Experience with LabGuru
Electronic lab notebook

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LabGuru pilot project

• 2 year project
• Participants: Department of Biology, UCPH (Michael Lisby & Vibe Østergaard + 20 students, postdocs, and a technician)
Why replace the paper lab notebook with an electronic lab notebook (ELN)?
What to achieve with ELNs:

- Facilitate better documentation of experiments (✓)
- Better traceability (embedding or link to other ✓
electronic files)
- Improved search ability ✓✓
- Paperless labs (GMO labs) (✓)
- Enable better communication between project ✓
  members and sharing of reagents and protocols
- Prepare students and postdocs for the world outside ✓
  the University
- Backup of data ✓
- Increase research productivity (✓)
What more is an ELN?

Electronic version of paper lab notebook

+ lab management:
  - Reagent and material inventories (chemicals, cell lines, DNA samples, ...) (√)
  - Internal communication (meetings, conferences, ...) (√)
  - Sharing of instruments (booking calendars) ÷
  - Added value: weekly digests ✓
How we made it work?

a) 100% commitment
b) Knowledge database
c) Local files still allowed
d) Follow-up meeting (every) month
Administration of projects

- Vibe and Michael set up projects and add members to the projects:
Assigning Projects, Folders and Experiments (privileges)

ELN: Assigning Projects, Folders and Experiments

You can assign a project, a folder or an experiment to give ownership to another member in the account.

In project, folder or experiment pages, under it’s title, when you hover above the name of the owner you will see “assign” appearing. Click on assign and then on the member’s name to open a drop-down menu from which you can choose the new owner.

Ownership of a project, folder or an experiment helps the account owner to manage the research going on in their lab, showing exactly who in the group is working on what. Project owners will see their project appear first in the projects index page and their picture will appear next to the projects and folder they own. In addition, owners will receive all notification created in their folders and experiments (such as ‘Steps’ element or when setting a time frame for sections).
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By default, projects, folders and experiments are visible (and editable) to all members of the account, but you can decide to make a project private and visible only to selected members. Those members would then be the only ones that are able to write and edit inside the project and it's folders.

To change the visibility of projects click on 'More' in the upper right corner, and then on 'Visible to'.

In the new window open you can see to whom the project is visible, click on "Edit" if you want to change it.

You can assign projects, folders and experiments only to members that are permitted to view the project involved.
Signing and Witnessing an Experiment

To ensure a higher standard of research completed experiments in Labguru can be signed and witnessed. This is a two-step procedure involving two separate group members: any participant in the experiment can sign it, and then only an authorized member can witness. The account's owner has witnessing privileges and can give these privileges to whom they choose. To learn how control members privileges - click here.

How to Sign and Witness an Experiment?

When you finish an experiment you can sign it, marking it as completed.

Once the experiment is signed, an indication with the signer's name and time of signing will appear under the experiment's name.

Signed experiments cannot be edited (comments can still be written in discussion), but the signature can be reverted, making it editable again.

Once an experiment is signed, a notice is sent to the account's owner or any other members with witnessing privileges and will appear in the right side of their entry page under the title "Signed Experiments For Witnessing".
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Authorized members can witness the experiment and look permanently, they can also revert the signature to make it editable again. A member cannot witness his own signed experiments, this must be done by a second member.

Once it is signed & witnessed, a second indication will appear under the experiment's name, stating the witness's name and time of witnessing.

TIP - Signed & witnessed experiments cannot be edited or reverted, but you can always make a new copy of the experiment by duplicating it.
How to Use the Tagging System

Tags

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Tags in Labguru help you find the pages you need, groups together pages from different modules and makes the navigation in Labguru faster and easier.

Make searching for related items cut from long lists easier. Let’s look at the index page of a collection in your inventory (but also of papers, stocks, protocols and more), it is likely to be filled with overwhelmingly numerous lines representing all the items within. It can get to several pages long, making it very hard to see in one page some items that are related to a certain aspect of your research that you wish to sort by. By tagging items, you can now make that search easier by choosing a tag to view only the items with that tag. In collection and stock pages, the tags will appear in the top of the page under the title:

In papers, attachments and image bank you will see the tags in the top right corner of the page:

Group pages from different modules together. In many cases, different types of pages will have some meaningful scientific connection. You can link them together and then you can jump from one page to the other. But more useful will be to group them together in one list. Tagging pages will help you categorize your data, grouping the pages together, enabling you to view all of them on one page.
Knowledge database
LabGuru evaluation

**Pro**

- Easy setup and use
- Many functionalities
- Easy sharing and looking over the shoulder
- Editable
LabGuru evaluation

Cons
• Downtime
• Expensive
• Slow response time
• Privileges cumbersome to manage

• Slow access from mobile devices (iPad and mobile phones)
• Slow response from helpdesk
• Some minor annoying issues (label printing, limiting searches, show tube content, …)
Preliminary conclusions on LabGuru

1. There is a **potential** for running and documenting research project more efficiently.

2. Some improvements and developments still required.

3. LabGuru is relatively complicated and expensive for an academic setting (double signing/witnessing, ordering, etc).