# Overview of an ELN application

**System:**

*System:* LabGuru

*Where is system used:* Department of Biology, UCPH

*Types of data recorded in the ELN:*

* Experimental protocols in text or table format
* Experimental results in the form of:
  + text
  + images of cells, graphs, gels, screen shots, etc
  + attached files in their original file format
* Inventory of cell lines, plasmids and DNA oligonucleotides

*What is the intended purpose of the system*:

* Searchability of experimental records
* Better sharing of experimental protocols
* Better sharing of data within project groups
* Better supervision through monitoring of lab notes
* Backup of lab notes
* Paper-free lab environment
* Easier access to inventories
* Booking of equipment

*How was the system chosen:*

Based on presentations at the ELN workshop at DTU at the start of the DM Forum eLabbook project.

**Users:**

*Number of users that the system is offered to and their backgrounds (e.g. all employees at a faculty or department, or a more selected group):*

Two research group leaders, their students and a technician (15-20 persons).

**Organization:**

*What are the technical requirements of the system:*

Access to an internet browser (Firefox, Chrome preferred).

*How is the technical installation and maintenance of the system organized:*

By LabGuru.

*How is the administration of the system organized (e.g. maintenance of users, permissions, common content):*

By Michael Lisby. Requires very little maintenance.

**Costs:**

*What are the license fees:*

360 USD per person/license per year. We have 10 licenses, so some students share a license.

We have invested in iPads to make the lab space paper-free.

*How are the running costs for system maintenance and administration financed (besides this activity):*

None

**Overall experiences:**

1. When implementing an ELN it is important to commit 100% and engage the entire group to do it as a team. LabGuru has a useful knowledge database with online help to complement their helpdesk.
2. Regular follow-up meeting and evaluation is important to promote knowledge sharing
3. Labguru is intuitively easy to use, but it can be tricky to navigate around many folders and documents. The search engine in LabGuru works well.
4. It is easy to add different types of data (text, images, spreadsheets, and files) to LabGuru.
5. We do not use the built in ordering and invoicing capabilities, because it is not compatible with the UCPH systems.
6. The system is slow and is occasionally down, so experimental records are unavailable. This could probably be improved by hosting the system on a local server.
7. It is difficult to take experimental notes on the iPad.
8. We have incorporated the lab primer sequence and cell line databases into LabGuru, but have been unable to incorporate more complex databases into LabGuru, so we still use FileMaker Pro for these.
9. Possible to organize permission of individual people to specific projects, but it requires some investment of time. Currently, all projects in the groups are visible to all members of the groups.
10. Our general impression is that LabGuru is trying to accomplish too many things making the system overly complicated and slow.
11. Sharing of protocols in the lab has improved with LabGuru.
12. ELN has become a part of the standard training of students and postdocs in the lab, which prepares them well for the private sector, where ELN has become standard.
13. It is easier for students to keep a copy (PDF format) of their lab notes, when they leave the lab.
14. We have not used LabGuru for booking instruments, because many of our instruments are used also by external users, who do not have access to LabGuru.