What is a laboratory information management system (LIMS)?

A laboratory information management system, or LIMS (Fig 1), is a system designed to help manage large volumes of data produced from experimental workflows. In its simplest form, a LIMS provides tracking and history for a given sample as it progresses through various stages of synthesis and characterization.

Fig 1. BioPACIFIC MIP LIMS home page.

BioPACIFIC MIP's LIMS was created in order to streamline the collection of characterization and other assorted data across BioPACIFIC MIP instrumentation into a singular data repository. The LIMS integrates with the BioPACIFIC MIP electronic lab notebook (ELN) to facilitate connection of experimental data (either sent directly to the LIMS or indirectly from the ELN) to synthesized materials and their associated experimental protocols in the ELN. This enables BioPACIFIC MIP to generate comprehensive profiles of materials as they are first described in the ELN and ultimately characterized, as shown in Fig 2.

Fig 2. Schematic of information flow from ELN to LIMS, culminating in access to myriad annotated data.