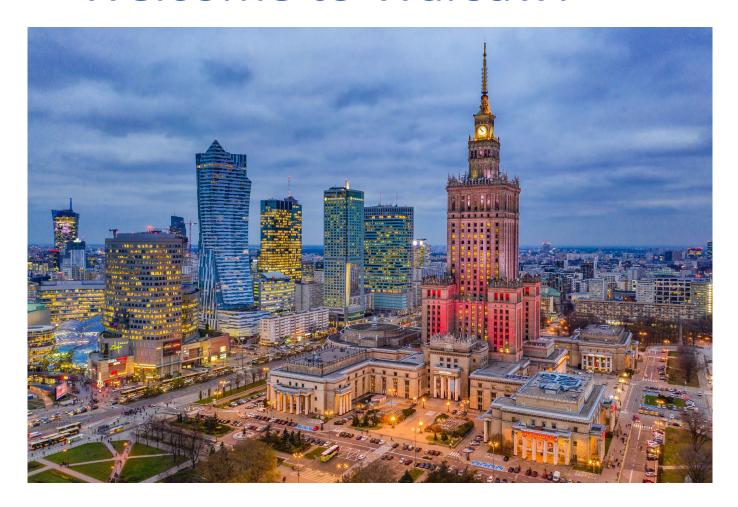
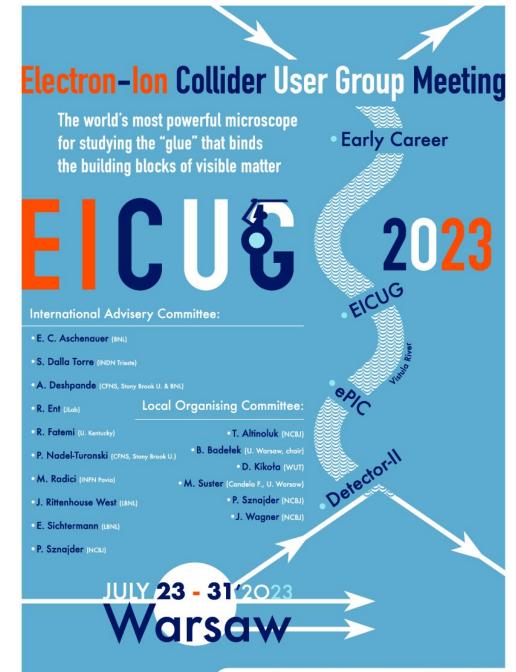


#### Welcome to Warsaw!



Thanks to our hosts for this wonderful venue and support!



# Lots of Progress in the Past Year...

ePIC)

- EICUG/Detector-1 Meeting (July 26-28, 2022)
- Adoption of Collaboration Charter (Dec. 15, 2022)
- Project Calorimetry Review (Dec. 6-7, 2022)
- Second ePIC Collaboration Meeting @ JLab (Jan. 9-11, 2023)
- Election of ePIC leadership (Feb. 14, 2023), approval of management plan and coordinators (April 2, 2023), approval of Working Groups (May 1, 2023) and formation of Detector Subsystem Collaborations (Mar.-Apr., 2023)
- EIC-Asia Workshop (Mar. 16-18, 2023)
- Final Technology Selections:
  - Barrel ECal (Mar. 13-14,2023) and Backwards RICH (Mar. 20-21,2023) reviews
  - Recommendations presented to Collaboration (Apr. 14/21, 2023)
  - CC vote to approve initiation of change control process for Imaging EMCal and pfRICH (May 1, 2023)
- Start of monthly simulation campaigns (May 2023)
- Election of Early-Career Members to CC (June 26, 2023)
- CERN/ALICE ITS3 Meeting (April )
- Project PID Review (July 5-6, 2023)
- EIC/ePIC Presentations at LRP Resolution Meeting (Jul. 10, 2023)
- ... plus everything I forgot...

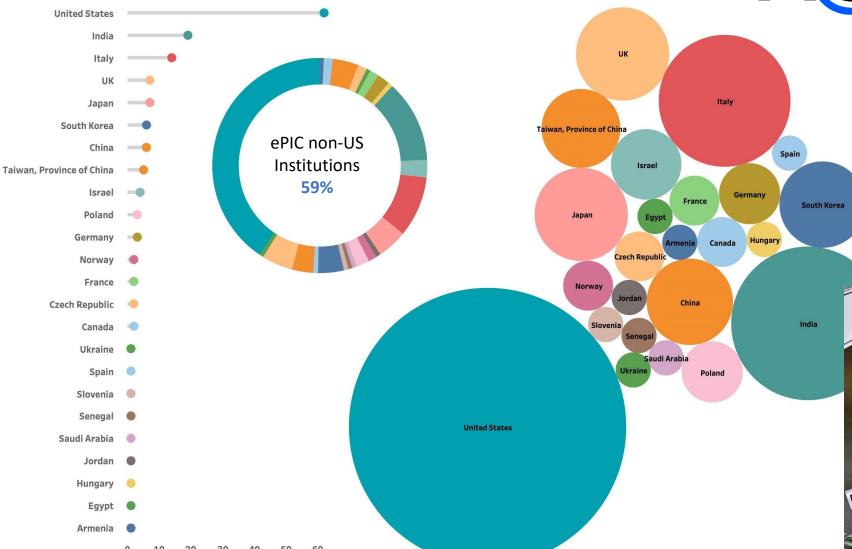
See talk by Silvia (Tuesday EICUG Mtg.)



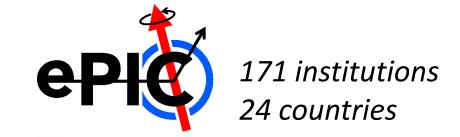
171 institutions24 countries

500+ participants

A truly global pursuit for a new experiment at the EIC!



# Institutions





#### 11 new institutions joining ePIC!

Gangneung-Wonju National

University

Taiwan, Province o



Hanyang University

Karlsruhe (ADL)





NASA Goddard



Oklahoma State



Sungkyunkwan University







• University of Liverpool



University of Seoul

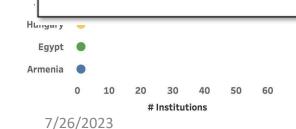


University of Tokyo (CNS)





for the



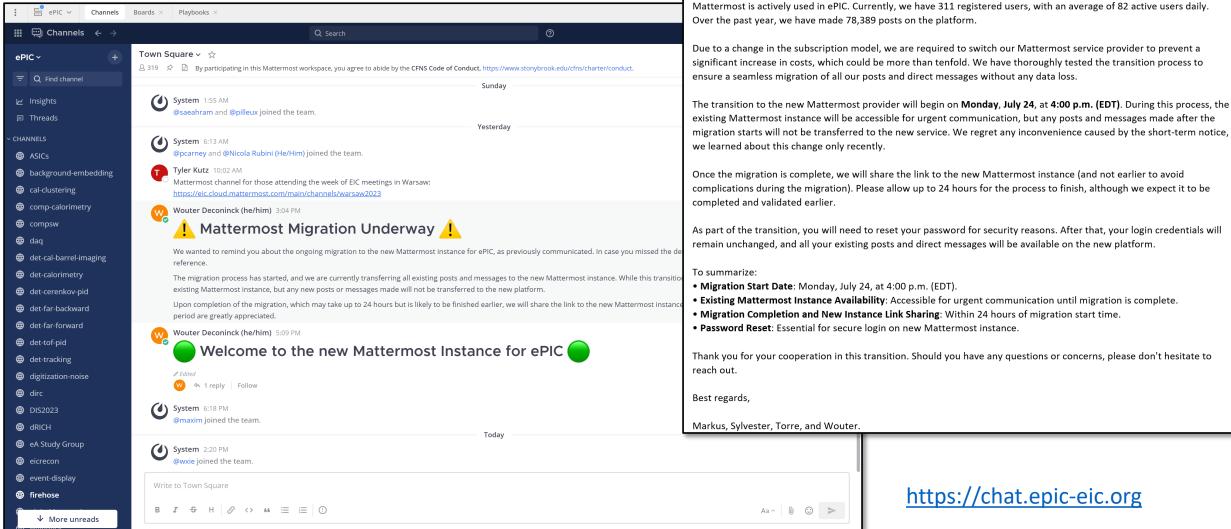




#### This is Not a Status Talk

- Silvia gave a complete overview of ePIC status in the EICUG meeting:
  - https://indico.cern.ch/event/1238718/timetable/#20230725.detailed
- Some additional highlights of ongoing activity
- Plans for the future:
  - The upcoming CD-3A review
  - Preparation for the TDR and the CD-2/3 review
  - Building the ePIC Collaboration <u>structure</u> and <u>culture</u>
- And a few surprises...

# **Mattermost Migration**



https://chat.epic-eic.org

We are writing to inform you about an upcoming change regarding our Mattermost online communication service.

Dear all

#### 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.

Voting now underway for DEI, Membership and Conference and Talks Committee Chairs/Vice-Chairs!

Next up will be the Executive Board

The slates for the elections are giv Dear John, candidate statements) along with t

#### DEI committee:

- Christine Nattrass, UTK (Vice-ch
- 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 Cor John Arrington (Chair), Helen Cair

We are happy to open the 2023 ePIC election for the inaugural Chair-line of our DEI, Membership, and Conferences and Talks committee.

Candidate statements are available here.

As stated in the ePIC charter, we follow ranked-choice voting. We therefore ask that you consult with the members of your institutions whom you represent to decide on your vote. Then, click on the link below and rank the candidates for each position in order of preference from most to least preferred.

Please be sure to follow the survey in full and hit submit at the end. Your vote has been recorded when you see a summary page that also reviews your votes.

The survey must be completed by August 7th, 2023.

Best,

the ePIC Election Committee,

John Arrington (Chair), Helen Caines, Domenico Elia, and Or Hen

See talk by Ernst and CC Meeting (Thursday)

# **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
  - Closed meetings w/CC Conveners and Project Representative after TIC

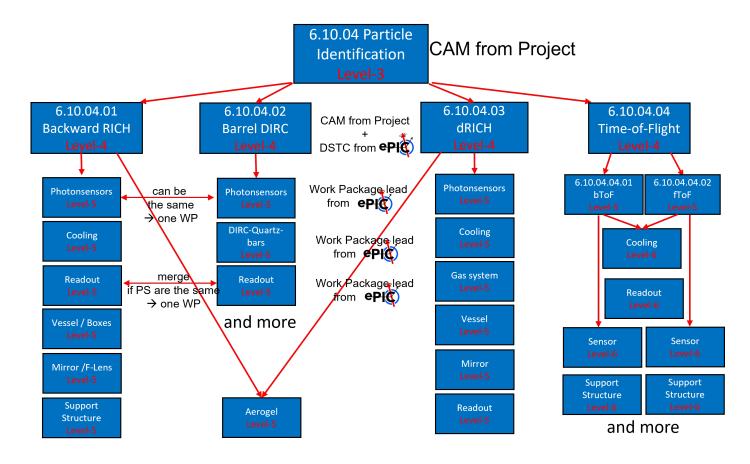
See talk by Klaus (Wednesday)

```
August 2023
        Aug 07 TIC meeting - ASIC Discussion
July 2023
        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
```

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



# Collaboration/Project Integration

 DSC's integrated into project plan through definition of ages Very important to establish good communication between the Project ect CAMs and the Collaboration DSL's/DSTC's! Spokesperson<sup>2</sup> 6.10.04.04 have receive Time-of-Flight This will be essential in order to prepare from DSL's/ .10.04.04.01 6.10.04.04.02 this on to the for the upcoming reviews! CAMs use th Readout Vessel information t Sensor Sensor Mirror Mirror /F-Lens communicate with Support Support Structure Structure Readout DSL/DSTC's Aerogel Structure and more

#### **Technical Coordinator**

- Klaus Dehmelt is stepping down to accept a position at Jefferson Lab
- We thank Klaus for his efforts and wish him the best!



- The Spokesperson's Office has been working hard to identify a new Technical Coordinator:
  - Must not cannibalize existing Collaboration or Project efforts
  - Lots of excellent candidates ... but excellent candidates are people who already have many commitments!
  - No announcement at this meeting, but we hope to make a nomination shortly afterwards
- During the interim, Silvia Dalla Torre will take over organizing TIC meetings and managing the meetings.

See talk by Markus (Friday)

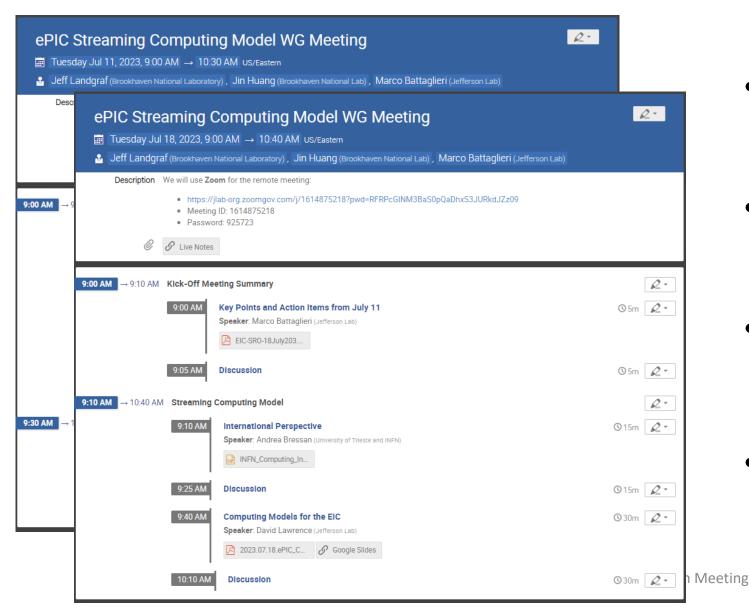
- The Spokesperson's office and CC leadership have formed an "ePIC web presence group"
- Goal is to establish a very basic presence for ePIC on the web
  - Technical support: Implementation of the technical solutions and interface with the host labs, in particular with BNL (Maxim Potekhin)
  - Website 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
  - A request for support has already been made to the ECSJI, contacts made with BNL support personnel
- Longer term plan is to turn longer term development over to a collaboration committee.

# ePIC Streaming Computing Model

See talk by Markus (Thursday)

- 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 11<sup>th</sup>:
  - 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
    - Draft charge under discussion

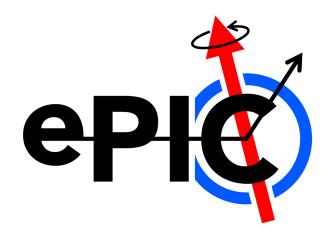
# Streaming Computing Model WG



- Discuss unique requirements of computing models that feature streaming.
- Develop the ePIC Streaming Computing Model and prepare for October review
- Report to EIC RRB in December

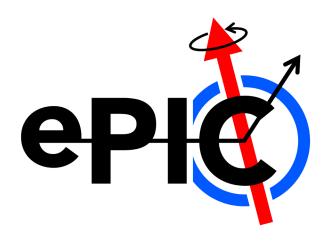
Please participate!

• Who do we exist in the first place?





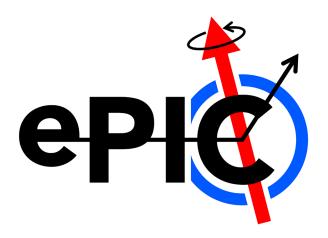
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 The ePIC Collaboration was formed to design, build, and commission the first EIC detector, with the ultimate goal of realizing the full EIC science program.



Who do we exist in the first place?



- The ePIC Collaboration was formed to design, build, and commission the first EIC detector, with the ultimate goal of realizing the full EIC science program.
- The EIC is an undertaking of unprecedented size and scope in Nuclear Physics – we are all part of something unique!



### Upcoming in your EIC Detector Arena

Particle Identification Detectors Interim Design Review – Beni's talk • July 5 + 6:

Final Design Review of the PbWO4 Crystals for the ePIC Backward EM Calorimeter (Long-Lead • July 21:

Procurement)

Reviewers: Eugene Chudakov (JLab), Dipangkar Dutta (MSU)

Likely one-two further Final Design Reviews for Long-Lead Procurement candidate items August (TBD):

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

DOE CD-3A Design Review by DAC August 29 + 30:

Final Design Review of Magnet (MARCO) October 5 + 6:

October 10-12: DOE CD-3A Director's Review

DOE CD-3A Independent Cost Review TBD

November 14-16: DOE CD-3A Independent Project Review

2<sup>nd</sup> Resource Review Board meeting @ GWU December 7 + 8:

Preliminary Design Review of Far-Forward/Far-Backward Detectors December (TBD):

Slide from Elke and Rolf

See talk by Elke/Rolf (Wednesday)

Coming very soon after this meeting!

ePIC Computing Model Review

October 19-20

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  - "The collaboration isn't fun anymore...."

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- We need to make it easier for people to engage with the parts of ePIC that they are interested in:
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- What follows are some ideas on how we might improve engagement, presented for discussion and feedback

#### Workfests

- A "workfest" is a gathering of a small subset of people for a short, intense period of time to address specific issues.
  - Emphasis is on making progress, not information exchange
  - Several examples in 2023:
    - ORNL Clustering Workshop (April 11-14)
    - Imaging Barrel EMCal Workshop (June 12-16)
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    - hpDIRC Annual Meeting (JLab, May 31-June 4)
- Guidelines for "workfests":
  - They must be announced well in advance to allow collaborators to plan travel
    - Keep our international collaborators in mind from the beginning!
    - We are an international collaboration, workfests can take place in any country!
  - When necessary/appropriate they should allow virtual participation
  - They should be focused with a clear set of goals
  - Expect to report a summary to the Collaboration

# Structure of Future Collaboration Meetings

- We need to re-think how we structure collaboration meetings
- They could incorporate an "active component":
  - Start with parallel workshops, lead to plenary sessions
  - Longer meetings as a consequence, 4-5 days
  - Given meetings could have a specific set of focus areas
  - MUST be international!



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- If this is successful, could even consider quarterly meetings?
  - Perhaps one yearly meeting that is more traditional?

### Attracting New Groups to ePIC

- It has not escaped notice that only a fraction of the JLab and RHIC/LHC HI community have joined ePIC
  - EICUG claims 1300+ members, ePIC claims ~500

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  - Different groups have different needs, concerns no silver bullet!

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  - Different groups have different needs, concerns no silver bullet!
- We need to continue a steady pace of outreach to the NP community
  - Talks at JULO and RHIC/AGS Users meetings, Conferences, etc.
  - Colloquia and seminars, and way to reach out and showcase ePIC!
  - Use the WG Meetings and Workfests as a tool to introduce new collaborators to a small-group, less intimidating ePIC – get them involved in something concrete!

# Looking Forward to 2024

- 2024 will need to focus on the preparation of the TDR and achieving the 90% design completion required for CD-2/3
- This will be a very busy year!

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- 2024 will need to focus on the preparation of the TDR and achieving the 90% design completion required for CD-2/3
- This will be a very busy year!

- How do we organize ePIC to make progress towards these goals?
  - A DOE project flows from requirements
  - The TDR needs to show how the technical design meets the requirements
    - Combination of technical results, R&D, and simulations!
    - This will require the effort of the entire collaboration!
- Begin organizing the TDR effort through the fall of 2023, ramp up the effort with early 2024 collaboration meeting

email sent 7/20

- Next ePIC Collaboration Meeting:
  - January 2024, 4-5 days
  - Discussing format that allows for parallel sessions
  - Soliciting institutions to identify a location!
  - Expect announcement at upcoming General Meeting
- This meeting will come at an opportune time:
  - We will have just come off completing the CD-3A whirlwind of reviews
  - Everyone will be refreshed from a holiday break
  - It will be time to refine our strategy for a TDR and preparations for the CD-2/3 review.

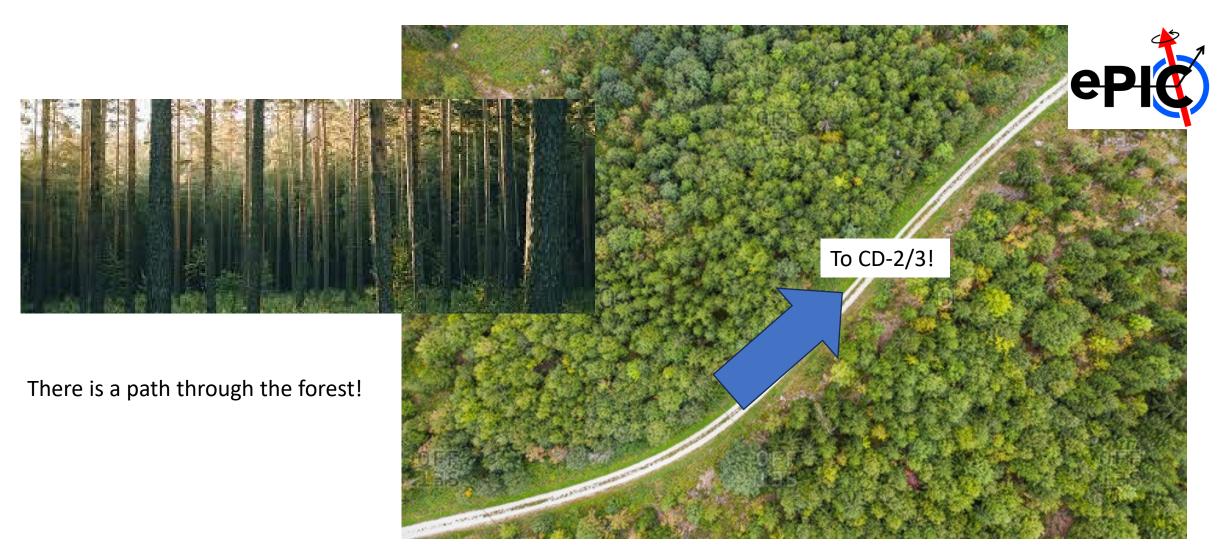
#### Dear ePIC Collaborators:

With the long-awaited Warsaw meeting finally upon us, it is time to begin planning the \*next\* ePIC Collaboration inperson meeting in January 2024. This meeting will come at an opportune time for the collaboration, as we will have completed the CD-3A process and will be gearing up for work on the TDR and CD-2/3 review preparations.

If your institution is interested in hosting the January 2024 ePIC Collaboration meeting, please reach out to us off-list with some details before the end of the day, August 4<sup>th</sup>. The meeting venue should be able to accommodate ~100-150 people, and we would anticipate a mostly in-person meeting with a hybrid component.

Regards, John, Silvia, Ernst, Bernd

#### The Forest for the Trees...



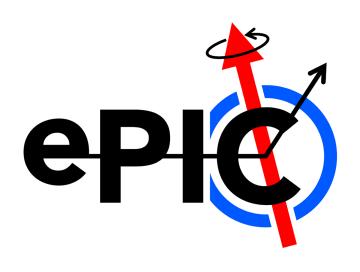
# Spokesperson Change of Address

- In November I will be moving to a new position in the Heavy Ion group at ORNL
- This position will allow me to continue to keep my primary focus on ePIC and my duties as spokesperson
  - This was a key consideration in making this move.
  - This move will not change my commitment to ePIC, nor will it dramatically change how I discharge my duties.

 I am very excited about the opportunity to work more closely with the ORNL group!



# And finally for something important....







many thanks to Oskar Hartbrich and Peter Jones!

# Your Leadership Team Needs to Hear From You

















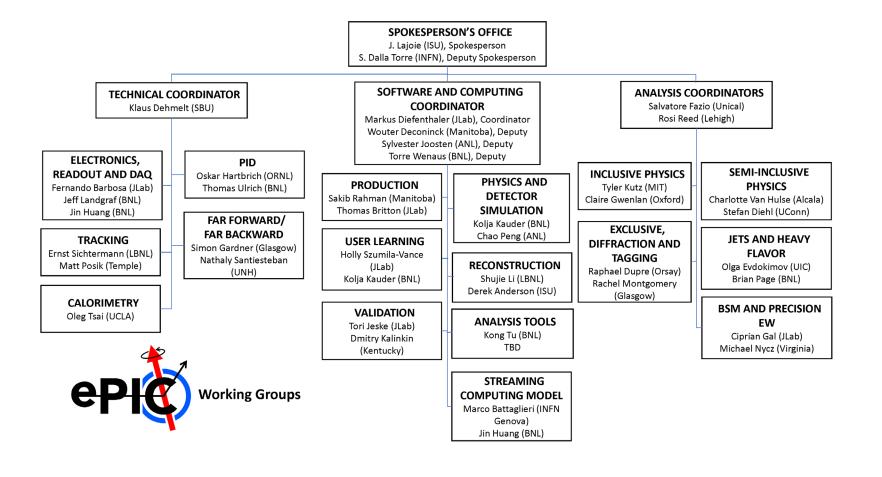


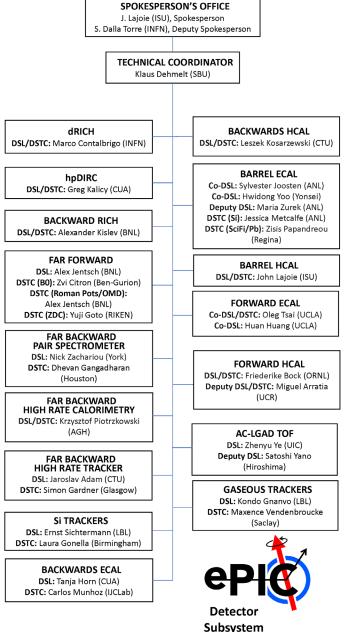






#### ePIC Collaboration Structure





Collaborations

# 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

# EIC and ePIC @ LRP Resolution Meeting

 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.

#### Monday, July 10th

2:15 – 3:15	QCD Program Overview	
	<ul> <li>Cold QCD (20+10)</li> </ul>	Jim Napolitano
	<ul> <li>Hot QCD (20+10)</li> </ul>	Barbara Jacak
3:15 – 4:15	EIC (30+30 min)	
	<ul> <li>Science/Project</li> </ul>	Rolf Ent
	ePIC detector	John Lajoie
4:15 – 4:45	Break	
4:45 – 5:35	QCD Initiatives (50 min); 5+5 for each	
	EIC Second Detector	Renee Fatemi
	<ul> <li>Polarized positron beam at CEBAF</li> </ul>	Thia Keppel
	<ul> <li>Towards an Energy Upgrade at CEBAF</li> </ul>	Thia Keppel
	<ul> <li>LHC detector upgrades and CERN initiatives</li> </ul>	Vicki Greene
	<ul> <li>High baryon density frontier</li> </ul>	Lijuan Ruan
5:35 – 6:05	QCD Discussion	

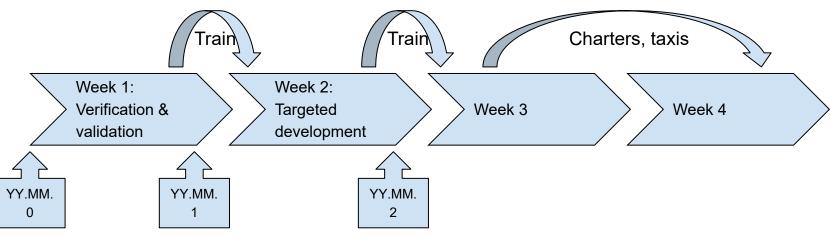
#### ePIC Resources – Get Connected!

- Mailing Lists <a href="https://lists.bnl.gov/mailman/listinfo">https://lists.bnl.gov/mailman/listinfo</a>
- Indico Agenda <a href="https://indico.bnl.gov/category/402/">https://indico.bnl.gov/category/402/</a>
- Wiki <a href="https://wiki.bnl.gov/EPIC">https://wiki.bnl.gov/EPIC</a>
- 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: <a href="https://www.youtube.com/@eicusergroup1532">https://www.youtube.com/@eicusergroup1532</a>

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 <u>here</u>
  - Train, charter and taxis on a monthly basis
  - Ensures regular updates for detector and physics studies, as well as for geometry and algorithm development.
- May/June/July campaigns complete, August campaign starting soon
- Many simulation files are available on S3: 'S3/eictest/EPIC/RECO/23.05.2'
  - Developing special samples for tracking, etc.

