Contribution ID: **521** Contribution code: **TUPD101** Type: **Poster Presentation**

Universal LIMS for Diamond

Tuesday 23 September 2025 16:00 (1h 30m)

Universal LIMS is a new set of web services being developed at Diamond, as part of the Diamond-II upgrade. It will provide users and beamline scientists with tools to manage the logistics and scientific metadata for their experiments. For scientific samples it will allow users to ship them to Diamond, track where they are within the experiment hall, and store data about them. Universal LIMS will also allow users to define parameters for non-interactive experiments and the Data Catalogue will provide an overview of the data they have collected, including metadata from the data acquisition systems and summaries of analysis pipelines that have run. These services will work together to provide a complete workflow to facilitate user experiments at Diamond. A key part of the approach is to provide flexibility in the data that is stored. Defining a database schema to cover the needs of the eight different science groups in Diamond would be challenging and there is a development cost to updating the database schemas as requirements evolve. Instead, with Universal LIMS we store data as JSON, validated against a JSON schema. This ensures schemas can be updated easily, while the data can still be understood effectively by downstream applications. In this talk we will discuss the progress on development of the Universal LIMS services, the creation of the repository of JSON schemas and how these fits in with the software architecture being developed as part of the Diamond-II upgrade.

Footnotes

Funding Agency

Author: BUSH, Ian (Diamond Light Source)

Co-authors: Mr ADEGBAJU, Ben (Diamond Light Source); Mr ADEY, Rhys (Diamond Light Source); Mr IRVINE, Jonathan (Diamond Light Source); Mr COMINA, Martin (Diamond Light Source); Mr PRITCHARD, Matthew (Diamond Light Source); Mr WILCOXSON, John Matthew (Diamond Light Source)

Presenter: BUSH, Ian (Diamond Light Source)

Session Classification: TUPD Posters

Track Classification: MC16: Data Management and Analytics