



## LArSoft Steering Group Meeting Notes - December 11, 2019

Attendees: Sam Zeller, Thomas Junk, Herb Greenlee, Erica Snider, Katherine Lato

The quarterly LArSoft Steering Group meeting was held on December 11th where we went over the 2020 LArSoft work plan as well as providing a written final update on the 2019 plan. The following is a summary of the discussion:

- Discussed the importance of ensuring thread-safety of all code running in production workflows, particularly in light of the changes in computing architecture expected over the next few years. Went over details of the short term plan, which entails making sure DUNE data preparation code runs in multi-threaded art, and working on intra-event multi-threading for specific ICARUS and MicroBooNE workflows.
- Effort will be directed at a few targeted improvements to the existing event display, in particular navigating large, multi-TPC detectors, and improving the speed of the display. Tom Junk commented that Chris Backhouse has implemented some multi-TPC navigational features that might be of use toward this work. Sam noted that Pushba Bhat has discussed running a live LArTPC event display on the second floor, along with displays on the status of data taking for each experiment. MicroBooNE has agreed to use EVD for the pilot launch.
- Discussed the need to integrate deep learning into LArSoft. MicroBooNE has pioneered running DL code in production, though the integration is not ideal, and not transferable to other experiments. Tingjun Yang mentioned that ProtoDUNE plans to run DL algorithms in production. The objective of the work plan project (included under continuing and long-term priorities) should be to have a common image format that can be created from either raw data or reconstructed hits (or pixels).
- The GitHub migration will carry over into January of 2020, so has been added to the 2020 work plan. The outstanding work includes getting CI jobs to run that are triggered by GitHub; and completing the documentation needed for testing and general use.
- The 2020 work plan was approved, pending addition of the GitHub item.

Background: Each Autumn, Erica and Katherine discuss priorities with each of the Offline Leads. The experiments detail their plans for the next year, the implied requirements for LArSoft, and how LArSoft could help, as well as what the experiments might be able to contribute to LArSoft code. Based on those discussions, LArSoft proposes a plan of work which is reviewed by the Offline Leads and then the revised work plan is discussed and approved by the experiments at the December LArSoft Steering Group meeting.

The work plan for LArSoft for 2020 is available at: <https://indico.fnal.gov/event/21877/material/4/0.pdf>

Erica & Katherine