# ELNX: An Electronic Laboratory Notebook for Seamless Integration into Daily Research

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ELNX is a universal electronic laboratory notebook (ELN) developed to seamlessly integrate into everyday research routines, combining strict compliance with standard laboratory documentation requirements and a user-friendly interface. It offers essential features such as time-stamped entries, version history, immutable records, role-based access control, supervisory signing, and hierarchical organization at user group/laboratory level.

ELNX enables users to effortlessly input a wide range of content, including formatted text, images, tables, and arbitrary attachments (PDFs, office documents, etc.) via direct input, copy-paste, or mobile capture. Both desktop and mobile interface support in-app image annotation. The automatic record saving ensures uninterrupted workflow with the ability to resume work at any time. Records within individual notebooks can be organized into collections using a hierarchical structure, re-ordered based on user preference, labelled with custom tags and searched for through the full-text search functionality. To ensure the FAIRness of the notebook content and simplify the creation of structured data entry (e.g., form-based records), the users can design custom metadata templates enhanced with the connection to underlying ontologies (utilizing the EBI’s Ontology Lookup Service).

Beyond the documentation of day-to-day work, ELNX features an integrated booking system with calendars for tracking time on projects, managing personnel availability, and (soon) booking lab equipment with role-based decision workflows. ELNX thus serves as a comprehensive digital platform supporting both scientific documentation and operational coordination across diverse research domains.