

Experience with **LabGuru** Electronic lab notebook

Michael Lisby

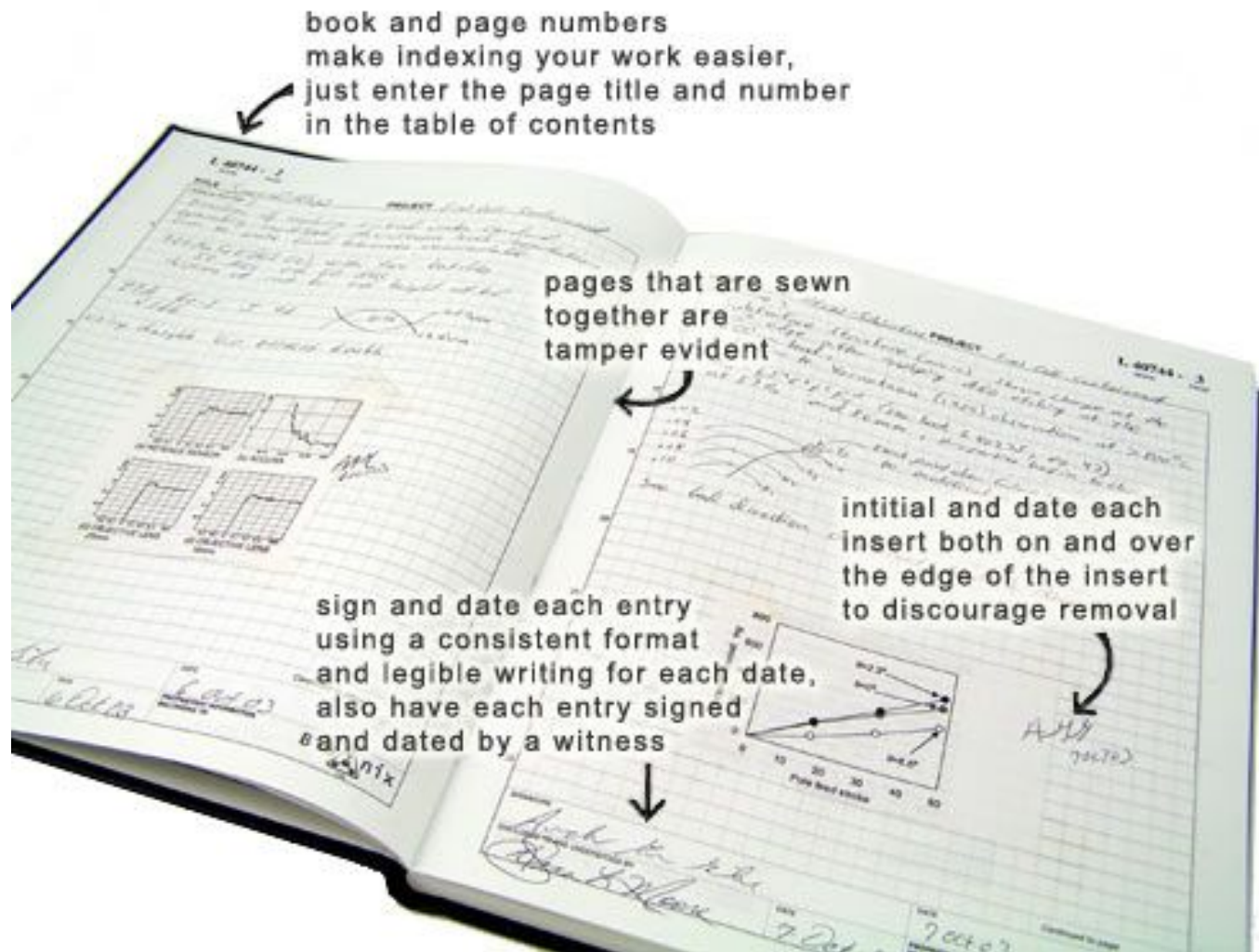
Department of Biology, University of Copenhagen

April 2018

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:

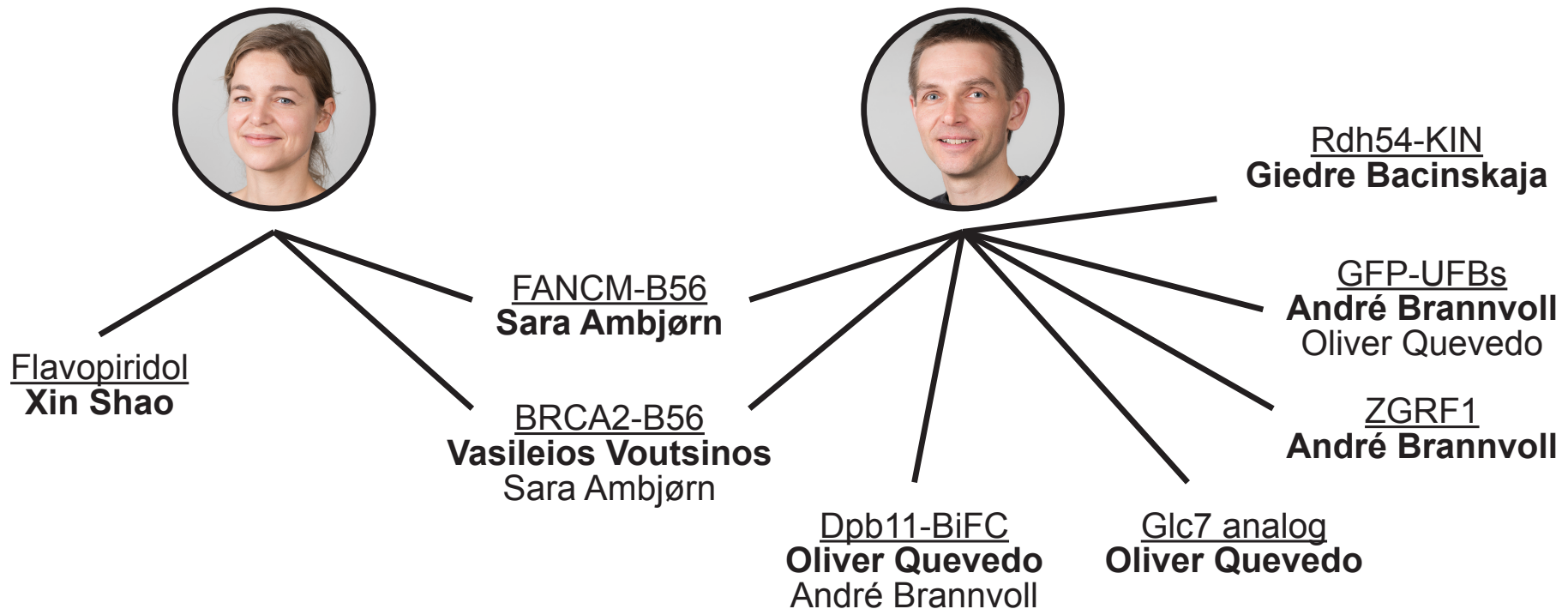
- Reagent and material inventories (chemicals, cell lines, DNA samples, ...) (✓)
- Internal communication (meetings, conferences, ...) (✓)
- Sharing of instruments (booking calendars) ÷
- Added value: weekly digests ✓

How we made it work?

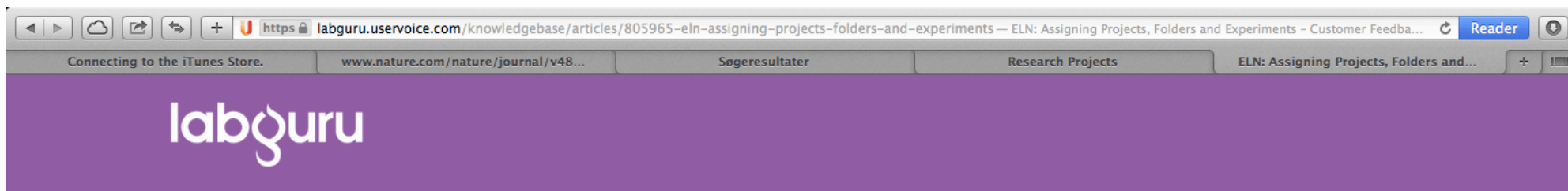
- a) 100% commitment
- b) Knowledge database
- c) Local files still allowed
- d) Follow-up meeting (every) month

Administration of projects

- Vibe and Michael set up projects and add members to the projects:



Assigning Projects, Folders and Experiments (privileges)



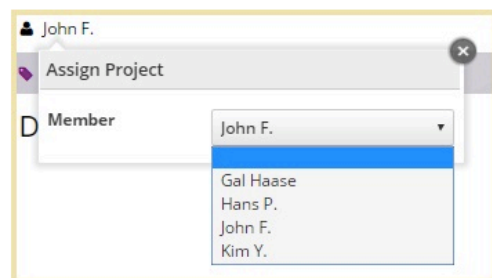
ELN: Assigning Projects, Folders and Experiments

[← e-Notebook](#)

New and returning users may [sign in](#)

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 its 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 her/his 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 in 'Steps' element or when setting a time frame for sections)

e-Notebook

[The e-Notebook \(ELN\) - The Heart of Your Work](#)

[New Look and Design for the e-Notebook Module](#)

[ELN: How to Attach Images and Other Files to an Experiment](#)

[ELN: How to Add Samples to an Experiment](#)

[ELN: How to Create Protocols and Add Them to Experiments](#)

[ELN: Managing Your Sections in Experiment and Protocol Pages](#)

[ELN: How to Create Printed Reports of Experiments, Folders and Projects.](#)

[ELN: Signing and Witnessing an Experiment](#)

[ELN: How to Reorder Your Folders](#)

[ELN: How to Move Experiments and Folders](#)

[ELN: Attachments Pool in Projects](#)

[ELN: How to Archive Your Projects](#)

[ELN: Assigning Projects, Folders and Experiments](#)

[ELN: Keyboard Shortcuts for Text Areas](#)

[ELN: Plate Element in Protocols and Experiments](#)

[SOPs for Industrial Accounts](#)

[Working Together on Experiments](#)

[New: Flagging Experiments](#)

[ELN: Creating Chemical Compounds and Reactions](#)

[ELN: Folders and sub folders](#)

Assigning Projects, Folders and Experiments

Ownership of a project, folder or an experiment helps the account owner to manage the research going on in her/his 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 in 'Steps' element or when setting a time frame for sections)

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.

ELN: Keyboard Shortcuts for Text Areas
ELN: Plate Element in Protocols and Experiments
SOPs for Industrial Accounts
Working Together on Experiments
New: Flagging Experiments
ELN: Creating Chemical Compounds and Reactions
ELN: Folders and sub folders

Search

Give feedback

Knowledge Base

e-Notebook 20

- Storage & Equipment Module 12
- Inventory Module (Collections, Consumables and Shopping List) 12
- Knowledgebase Module 3
- General Information 6
- Short Tutorials (videos) 8
- Short Guides 8
- The Rodents Collection 5
- Labelguru 2
- Back up and Security 4
- Case Studies 7
- All articles

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This article was helpful · Flag this article as inaccurate...

Signing and Witnessing an Experiment

Connecting to the iTunes Store. www.nature.com/nature/journal/v48... Søgeresultater Research Projects ELN: Signing and Witnessing an Expe... Reader

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ELN: Signing and Witnessing an Experiment

← e-Notebook

New and returning users may [sign in](#)

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 he chooses. 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.

KLK6 PCR
Kim Y. Sign Print More ▾

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

KLK6 PCR
 Signed by Kim Y. on June 29, 2016 at 12:31
Kim Y. Revert signature Print More ▾

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

KLK6 PCR
 Signed by Kim Y. on June 29, 2016 at 12:31
Kim Y. Revert signature Print More ▾

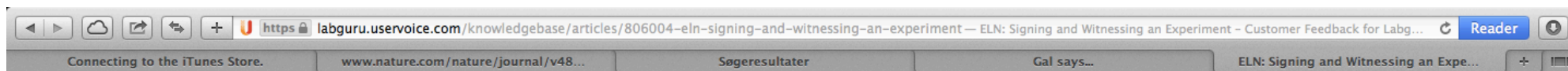
Once an experiment is signed, a notice is sent to the account's owner or any other members with witnessing privileges and will appear in the right side of their entry page under the title "Signed Experiments For Witnessing".

e-Notebook

- [The e-Notebook \(ELN\) - The Heart of Your Work](#)
- [New Look and Design for the e-Notebook Module](#)
- [ELN: How to Attach Images and Other Files to an Experiment](#)
- [ELN: How to Add Samples to an Experiment](#)
- [ELN: How to Create Protocols and Add Them to Experiments](#)
- [ELN: Managing Your Sections in Experiment and Protocol Pages](#)
- [ELN: How to Create Printed Reports of Experiments, Folders and Projects.](#)
- ELN: Signing and Witnessing an Experiment**
- [ELN: How to Reorder Your Folders](#)
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- [Working Together on Experiments](#)
- [New: Flagging Experiments](#)
- [ELN: Creating Chemical Compounds and Reactions](#)
- [ELN: Folders and sub folders](#)

Search

Signing and Witnessing an Experiment



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".

Signed Experiments For Witnessing

KLK6 PCR
Signed by Kim Y.
on June 29, 2016 at 12:33

Authorized members can witness the experiment and lock 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.

KLK6 PCR

Signed by Kim Y. on June 29, 2016 at 12:33

Kim Y. Witness Revert signature Print More

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

KLK6 PCR

Signed by Kim Y. on June 29, 2016 at 12:33 Witnessed by Gal Heise on June 29, 2016 at 12:36

Kim Y. Print More

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

KLK6 PCR

Signed by Kim Y. on June 29, 2016 at 12:33 Witnessed by Gal Heise on June 29, 2016 at 12:36

Kim Y. Print More

Description

- Duplicate...
- Save as protocol...
- Linked resources
- Version history

Search

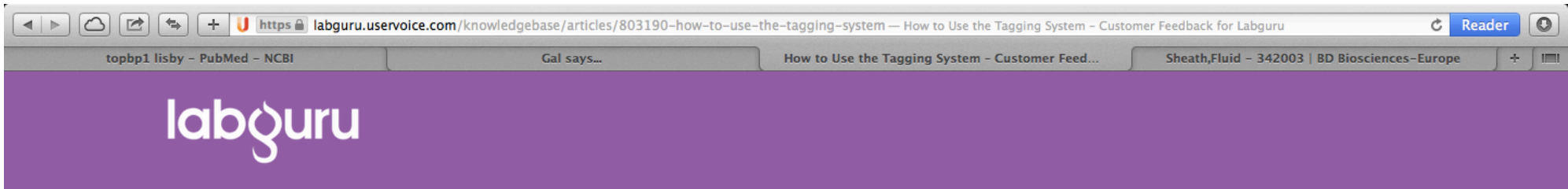
Give feedback

Knowledge Base

- e-Notebook (20)
 - Storage & Equipment Module (12)
 - Inventory Module (Collections, Consumables and Shopping List) (12)
 - Knowledgebase Module (3)
 - General Information (6)
 - Short Tutorials (videos) (8)
 - Short Guides (8)
 - The Rodents Collection (5)
 - Labelguru (2)
 - Back up and Security (4)
 - Case Studies (7)
- All articles

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Tags



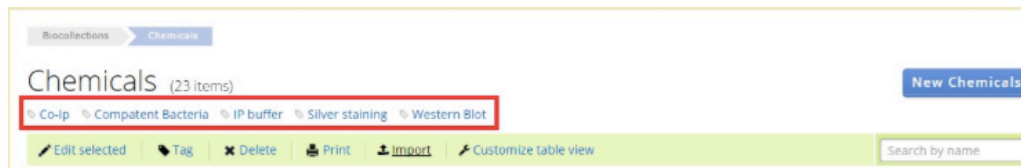
How to Use the Tagging System

[← Short Guides](#)

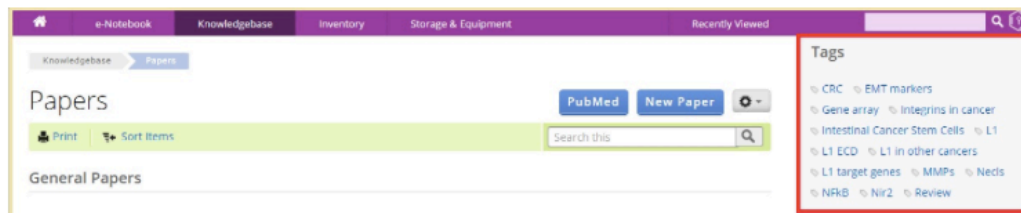
New and returning users may [sign in](#)

Tagging in Labguru helps 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 out 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 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.

Short Guides

- [How to Edit your Profile](#)
- [How to Add & Lock a Member](#)
- [Team Communication](#)
- [Sharing a Project with Non-Members of Your Account](#)
- [How to Update your Plan](#)
- How to Use the Tagging System**
- [UpFolder - How to Use it](#)
- [Account Privileges](#)

Search

[Give feedback](#)

[Knowledge Base](#)

- [e-Notebook](#) 20
- [Storage & Equipment Module](#) 12
- [Inventory Module \(Collections, Consumables and Shopping List\)](#) 12
- [Knowledgebase Module](#) 3
- [General Information](#) 6
- [Short Tutorials \(videos\)](#) 8
- Short Guides** 8
- [The Rodents Collection](#) 5
- [Labelguru](#) 2
- [Back up and Security](#) 4
- [Case Studies](#) 7

Knowledge database

The screenshot shows a web browser window with the URL <https://labguru.uservice.com/knowledgebase>. The browser tabs include "topbp1 lisby - PubMed - NCBI", "Research Projects", "Knowledge Base - Customer Feedback for Labguru", and "Sheath,Fluid - 342003 | BD Biosciences-Europe". The page features a purple header with the "labguru" logo. Below the header, the main content area is titled "Knowledge Base" with a sub-link "← Customer Feedback for Labguru". A navigation bar contains several categories with arrows: "e-Notebook", "Storage & Equipment Module", "Knowledgebase Module", "General Information", and "Short Tutorials (videos)". Each category lists specific articles with document icons. For example, under "e-Notebook", there are articles like "The e-Notebook (ELN) - The Heart of Your Work" and "New Look and Design for the e-Notebook Module". A search bar is located in the top right of the content area. Below the search bar, there is a "Give feedback" button and a "Knowledge Base" section with a list of categories and their article counts: e-Notebook (20), Storage & Equipment Module (12), Inventory Module (12), Knowledgebase Module (3), General Information (6), Short Tutorials (videos) (8), Short Guides (8), The Rodents Collection (5), Labelguru (2), Back up and Security (4), Case Studies (7), and All articles. At the bottom right, there is a "labguru" logo with a house icon.

Knowledge Base
← Customer Feedback for Labguru

New and returning users may [sign in](#)

e-Notebook →

- The e-Notebook (ELN) - The Heart of Your Work
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- ELN: How to Add Samples to an Experiment
- ELN: How to Create Protocols and Add Them to Experiments

20 articles →

Storage & Equipment Module →

- Storage: From Room to a Tube
- Storage: How to Add a New Box in the Storage Module
- Storage: How To Relocate a Storage Location
- Stocks: How to Add a Stock
- Stocks: Importing Your Stocks

12 articles →

Knowledgebase Module →

- Knowledgebase: Papers
- Knowledgebase: Documents
- How to Manage your Unattached Images and Files and Keep them in Context

General Information →

- New- UpFolder access via token
- Labguru - Change Log
- The New Editing Text Toolbar
- FAQs - Labguru

Short Tutorials (videos) →

- Video: How to Add Stocks and Set their Location
- Video: The Import Function
- Video: How to Add Items to the Shopping list
- Video: Setting Up Collections

Search

Give feedback

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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).