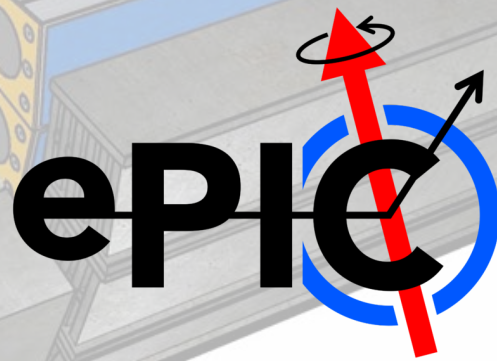


A detailed 3D cutaway diagram of the ePIC detector. The detector is cylindrical and contains a central beam pipe surrounded by various layers of detectors and support structures. The outer shell is blue, and the inner layers are grey and yellow. The central beam pipe is surrounded by a green layer, followed by a yellow layer, and then a grey layer. The detector is mounted on a large, grey, cylindrical support structure.

ePIC Collaboration Status

J. Lajoie, S. Dalla Torre

July 13, 2023



Hey John, start the recording....

Today's Agenda

- Usual updates
- CC News
- Report from PID Review

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"I suppose you're all wondering why I've called you here. Oh, wait, there's an agenda. Never mind."

7/13/2023

ePIC General Meeting

Thursday Jul 13, 2023, 7:00 PM → 9:00 PM US/Eastern

Description **Connection Information:** <https://iastate.zoom.us/j/5671810336?pwd=Q1pwM2Q5NFk0T2xqMlJiWDcwcXI0dz09>

Recording:

7:00 PM → 8:15 PM General Status and Updates 📝

Conveners: John Lajoie (Iowa State University), Silvia Dalla Torre (INFN, Trieste)

7:00 PM ePIC Collaboration Status 🕒 25m 📝

Speakers: John Lajoie (Iowa State University), Silvia Dalla Torre (INFN, Trieste)

7:25 PM Collaboration Council News 🕒 20m 📝

Speakers: Bernd Surrow (Temple University), Ernst Sichtermann (Lawrence Berkeley National Laboratory)

7:45 PM Report from PID Review 🕒 20m 📝

Speaker: Benedikt Zihlmann (employee@jlab.org, member@jlab.org)

📎 Closeout_Reviewer_... 📎 PID_Review_report...

8:05 PM Discussion 🕒 10m 📝

Speakers: John Lajoie (Iowa State University), Silvia Dalla Torre (INFN, Trieste)

ePIC General Meeting

3

Proposals for ePIC Membership

from the ePIC Charter:

After initial formation, new institutions are admitted to EPIC by a super-majority vote as described in Voting and Elections provisions of this Charter, after a proposal made to the Collaboration Spokesperson and Executive Board.

- Gangneung-Wonju National University



- Hanyang University



- Karlsruhe (ADL)



- NASA Goddard



- Oklahoma State



- Sungkyunkwan University



- The Ohio State



- University of Liverpool



- University of Seoul



- University of Tokyo (CNS)



- Yonsei University



EIC and ePIC @ LRP Resolution Meeting

Monday, July 10th

- Presentations at LRP Resolution Meeting (Virginia Beach)
- Good questions, good discussion!
- Recognition of the place held by the EIC in the 2015 LRP as well as excellent progress since that time.

2:15 – 3:15	QCD Program Overview <ul style="list-style-type: none">• Cold QCD (20+10)• Hot QCD (20+10)	Jim Napolitano Barbara Jacak
3:15 – 4:15	EIC (30+30 min) <ul style="list-style-type: none">• Science/Project• ePIC detector	Rolf Ent John Lajoie
4:15 – 4:45	Break	
4:45 – 5:35	QCD Initiatives (50 min); 5+5 for each <ul style="list-style-type: none">• EIC Second Detector• Polarized positron beam at CEBAF• Towards an Energy Upgrade at CEBAF• LHC detector upgrades and CERN initiatives• High baryon density frontier	Renee Fatemi Thia Keppel Thia Keppel Vicki Greene Lijuan Ruan
5:35 – 6:05	QCD Discussion	

PID Review – July 5-6th

Charge:

Incremental Design and Safety Review of the EIC Particle Identification Detectors

Charge to the Committee

The scope of this review includes all aspects of particle identification detectors (but not those that are calorimetry-based) in the central EIC detector, which includes the barrel, the forward endcap, and the backward endcap regions. This includes five detector systems. In particular, a proximity-focusing RICH in the backward region, a high-performance DIRC and AC-LGAD to augment particle identification with TOF in the barrel region, and a dual RICH and AC-LGAD in the forward region. The review may include design and fabrication choices and their cost-effectiveness, the construction schedule, considerations for safety and quality assurance, levels of redundancy, front-end electronics and interface to the data acquisition system, commissioning and calibration procedures, considerations for materials and labor, operational reliability and longevity, and any other considerations that may influence the construction, maintenance and operation of these particle identification detectors.

You are asked to address the following questions:

1. Are the technical performance requirements appropriately defined and complete for this stage of the project?
2. Are the plans for achieving detector performance and construction sufficiently developed and documented for the present phase of the project?
3. Are the current designs and plans for detector and electronics readout likely to achieve the performance requirements with a low risk of cost increases, schedule delays, and technical problems?
4. Are the fabrication and assembly plans for the various particle identification detector systems consistent with the overall project and detector schedule?
5. Are the plans for detector integration in the EIC detector appropriately developed for the present phase of the project?
6. Have ES&H and QA considerations been adequately incorporated into the designs at their present stage?

Please address these questions point-by-point.

You will be supplied with the detailed schedule and manpower assumptions, drawing packages, copies of presentations relevant to this subject material, and the project milestones extracted from the most current EIC resource loaded P6 schedule as part of the pre-brief material.

Note that several aspects of the EIC detector including its electronics, and data acquisition systems have been reviewed previously. Along with your briefing materials, you will also be supplied with the reports from earlier reviews (e.g., on the magnet design, electronics and data acquisition, calorimetry).

Date: 5&6th of July 8:00 am to 2:00 pm EDT both days

Reviewers:

Peter Krizan (U Ljubljana), Chair Floris Keizer (CERN), Ana Amelia Machado (UniCamp), Koji Nakamura (KEK), Justin Stevens (W&M)

Summary and Report from Beni Zihlmann later this session

ePIC Streaming Computing Model

- An update on the computing model requested at the next RRB
 - The design of the computing model is the responsibility of ePIC and its international partners, in concurrence with the host labs
- The ePIC Streaming Computing WG with the SCC team will coordinate the discussion to develop the computing model
 - Streaming Computing WG kickoff Tuesday, July 11th:
 - <https://indico.bnl.gov/event/19974/>
 - Meetings to continue throughout the fall
- Working with EIC Computing and Software Joint Institute (ECSJI)
 - Amber Boehnlein (JLab) and Eric Lancon (BNL), co-directors
 - Emphasis on a partnership with ECSJI and ePIC
 - Starting regular meetings w/ePIC leadership
 - Planning underway for a review of computing model prior to RRB in October

Streaming Computing Model WG

- Started to discuss unique requirements of computing models that feature streaming.
- Next week:
 - Review the status of the ePIC Computing Model.
 - Discuss Echelon 0 (the streaming DAQ system of the ePIC) and hear perspectives from the international community.

The screenshot shows a Zoom meeting agenda for the "ePIC Streaming Computing Model WG Meeting" on Tuesday, July 11, 2023, from 9:00 AM to 10:30 AM US/Eastern. The meeting is hosted by Jeff Landgraf (Brookhaven National Laboratory), Jin Huang (Brookhaven National Lab), and Marco Battaglieri (Jefferson Lab). The description states that Zoom will be used for the remote meeting, with the following details:









- <https://jlab-org.zoomgov.com/j/1614875218?pwd=RFRPcGlnM3BaS0pQaDhxS3JURkdJZz09>
- Meeting ID: 1614875218
- Password: 925723

Below the description is a "Live Notes" button. The agenda is organized into three time slots:

- 9:00 AM → 9:30 AM Organization**
 - 9:00 AM Priorities for the Streaming Computing Model WG** (10m) - Speakers: Jeff Landgraf (Brookhaven National Laboratory), Jin Huang (Brookhaven National Lab), Marco Battaglieri (Jefferson Lab). Document: EIC-SRO-11July102...
 - 9:10 AM Discussion** (5m)
 - 9:15 AM Context from the EIC Resource Review Board Meeting** (10m) - Speakers: Dr Markus Diefenthaler (Jefferson Lab), Sylvester Joosten (Argonne National Laboratory), Torre Wenaus (BNL), Wouter Deconinck (University of Manitoba). Document: Diefenthaler-ePICCo...
 - 9:25 AM Discussion** (5m)
- 9:30 AM → 10:30 AM Streaming Computing Model**
 - 9:30 AM Computing Models that Feature Streaming** (30m) - Speaker: Graham Heyes (Jefferson Lab). Document: 2023-07-10 Streami...
 - 10:00 AM Discussion** (30m)

Technical Integration Council

- Recent TIC meetings have had specific concentrations
- Currently focused on examining the suitability of the H2GCROC/EICROC for multiple ePIC detector systems
 - *Requirements* from detectors
 - *Specifications* from ASIC designers
 - *Communication* w/DAQ and Electronics
- Working to make the TIC less of an information exchange and more of an advisory body
 - Meetings w/CC Conveners after TIC
- Klaus is leaving as TC end of July
 - Many thanks to Klaus for all his efforts!
 - Looking to announce a new TC at Warsaw

July 2023	
	Jul 31 TIC meeting
	Jul 24 TIC meeting
	Jul 17 TIC meeting - Focus EICROC
	Jul 10 TIC meeting - Focus HGCROC
June 2023	
	Jun 26 TIC meeting - Focus FFWD/FBKWD
	Jun 19 TIC meeting - Focus Barrel Calorimeters
	Jun 12 TIC meeting - Focus DAQ
	Jun 05 TIC meeting - Focus Tracking

Early Career in ePIC

10 candidates for early-career representative to CC!

- Cameron Cotton
- Aranya Giri
- Jeetendra Gupta
- Tyler Hague
- Charles-Joseph Naïm
- Jennifer Ott
- Gary Penman
- Nicholas Schmidt
- Maria Stefaniak
- Zach Sweger

Many thanks to Alex, Derek and Tyler for their volunteer work in organizing the effort!

From the ePIC Charter:

- “Early career members of the Collaboration comprise all graduate students and those with no more than five years post PhD experience (not counting career interruptions)”
- Three CC members from the early career group are elected by their peers, at least one must be a graduate student
- One EB member is elected from the early career group

Congratulations to newly-elected CC Representatives:

Aranya Giri, Nicholas Schmidt, and Maria Stefaniak

ePIC Committee Formation

Dear ePIC collaboration,

This is to inform you that the ePIC Election Committee will soon hold elections for the Chair and Vice-Chair of the following ePIC Standing Committees: DEI, Membership, Talks and Conferences.

We will have ranked-choice voting with separate races for the Chair and Vice-Chair of each committee. In most cases the slate of candidates will be the same for both positions, except where a candidate has asked to be included in only one of the races. Once the Chair and Vice-Chair are in place, they will suggest names to fill out the committee; these names will need to be approved by the Collaboration Council.

The slates for the elections are given below. We will provide information from the candidates (brief bios and candidate statements) along with timelines and further details on the election next week.

DEI committee:

- Christine Natrass, UTK (Vice-chair only)
- Jerome Laurent, BNL
- Megan Connors, GSU
- Narbe Kalantarians, VUU
- Vicki Greene, Vanderbilt

Membership committee:

- Daniel Brandenburg, OSU
- Doug Higinbotham, JLab
- Peter Steinberg, BNL
- Pietro Antonioli, INFN-Bologna

Conferences and talks:

- Brian Page, BNL
- Maria Zurek, ANL
- Nick Zachariou, U. York
- Xuan Li, LANL

On behalf of the ePIC Election Committee,
John Arrington (Chair), Helen Caines, Domenico Elia, Or Hen

Email from John Arrington July 7th

Report on Elections Committee activities
and plans for voting later in this meeting.

Next up will be the Executive Board

Web Presence Group

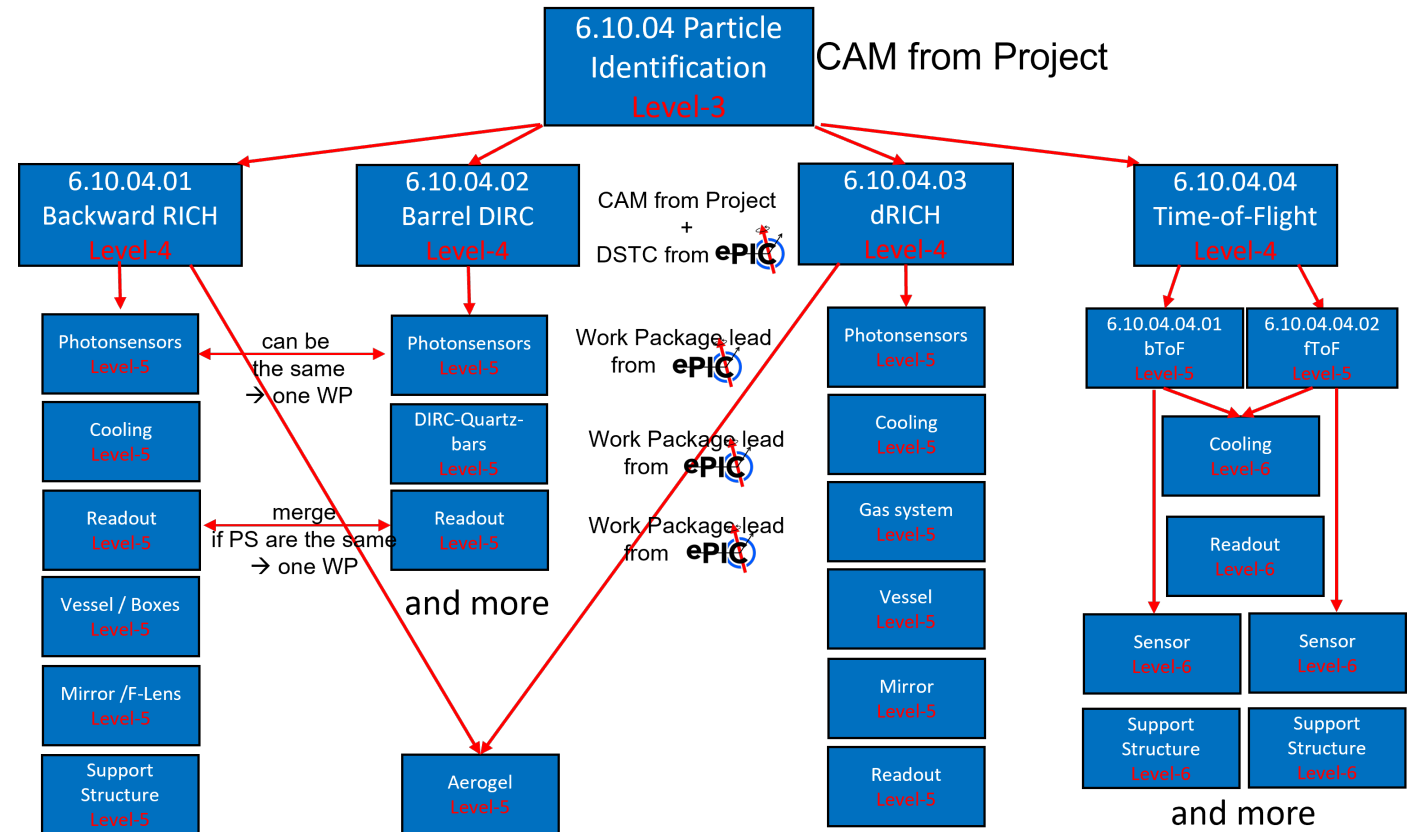
- The Spokesperson's office and CC leadership have formed an “ePIC web presence group”
- Goal is to establish a very basic presence for ePIC on the web
 - Technical support: Implementation of the technical solutions and interface with the host labs, in particular with BNL ([Maxim Potekhin](#))
 - Website design: The overall structure and navigation within the website and integration with external resources ([Thomas Ullrich](#))
 - Document management: An initial solution to archive talks, images, technical notes, etc. in a way that they can be easily accessed by the collaboration ([Peter Steinberg](#))
 - User-centered design: Ensure that web resources are properly organized and can be navigated in a way that is useful and straightforward, both to existing and new collaborators ([Markus Diefenthaler](#))
- This will provide some basic functionality to get us started, allow linking from BNL/JLab EIC resources
 - Timescale for a report is EICUG meeting in Warsaw (end of July)
 - Already have a very nice website architecture document from Thomas
 - A request for support has already been made to the ECSJI, to be discussed next week
- Longer term plan is to turn longer term development over to a collaboration committee.

Collaboration/Project Integration

- DSC's integrated into project plan through definition of work packages

- Spokesperson's office and TC have received first-pass input from DSL's/DSTC's and passed this on to the Project

- Next steps – CAMs use this information to inform P6, communicate directly with DSL/DSTC's



DOE University/Lab Program Support

- We have heard from many collaborators with concerns about supporting their ongoing efforts in EIC/ePIC under their university grants
 - Need to clarify what can be supported, what can PI's ask for in proposals?
- Conversation with Ken Hicks (HI) @ LRP meeting:
 - Happy to receive proposals for EIC scope (no conditions)
 - Emphasized flat-flat budget for foreseeable future (comparative reviews)
- In contact w/Gulshan Rai (ME):
 - Understand from Ken that Gulshan has a different approach
 - Scheduling a meeting w/Gulshan but this will be post-Warsaw
- I believe the same guidance applies to Lab effort as well
- Please keep in touch with the Spokesperson's Office with specific concerns!
 - We will continue the dialog with DOE and emphasize the importance to ePIC

Upcoming in your EIC Detector Arena

- July 5 + 6: Particle Identification Detectors Interim Design Review – Beni's talk
- July 21: Final Design Review of the PbWO4 Crystals for the ePIC Backward EM Calorimeter (Long-Lead Procurement)
 - Reviewers: Eugene Chudakov (JLab), Dipangkar Dutta (MSU)
- August (TBD): Likely one-two further Final Design Reviews for Long-Lead Procurement candidate items
- August 28 + August 31: DAC Review of Detector R&D – had to split in two separate days to make it work with DAC
 - FY23 progress
 - FY24 continuation requests
- August 29 + 30: DOE CD-3A Design Review by DAC
- October 5 + 6: Final Design Review of Magnet (MARCO)
- October 10-12: DOE CD-3A Director's Review
- TBD : DOE CD-3A Independent Cost Review
- November 14-16: DOE CD-3A Independent Project Review
- December 7 + 8: 2nd Resource Review Board meeting @ GWU
- December (TBD): Preliminary Design Review of Far-Forward/Far-Backward Detectors

Slide from Elke and Rolf

ePIC Computing Model Review
October 19-20



Our Next Meeting

- Next ePIC Collaboration Meeting:
 - Organized jointly with EIC Users Group Meeting
 - Univ. of Warsaw, July 23-31st
 - Early career, EICUG and ePIC meetings
 - <https://indico.cern.ch/event/1238718/>
- Looking forward to seeing everyone there (real or virtual)!



7/13/2023

ePIC General Meeting

Electron-Ion Collider User Group Meeting

The world's most powerful microscope for studying the "glue" that binds the building blocks of visible matter

• Early Career

EICUG 2023

International Advisory Committee:

- E. C. Aschenauer (BNL)
- S. Dalla Torre (INDN Trieste)
- A. Deshpande (CFNS, Stony Brook U. & BNL)
- R. Ent (JLab)

Local Organising Committee:

- R. Fatemi (U. Kentucky)
- P. Nadel-Turonski (CFNS, Stony Brook U.)
- M. Radici (INFN Pavia)
- J. Rittenhouse West (BNL)
- E. Sichtermann (BNL)
- P. Sznajder (NCBJ)
- T. Altinoluk (NCBJ)
- B. Badetek (U. Warsaw, chair)
- D. Kikoła (WUT)
- M. Suster (Candela F., U. Warsaw)
- P. Sznajder (NCBJ)
- J. Wagner (NCBJ)

JULY 23 - 31 2023

Warsaw



<https://indico.cern.ch/e/EICUG2023>





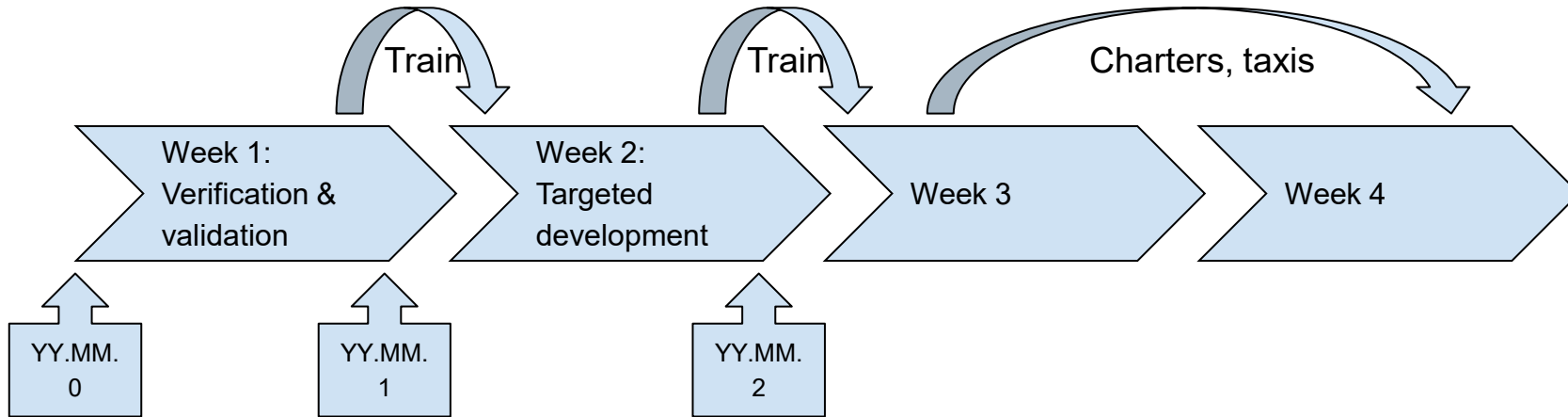
ePIC Resources – Get Connected!

- Mailing Lists – <https://lists.bnl.gov/mailman/listinfo>
- Indico Agenda - <https://indico.bnl.gov/category/402/>
- Wiki - <https://wiki.bnl.gov/EPIC>
- ePIC Software Training:
 - <https://eic.github.io/tutorial-setting-up-environment/>
 - <https://eic.github.io/tutorial-geometry-development-using-dd4hep/>
 - <https://eic.github.io/tutorial-simulations-using-ddsim-and-geant4/>
 - <https://eic.github.io/tutorial-jana2/>
 - Recordings: <https://www.youtube.com/@eicusergroup1532>

QR code for Mattermost channels:



Simulation Campaigns



ePIC simulations have advanced dramatically – now is the time to get involved!

- Simulation campaigns have been reorganized – see [here](#)
 - Train, charter and taxis on a monthly basis
 - Ensures regular updates for detector and physics studies, as well as for geometry and algorithm development.
- See update from Sakhil Rahman in last General Meeting [here](#)
 - Software and Computing Meeting Wednesdays at 11AM ET
 - Production Meeting Thursdays at 2PM ET
- May campaign complete, June campaign just starting
- Many simulation files are available on S3: 'S3/eictest/EPIC/RECO/23.05.2'
 - Developing special samples for tracking, etc.

