ELN + LIMS Data Integration

The BioPACIFIC MIP ELN does not stand in isolation within the digital ecosystem. In fact, the ELN serves as a critical data entry point for the BioPACIFIC MIP LIMS system. Information about chemicals, synthetic biology protocols, characterization data, and other essential data can be obtained from the ELN for sharing with the LIMS. The flow of information from the ELN to the LIMS is visualized in Fig 1.

Fig 1. Flow of information and data from the ELN to the LIMS, following synthesis and characterization of a sample.

ELN File Attachments

You can upload files directly in the ELN! These files (attachments) are linked to the ELN page they were uploaded to, and are created and tracked within the LIMS. By navigating to the File Attachments module, you can upload/view files (Fig 2).

Fig 2. File attachments display. Users can upload or view/remove files attached to the notebook page.

File uploads are segmented into different types, such as generic files, characterization tool files, plate reader files, and so on (Fig 3). This is done to simplify database annotation and data population by pre-populating fields for the user based on their file type selection. This provides a richer level of file annotation while simplifying data entry by the user. An example file upload window for the Spectra electron microscope is shown in Fig 4.

Fig 3. File attachment type selection. Users declare the type of file they're attaching to their ELN page and then provide basic information describing select parameters relevant to the file type.

Fig 4. File attachment upload window. The file upload window for a Spectra EM file. The user is tasked with completing a couple of drop-down menus before they can upload their data. These drop-down menus address basic information, such as data quality and availability.