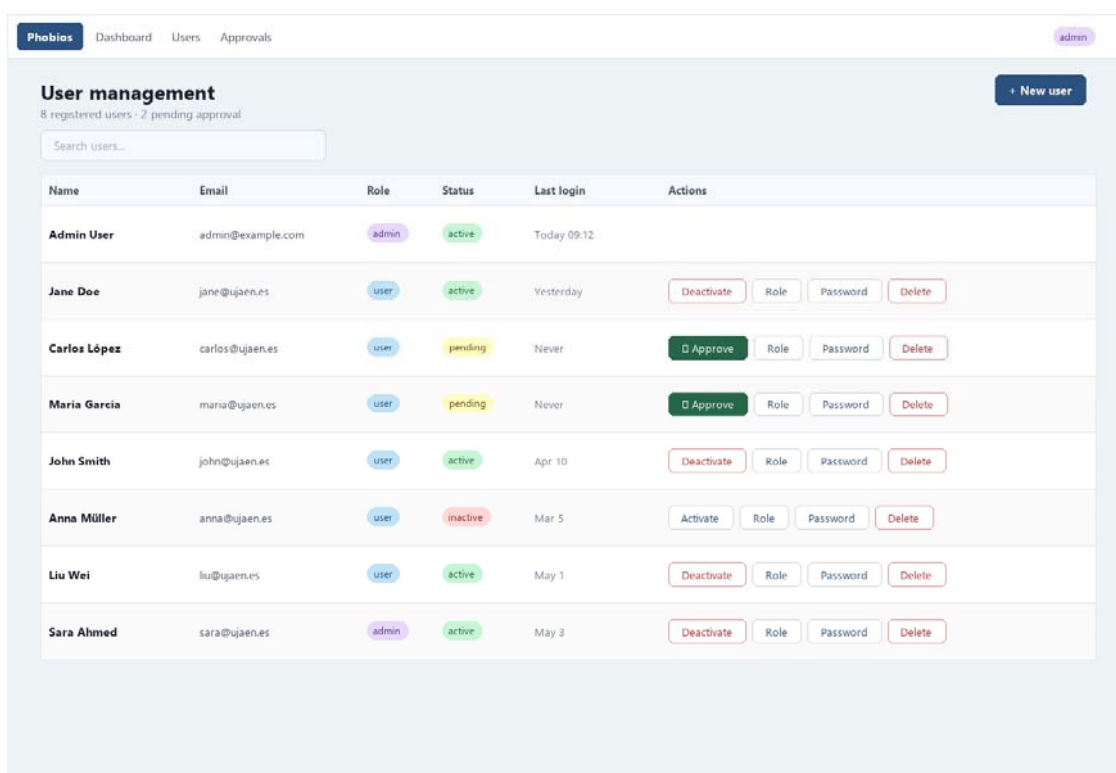


Fig. 6.1. User management panel.

1. Click Users in the navigation bar.
2. Users with status Pending are shown with a yellow badge.
3. Click ✓ Approve next to a user's row to activate their account immediately.

6.2 Users Management

Beyond initial account verification, administrators have access to an administrative console to supervise all registered platform members. The **User Management**, Fig. 6.1, panel features a searchable datagrid designed for real-time account oversight. Using this interface, administrators can dynamically modify user permissions, toggle account availability, and manage security credentials according to the operations detailed below:

Action	Button	Description
Approve	✓ Approve	Activates a pending account.
Deactivate	Deactivate	Suspends an active account (user cannot log in).
Activate	Activate	Re-enables a suspended account.
Change role	Role	Switch between user and admin.
Reset password	Password	Set a new password for the user.
Delete	Delete	Permanently removes the user. Cannot be undone.

Table 6.1. Users Management.

⚠ Note: An administrator cannot deactivate or delete their own account.

💡 Tip: Click + New user to create a user directly (immediately active, skips Pending step).

6.3 Approving Datasets

To maintain the quality and integrity of the repository, all newly submitted data must go through a manual verification workflow. The **Dataset Approvals** section, Fig. 6.2, provides administrators with a centralized dashboard to review, publish, or reject pending entries. Follow these steps to manage incoming submissions:

Phobios	Dashboard	Users	Approvals	admin
Dataset approvals 4 datasets pending review				
Dataset	Author	Format	Visibility	Actions
EEG Signal Dataset v2 Submitted for review	jane@ujaen.es	HDFS	private	Approve Delete
Genomics Sequencing Data Submitted for review	carlos@ujaen.es	FASTQ	restricted	Approve Delete
Protein Structure DB Submitted for review	liu@ujaen.es	PDB	public	Approve Delete
MRI Brain Atlas 2024 Submitted for review	sara@ujaen.es	NIFTI	restricted	Approve Delete

Fig. 6.2. Dataset approvals panel

1. Click Approvals in the navigation bar (admin only).
2. The panel lists all datasets with Pending status.
3. Click Approve to publish, or Delete to remove permanently (with confirmation).

💡 Tip: Click the dataset name to open the full detail page before deciding.

7. Glossary

Term	Definition
DOI	Digital Object Identifier — a persistent identifier for a publication or dataset.
CrossRef	International DOI registration agency. Phobios validates and resolves DOIs through CrossRef.
Pending	Status for new accounts and datasets — both require admin approval.
Active	A user account that has been approved and can log in.
Inactive	A user account that has been suspended by an administrator.
Approved	A dataset reviewed and published by an administrator.
Visibility	Controls who can see a dataset: Public, Private, or Restricted.
Measurement technique	Controlled-vocabulary entry for the scientific acquisition method.
Keyword	A tag assigned to improve dataset discoverability. Shared across all datasets.
JWT	JSON Web Token — the authentication credential valid for 1 hour.
Abstract	Short description summarising the dataset content and methodology.

Table 7.1 Glossary