
Electronic laboratory notebooks for facilitating research data management

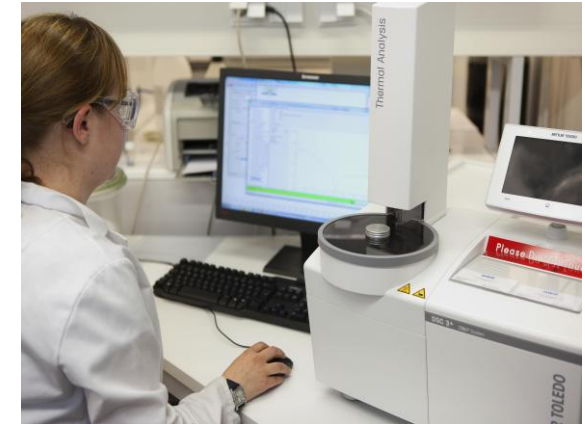


Lara Ejtehadian
Research Information Specialist
Aalto IT Services – Aalto University
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What are electronic laboratory notebooks & why use them?

Limitations of traditional (paper) laboratory notebooks:

- No backups
- Susceptible to physical damage, loss, and theft
- Cannot be easily shared with collaborators
- Lack a search function
- Handwriting can be hard to read or interpret
- Cannot include multimedia elements (e.g., images)
- Not secure; confidentiality is not guaranteed
- Version control is not possible; edits & correction are difficult
- Require manual data entry, increasing risk of errors
- Have an environmental footprint



Electronic laboratory notebooks (ELNs) streamline data management and provide a structured way to **capture, organize and manage experiment data** in a digital workspace, easily **accessible, searchable, reusable, shareable** at any time.

Benefits of electronic laboratory notebooks

Keep track of experiments

- Access experiment details quickly without flipping through pages.
- Search functionality allows finding specific experiments or data quickly and easily.
- Version control and time-stamping provide accurate records of experiment changes.



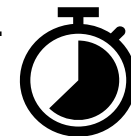
Collaborate easily

- Share experiments and results effortlessly with collaborators in real-time.
- Commenting feature facilitates discussions and feedback.
- Remove geographical barriers, enabling global teamwork.



Save time

- Templates and automations for recurring experiments reduce the need for repetitive data entry and retrieval.
- Integrate with other software tools to streamline research workflow.
- Automated calculations and data plotting enhance productivity.



Electronic laboratory notebook at Aalto University

Aalto Notebook supports **collection, documentation, management, sharing and reusing of research data** in line with FAIR (Findable, Accessible, Interoperable, and Reusable) principles

- Based on the **open-source** platform **eLabFTW**
- **Installed locally** on Aalto servers, managed by Aalto IT Services
- **Browser-based** and accessible on desktop computers, tablets, or smartphones
- **User-friendly & intuitive** interface
- Ensures **secure data handling** and **backups**
- **Customizable** interfaces and settings to align with team or institutional preferences
- **Widely used globally** with a large community of users and contributors and regular community meetings

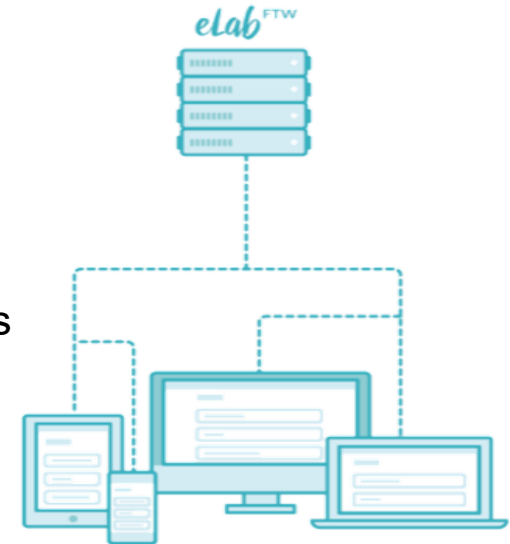
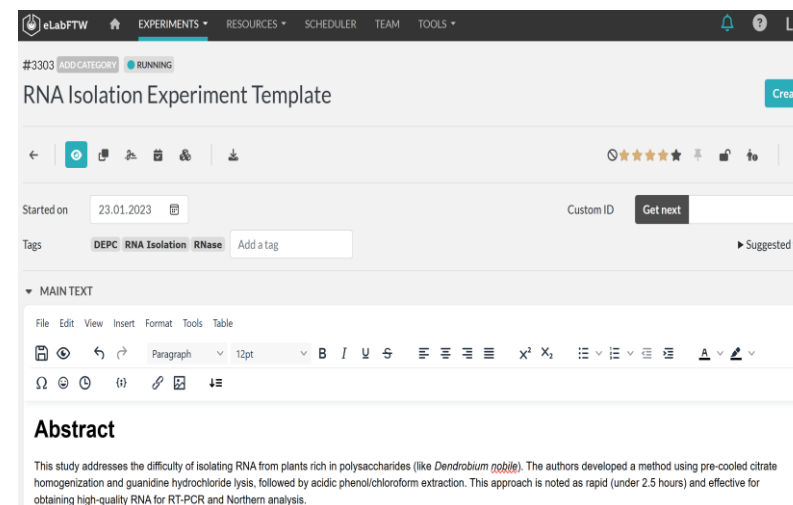


Image by eLabFTW

Key features of eLabFTW

- **Templates:** Create and use custom templates for experiments to ensure consistency and expedite repetitive tasks
- **Collaboration:** Set up your team and user groups to securely share notebooks, individual entries or comments
- **Fine-grained permissions system:** Specify access levels for viewing and editing each entry at the individual or team level
- **Versatile editors:** Word-like and spreadsheet-like editors + chemical structure editor and drawing tool
- **Resources management:** Track your inventory of chemical compounds, equipment, etc. and monitor their quantities
- **Scheduler:** Manage booking of resources, controlling who can book them, when, and how
- **File attachments:** Attach images and documents directly to entries for comprehensive record-keeping
- **Advanced search:** Locate specific entries using robust search mechanisms
- **Integration:** Access data via an external program using the REST API
- **Signature and timestamping:** Using a Time Stamping Authority (TSA)
- **Import data (ELN, CSV) + export data (PDF, ZIP, CSV, JSON, ELN)**
- **Labels:** Tags, categories and statuses for better categorization and retrieval
- **Steps and to-do lists:** Keep track of process and tasks efficiently
- **Multi-language support:** Available in 21 languages



ELNs improve research efficiency by replacing paper notebooks with searchable, secure, and accessible digital records.

With ELNs **easily keep track of experiments** (what, who, when) and **share and collaborate** with your team.

-> eLabFTW: <https://elabftw.net>

-> Aalto Notebook: <https://www.aalto.fi/en/services/aaltos-electronic-laboratory-notebook-aalto-notebook>

Thank you!