We are the **EPIC Computing and Software** WG!

Why have we merged the EPIC CompSW and SimQA WGs:

- Overlap in topics between the WGs.
- Our goal of not separating software development from software use and support. This is motivated by:
 - Lessons learned from successful scientific software projects.
 - The EIC Software: Statement of Principles:





Priorities for the working group itself:

Next Priorities

- Build a large and active working group with shared responsibilities and leadership
- Portal to get starting with using simulations and analysis as well as software development

Priorities for simulations and analysis:

Next Priorities

- Reconstruction for full integrated detector for holistic understanding of the detector and its capabilities
 - Including PID, backgrounds and noise
 - Enforcing modularity for clear separation of development of reconstruction algorithms and development of the framework and its services
- Reproducible workflows for simulation and analysis
 - Building up on the work on continuous integration with tests and benchmarks
 - Start including handling of metadata (e.g., conditions database)
- Simulations of eA in addition to ep
- Simulations of streaming readout

Priorities to advance our science:

- Start incorporating AI/ML methods and approaches in our software stack
- Use heterogeneous nodes at BNL, Jefferson Lab, and other facilities as testbeds for start rolling out solutions for heterogeneous computing challenges
- Work with the collaborations towards fully reproducible, re-usable, and re-interpretable analyses as a collaboration standard

Priorities for software development:

- Debugging in containers
- Support Jupyter notebooks for analyses through documentation and examples



Next Simulation Campaign and Related Task Forces

Next simulation campaign:

Target date: End of March.

tbd

- **Goal**: Improved software stack for the reconstruction, including benchmarks.
- Task forces to reach our goal:
 - Calorimeter Clustering
 - Jet Reconstruction
 - PID
 - Tracking

 - **EICrecon** for urgent fixes to the reconstruction software stack
 - **Modular Reconstruction** for substantial improvements of the reconstruction software stack
 - Simulation Production
- Each task force will be responsible for leading the effort for a particular topic with the following goals:
 - The development is accessible to the whole collaboration in our main repository.
 - We can evaluate the reconstruction quality using a set of well-defined plots that we can easily reproduce.

Important note: Task forces != subgroups

Subgroups based around interest in a general

area, e.g., reconstruction, will form later.

Task forces solve specific issues.

Kickoff meeting with task force leaders on January 27.



Reconstruction Task Forces

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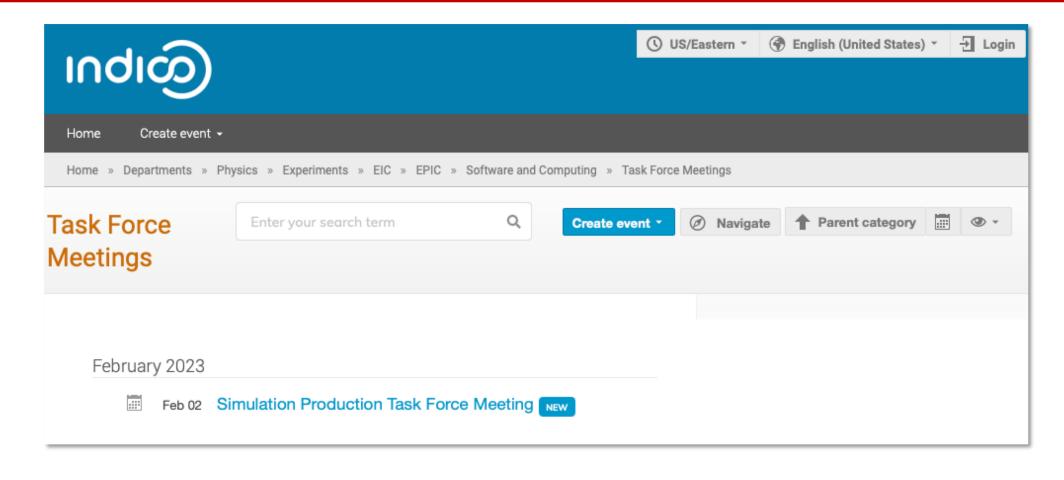
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Task Force Meetings and Updates



Regular Updates in the EPIC Computing and Software Weekly Meeting



Announcements

Jet Reconstruction

- Initial discussion on Thursday at 12:00 p.m. (EST) at next Jet/HF meeting.
- Poll for first task force meeting: https://www.when2meet.com/?18588885-DkOuM

• PID

- Initial discussion on Friday at 8:30 a.m. (EST) at the next CherenkovPID meeting.
- If the TOF group cannot join, there will be an additional meeting with them.

Simulation Production

- Weekly meetings on Thursdays at 2:00 p.m. (EST).
- Starting this week until at least the productions for the BEMCal review are complete or well underway.
- Anticipate connections with the ElCrecon and clustering task forces.

Tracking

Weekly meetings on Thursdays at 10:00 a.m. (EST).

