



Developing Sample Management Tools for the Irradiation Test Area (ITA)

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Background: Need for Radiation Testing

- As beam intensities increase, we need stronger and more radiation-hard detectors and electronic components
- Testing radiation hardness of samples increases effectiveness and safety of experiments
- Current facilities offer this testing, but with limited availability
 - LANL, CERN
- Irradiation Test Area (ITA) under construction to offer onsite irradiation testing

In Progress: the ITA

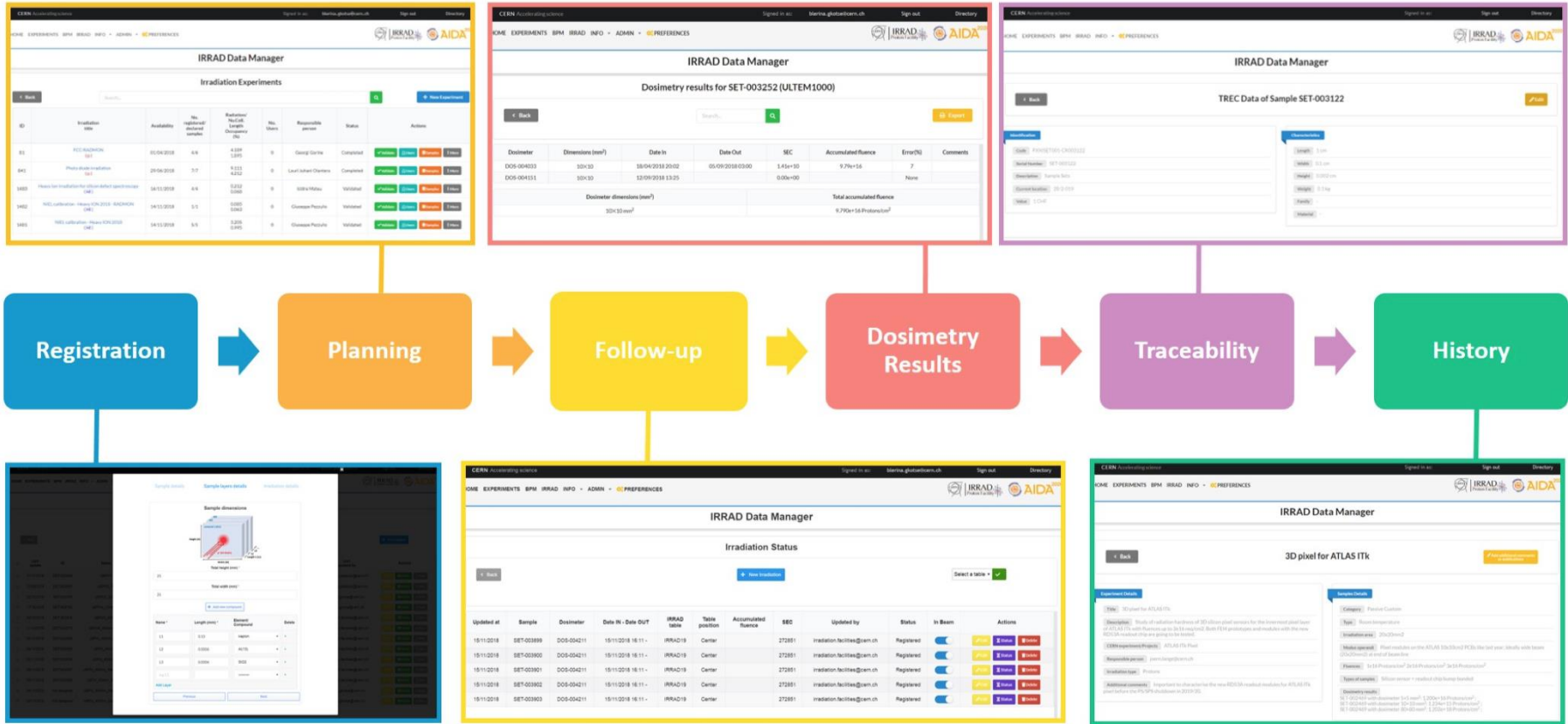


- Beam line directs a 400 MeV proton beam to the sample
- Concrete cave at the end of the beam provides radiation shielding
- Blue tracks guide samples in and out of the cave for easy remote access

Photo from ITA Beam Line Installation

Still in need of a data management tool to store testing history, regulate user access, and present users with test result information

CERN's IRRAD Data Manager (IDM)



For more information about IDM, visit <http://icalepcs2019.vrws.de/papers/mopha048.pdf> (image source)

Current and Ongoing Steps

In collaboration with CERN and members of the Test Beam group, I am helping to bring a version of the IDM to Fermilab for use at the ITA.

Gather information about IRRAD processes and use of IDM

Interview users so that our database tool fits Fermilab needs

Identify which IDM components are useful for Fermilab science

Develop additional features as needed, or document and outline for future developers