

CLAS Collaboration Organization for 12 GeV Operations

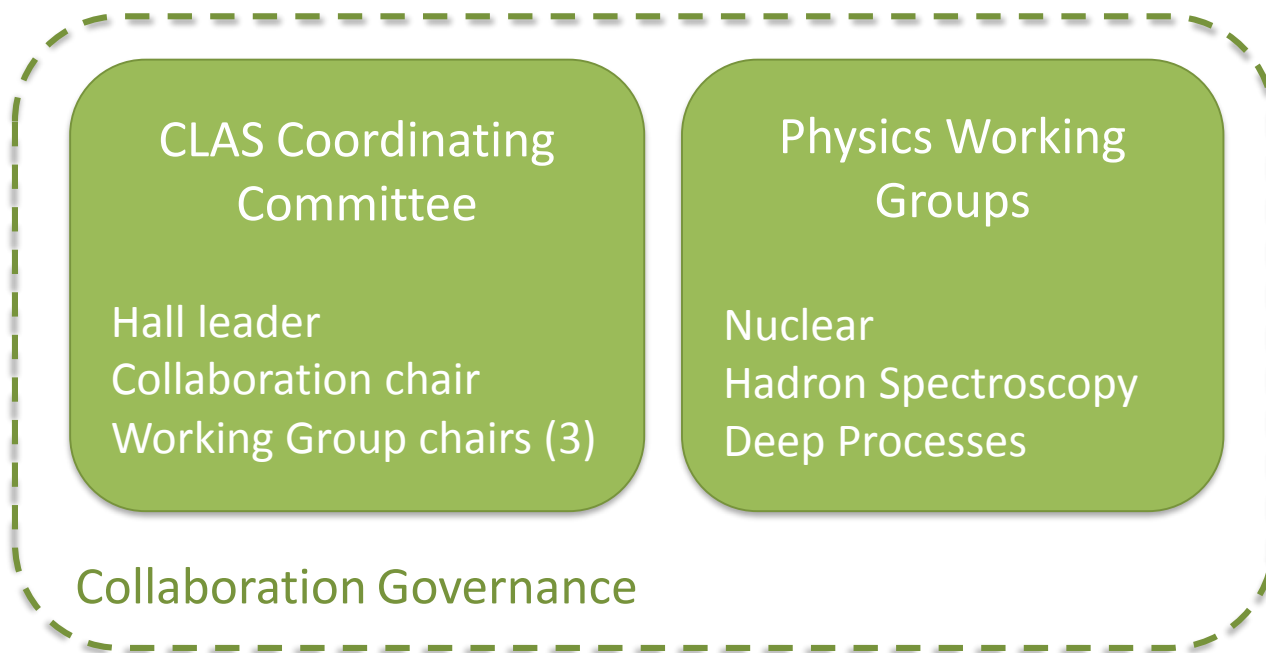
Jerry Gilfoyle

September 25, 2017

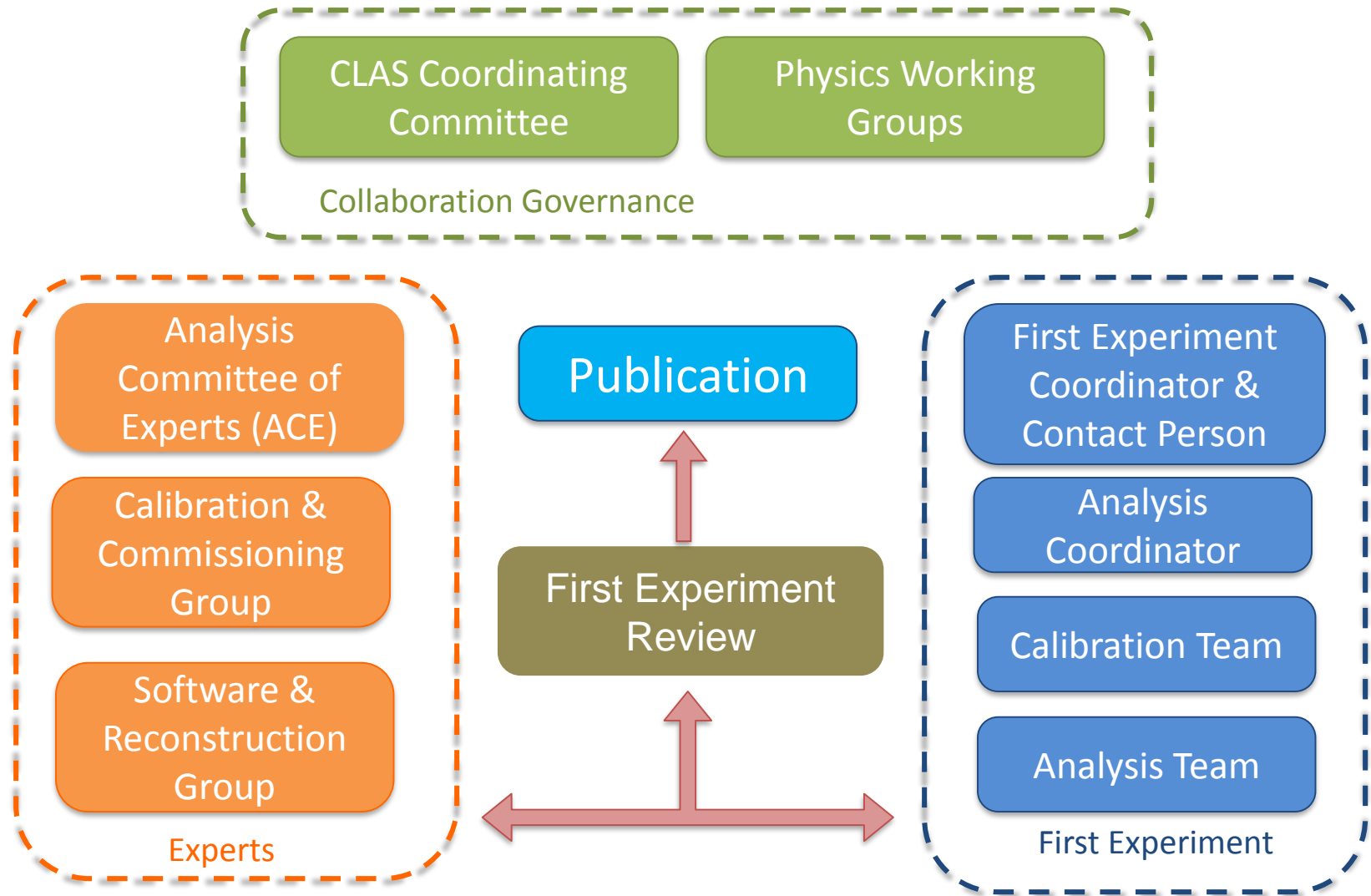
Motivation

- Be ready for beam.
- Collect, calibrate, reconstruct, analyze and publish CLAS12 data in a timely way.
- Adapt to the CLAS12 – Seven PAC-approved experiments in Run Group A (plus four run-group proposal), four in Run Group B (plus three ...
- Opportune moment in the Collaboration's lifetime to focus Collaboration on each run period.
- Changes discussed and studied for last several years.

CLAS12 Governance



CLAS12 First Experiment Organization



Committee/Team/Group Composition

- ACE: Ken Hicks (chair), Sebastian Kuhn (co-chair), Dave Ireland, Kyungseon Joo, Silvia Niccolai, Eugene Pasyuk, Larry Weinstein.
- First Experiment Review: Eugene Pasyuk, Keith Griffioen, Ralf Gothe
- First Experiment Coordinator: Franck Sabatie, Latifa Elouadrhiri.
- CalCom: Dan Carman (chair),
- Software: Veronique Ziegler (chair), ...

ACE:

- Guide the development of algorithms for momentum corrections, PID, background subtraction, fiducial cuts and other corrections, exploiting the expertise accumulated with analysis of CLAS data.
- Recommendations to standardize user software.
- Study approaches for higher-level algorithms like radiative corrections and PWA.
- Started in January, 2017.
- More than twenty meetings since then.
- Detailed report now available includes recommendations for standard analysis, outline of analysis note,...

https://clasweb.jlab.org/wiki/index.php/Analysis_Committee_of_Experts

First Experiment (Run Group A):

- Holding regular weekly meetings every Wednesday
- CLAS12 Workshops had attendance of 40-50 at six meetings in the last two years.
- Software Tutorials held at last two Collaboration meetings to train users to use CLAS12 software (gemc/coatjava).

First Experiment Review Committee:

- Focus on the testing and validation of the CLAS12 calibration, reconstruction, and analysis common to all the experiments.
- The review will begin now so that as the sections of the draft analysis note become available, the committee can assess them and speed the entire process.
- As the work progresses we can add members to the committee whose expertise is appropriate.
- Changed past procedure to reduce time to publication.
- Work just beginning.

Summary and Conclusions:

1. Collaboration review procedures adapted to 12 GeV operations to focus full Collaboration.
2. Main set of committees and groups in place for calibrations, reconstruction, analysis, and reviews.
3. Leadership positions filled.
4. ACE formed to transmit CLAS6 expertise to CLAS12 running.
5. Organization tested successfully on KPP run and after.
6. First Experiment Review committee formed to speed process to first publications.

Additional Slides

Charge to ACE:

Guide the development of algorithms for momentum corrections, PID, background subtraction, fiducial cuts and other corrections, exploiting the expertise accumulated with analysis of CLAS data. Algorithms developed by this group should be reviewed by an analysis review committee. Upon approval they should be considered “standard”, requiring no further review when applied to specific analysis and only a short reference in future analysis notes.

Charge to First Experiment Review:

The charge to the committee is to first focus on the testing and validation of the CLAS12 calibration, reconstruction, and analysis that is common to the experiments in the First Experiment. Similar to the previous run period review of the g12 experiment, the goal is to provide a common approach for the entire run group so that later analysis notes can be approved for those components more efficiently.

The review will begin now so that as the sections of the draft analysis note become available, the committee can assess them and speed the entire process. Later, as the work progresses and becomes more specialized to different experiments, we will add members to the committee whose expertise is appropriate.

We also expect the First Experiment group will assign one or two representatives to collect and manage the documentation and be the main point-of-contact between the run group and the committee.

ACE Goals: (Hicks, Ireland, Joo, Kuhn, Niccolai, Pasyuk, Weinstein)

- Guide the development of algorithms used for later analysis
- PID, background/detector cuts, momentum corrections, etc.
- Recommendations to standardize user software
- Suggest approach for higher-level algorithms like radiative corrections and PWA.
- Deliverable: Report, version 1.03
 - Posted on CLAS12 wiki
 - Recommendations for standard analysis procedures
 - Outline for analysis notes
 - Recommendations for procedures like radiative corrections

ACE recommendations (see our report)

- General Procedures: reconstruction -> HIPO file -> post-processing
- Analysis Review: 1) run group (in common) 2) individual final state
- Lessons Learned: standardize software, minimize mom. corrections
- Beam Information: data-taking procedures with redundant readouts
- Radiative corrections: standardize as best possible; common to all
- Higher-level analysis: explore machine learning, multi-variate analysis
 - Also develop guidelines for blinded analysis, partial-wave analysis, etc.
- Gather feedback from the collaboration: revise report as needed.