



ND Software Integration

Mathew Muether

Mathew.Muether@wichita.edu

DUNE ND Bi-weekly Meeting

July 10th, 2019



- In addition to DUNE I work on NOvA as a co-convener of the near detector cross section physics analysis working group.
- I'm also a collaborator on the EMPHATIC experiment.
- FUN FACT about me: I can juggle balls, clubs and rings but not more than 4.

Initial organization and planning

- Goal: Integrate the software efforts of the MPD, Lar and 3DST as needed to produce physics output from a full ND simulation suite.
- First step: Initial meeting in July of stakeholders to discuss the way forward.
 - Currently: Tim Bolton, Alan Bross, Mathew Muether, Jennifer L Raaf, James R. Sinclair, Hirohisa Tanaka, Kazuhiro Terao, Alfons Weber, Michael Joseph Wilking , Guang Yang.
 - If you'd like to participate please let me know and we can include you on the planning. Doodle: <https://doodle.com/poll/69b6amvhqxb7e8xa>.
 - Likely July 23rd or 24th.
- Slack: #nd_software_integrate

Merger Plans for LAr and GArSoft

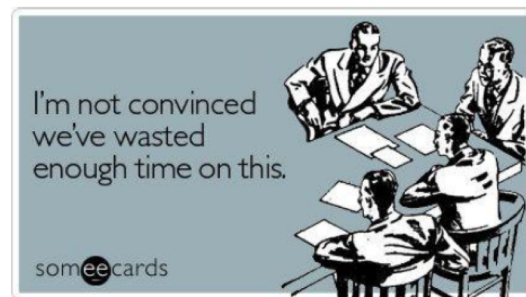
<https://indico.fnal.gov/event/20425/session/16/#20190526>



"NOW TURN YOUR ATTENTION TO ITEM NO. 167 ON YOUR AGENDA ..."

LAr Software Ideas for Merging

Kazu @ SLAC



DEEP UNDERGROUND NEUTRINO EXPERIMENT

GArSoft and Integration Thoughts

Tom Junk, Leo Bellantoni, Thomas Campbell, Eldwan Brianne,
Gavin Davies

DUNE ND Workshop
May 26, 2019

Initial thoughts/Questions

- Merging event generation and particle tracking: Need a unifying GEANT4 simulation (single GDML, common physics lists, etc)
- Detector response simulation is independent.
- Reconstruction are independent pieces currently but we consider what level of unification is needed.
- Do we need to included 3DST?
- What about the ND hall?
- What are the needs of the physics groups?



Thanks.