# CCE PPS Weekly Meeting

27 October  2023  Agenda: https://indico.fnal.gov/event/55576
Link to previous meeting notes: **231020 - CCE PPS Weekly Meeting**
**Attendance:**

# News and Reminders

- DOE Review Followup
    - institutes submit FWP by end of Sept. **(done)**
    - preamble ready sometime next week **(done)**
    - Updating the report is not a priority (may just do it for ourselves)
    - Ongoing discussion about where celeritas fits in and what to do if we have extra funding; nothing definitive yet.
    - need updated version of milestones / projects to work on **(done)**
        - see example for IOS: https://indico.fnal.gov/event/61782/
        - PAW CCE Review Slides: https://drive.google.com/file/d/1HP_SlaTpdSW8n3IwYbDdfE19usYlDeWD/view?usp=sharing
        - **PAW updated milestones: https://docs.google.com/presentation/d/1QCq9liBJfJhjQ7EbFoaCT-27qgpd4LTAzlG8m5qxCNo/edit?usp=sharing**
        - ask folks to put names next to regions of interest in "author list":
            - PAW tasks and people https://docs.google.com/spreadsheets/d/1tTz19fy-qnTnIrnywnk-Us_Z6iNUiFvOnLimPDJ_4aI/edit?usp=sharing
            - Need to circulate this to the CW group as well.
            - Ask people to sign up before AHM

- Closing out CCE-1-PPS
    - overleaf: https://www.overleaf.com/1144991646fjrvgmzycwxs
    - **Goal**: complete the report by **end of November**

- ACAT 2024
    - Mar 10-15 (Stony Brook NY)
    - **PPS Workshop/Tutorial at ACAT? This would be part of our "Outreach" task.**
        - Maybe do some "dry-run" tutorials at ATLAS and CMS S&C Weeks
            - ATLAS: Feb 2024
            - CMS: after ACAT

- ● Then do the tutorials at other conferences

- ● CCE All-Hands Meeting
  - ○ December 18-19 (½ day), 2023, ANL
  - ○ Main topic is to plan for CCE Phase 2, at least for FY24.

- ● CONFAB workshop:https://sites.google.com/es.net/confab23/home
  - ○ IRI related
  - ○ Important for HEP-CCE to be engaged with the discussion and planning
  - ○ Should listen to what they have to say (read their whitepapers)
  - ○ HEP-CCE should write own whitepaper
  - ○ HPDF: should provide our vision for High Performance Data Facility (JLAB+NERSC)

- ● NERSC-10 update: https://drive.google.com/file/d/1jcvdTOwYzbjfhRubWOYXrub65Sh52fvq/view
  - ○ We should write a NESAP proposal, especially for the PAW activities
  - ○ Salman will check with Jack to see if it is too late to submit a NESAP proposal this year

- ● Meet up at SC23: Salman will organize
  - ○ Salman is buying drinks!

# Action items for Oct 20

- ● Put names next to sections in CCE final whitepaper
- ● section 4 [Porting experience]
  - ○ 4.1 [Patatrack]
    - ■ 4.1.1 [Kokkos] : Matti
    - ■ 4.1.2 [SYCL] ? ask for input from CERN folks
    - ■ 4.1.3 [Alpaka] ask for input from CERN folks
    - ■ 4.1.4 [OpenMP] Mark
    - ■ 4.1.5 [std::par] Julien
  - ○ 4.2 [FastCaloSim]
    - ■ 4.2.1: [Kokkos] Zhihua / Charles
    - ■ 4.2.2: [SYCL] Charles
    - ■ 4.2.3: [Alpaka] Vakho
    - ■ 4.2.4: [OpenMP] Atif
    - ■ 4.2.5: [std::par] Charles

- ○ 4.3 [Wirecell]
    - ■ 4.3.1: [Kokkos] Zhihua/Haiwang
    - ■ 4.3.2: [SYCL] Zhihua
    - ■ 4.3.3: [Alpaka] N/A
    - ■ 4.3.4: [OpenMP] Tianle
    - ■ 4.3.5: [std::par] Tianle
- ○ 4.4 [p2r]
    - ■ 4.4.1: [Kokkos] Martin
    - ■ 4.4.2: [SYCL] Alexei
    - ■ 4.4.3: [Alpaka] Martin
    - ■ 4.4.4: [OpenMP] Martin
    - ■ 4.4.5: [std::par] Alexei

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# Reports of this week

## Wirecell

- OpenMP:
    - DONE
    - 
- SYCL
    - DONE
- Standalone testing
    - 
- Std::par
- Trying to collect performance data on Intel GPUs (Sunspot etc.)

## FastCaloSim

- OpenMP:
    - 
- Alpaka:
    - DONE
- Std::par / cuda / hip / kokkos
- Trying to collect performance data on Intel GPUs (Sunspot etc.)

Patatrack

- std::par:
  - ○
- OpenMP
  - ○
- SYCL
  - ○
- Kokkos
  - ○ DONE

P2r

- ●

Event generators

- ●

## Metrics Documents

- Github markdown:
  https://github.com/hep-cce2/PPSwork/blob/master/Metric.md
- Metric summary spreadsheet:
  https://docs.google.com/spreadsheets/d/14tE3oJdHRMxAPPPJ0Io8n5j0Kvr7he2AxGKLXQbdhGs/edit#gid=0
- Google folder of all metric document:
  https://drive.google.com/drive/u/0/folders/1m1IJ09SIWDLzPYiub7om34aWM-1otPqN
- Google form:
  - ○ Survey 2023: https://forms.gle/9VgX6aCxkPyLPxK5A
  - ○ Survey 2022: https://forms.gle/oQuwu3NxD5rSMDkD6
  - ○ Survey 2021:https://forms.gle/rupXAGekxS1jwWNR8
- Plan: spend some time during the all-hands to revisit the metrics discussion

|  | Kokkos | SYCL | OpenMP | Alpaka | std::par |
|---|---|---|---|---|---|
| **Patatrack** | Matti | Matti | Mark (Matti) | Matti | Julien (Matti) |
| **Wirecell** | Zhihua | Zhihua | Tianle | - | Tianle |

| FastCaloSim | Charles/Zhihua | Charles | Atif | Vakho | Charles |
|---|---|---|---|---|---|
| P2R | Martin | Alexei | - | Martin | Alexei |

- Nobody has worked on the final metrics input ➜ **Everybody please work on final metrics input.** We will ask everyone about progress next week!
  - Martin: make a new 2023 survey and send it to the PPS list
  - For the final report, we want to fill out all metric document (text input)
    - Survey will be part of it
    - There is some text input for the SC paper already (has OpenMP and other programming models included)
    - Martin will have a look and go over the paper and copy into all metric document

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- identify characteristics of each use case, lay them out in a table
- we will have just 1 large paper with all the details
- tables in appendix with data as well as plots
- uniform format for plots
- artifacts description and tagged repos