

HSF Reconstruction & SW Trigger

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2022 WG co-convener

Thanks to the service of the outgoing co-convener David Lange (CMS)



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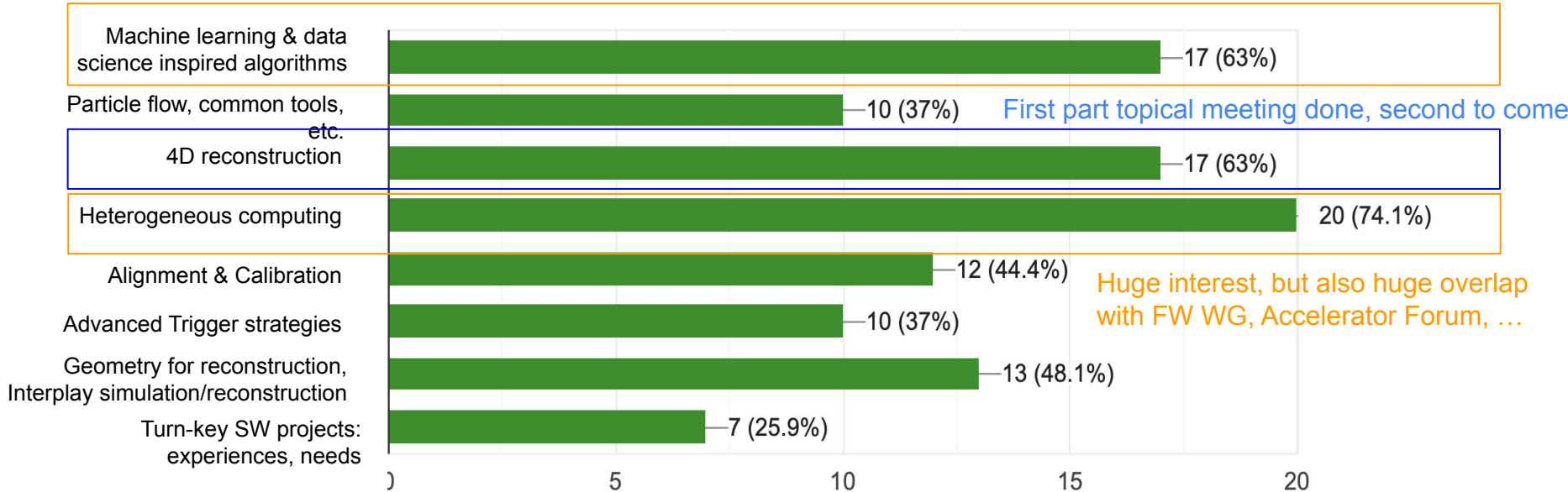
Jin Huang

Physicist, BNL

PHENIX, sPHENIX, EIC

2021 review - Survey outcome & follow-ups

Planned for a topical meeting close to “Learning to Discover Workshop” (next attempt Apr 2022)



LHC community was pretty caught up in Run-3 preparations

Suggested topics for 2022

- 2nd part of 4D reconstruction topical meeting
 - - focus on algorithms
- Machine learning
 - Graph neural networks for reconstruction (topical meeting)
 - Learning to discover workshop summary wrap-up (topical meeting)
 - Coordinate with reco session at AI4EIC workshop (2022 workshop TBD)
- Open data sample
 - Showcase usages of existing samples in topical meeting
 - Tracking Open Data Detector released (ACAT) & decoupled from ACTS
 - Create calorimeter data sample (discussion started)
- Particle flow (topical meeting)
 - LHC experiments experience
 - Current status and plans of other experiments (e.g. sPhenix, EIC experiments)

Suggested topics for 2022

- Flavor tagging (topical meeting, possibly joint with analysis WG)
 - HF resonance reconstruction and HF jet tagging
- Calibration / alignment & conditions handling in reconstruction
 - Topical meeting (together with framework group?)
- Training material on heterogeneous computing for reconstruction & triggers
 - Together with training group?
 - Needs some discussions and planning
- Heterogeneous computing in reco & triggers - together with compute accelerator forum
 - “Classical” approach: Patatrack + additional project
 - “Exotic” approaches: quantum computing, IPU, TPUs etc.
- Software trigger and reconstruction for streaming readout experiments
 - Coordinate HSF joint session at Streaming Readout Workshop X and XI (last two at [MIT](#) and [ORNL](#), expect two workshops in 2022, TBD)