ePIC Collaboration Status

John Lajoie and Silvia Dalla Torre

ePIC General Meeting, June 23, 2023

REMINDER:

Major communications at the previous meeting are also included, skipping details

For more information, visit the June 8 agenda with slides and meeting recording at:

https://indico.bnl.gov/event/19594/

TODAY AGENDA

10:30 → 11:30 **General Status and Updates**

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

- 10:30 **ePIC Collaboration Status**
  Speakers: John Lajoie (Iowa State University), Silvia Dalla Torre (INFN, Trieste)
- 10:55 **EIC Project Update**
  Speakers: E. C. Aschenauer (BNL), Rolf Ent (Jefferson Lab)
- 11:20 **Discussion**
  Speakers: John Lajoie (Iowa State University), Silvia Dalla Torre (INFN, Trieste)

11:30 → 11:40 **Report from CFNS-CTEQ EIC School**

Speaker: Abhay Deshpande (Stony Brook University)

11:40 → 11:50 **Report from 1st European EIC School**

11:50 → 12:10 **Summary of hp-DIRC Annual Meeting**

Speaker: Grzegorz Kalicy (CUA)

12:10 → 12:30 **Summary of Imaging EMCal Workshop**

Speakers: Maria Zurek (Argonne National Laboratory), Sylvester Jooste

Schools to grow up the next generation of scientists for the EIC project and to run ePIC

DSC efforts to build up the collaborations and structure their activity

3 main coming appointments - 1

SP & CC News

Multiple institutions from Asia, Europe, and North America are applying to join the Collaboration!

The process is defined by the Charter and entails an application proposal to the Spokesperson. These proposals are then presented to the Collaboration Council, which votes on admission to the Collaboration.

The Collaboration Council will meet next week in two sessions to accommodate time-zone differences,

Thursday, June 29, 2023 starting at 7pm EDT, c.f. https://indico.bnl.gov/event/19925/

Friday, June 30, 2023 starting at 10:30am EDT, c.f. https://indico.bnl.gov/event/19926/

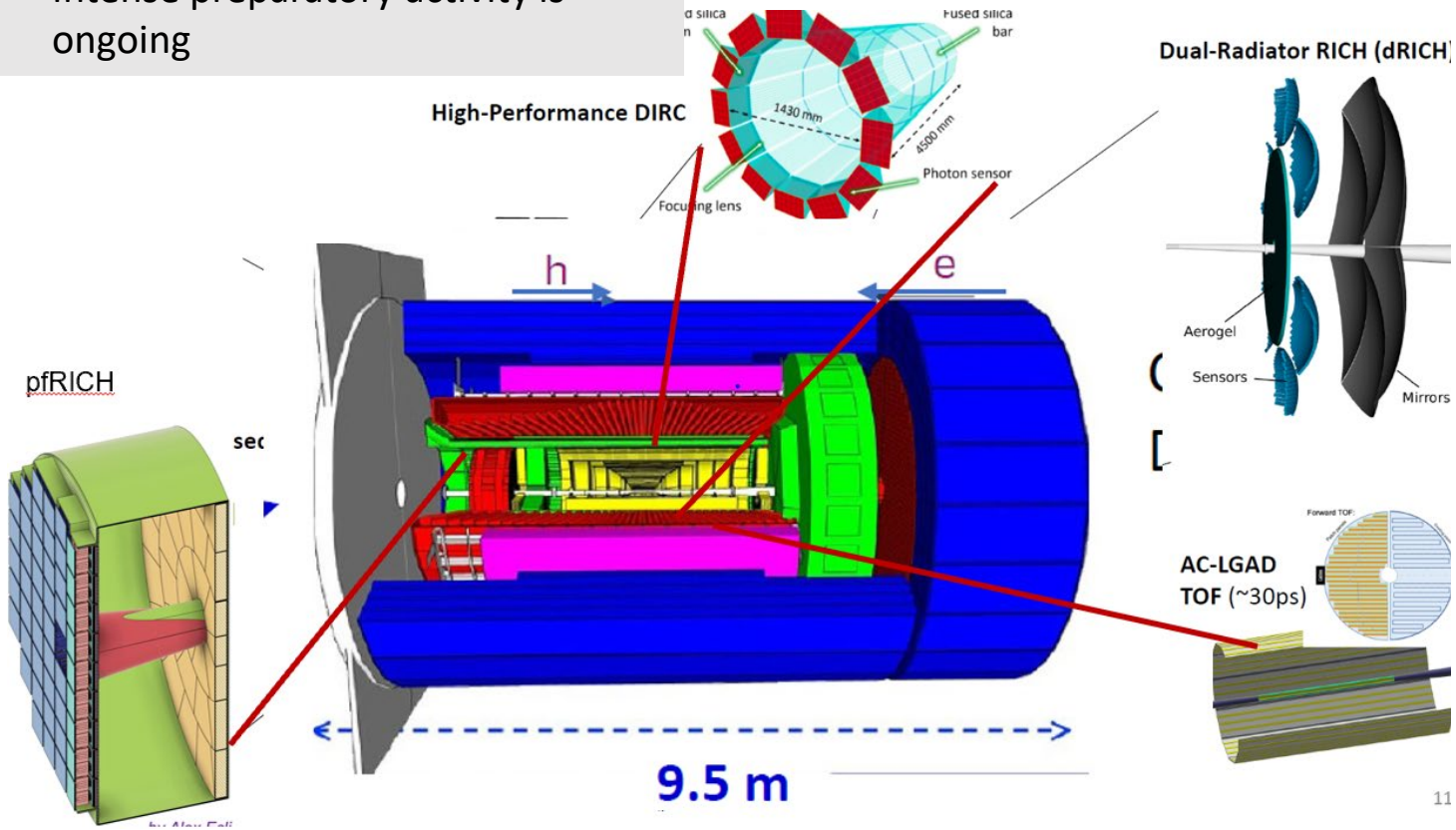
The proposal presentations will be in the open part of the meeting(s).
The meeting(s) will have a closed session for further discussion among Council Members.

Ernst Sichtermann

3 main coming appointments - 2

PID Project Review

- **July 5-6**
- Closed (only invited participants)
- Intense preparatory activity is ongoing



Draft 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).

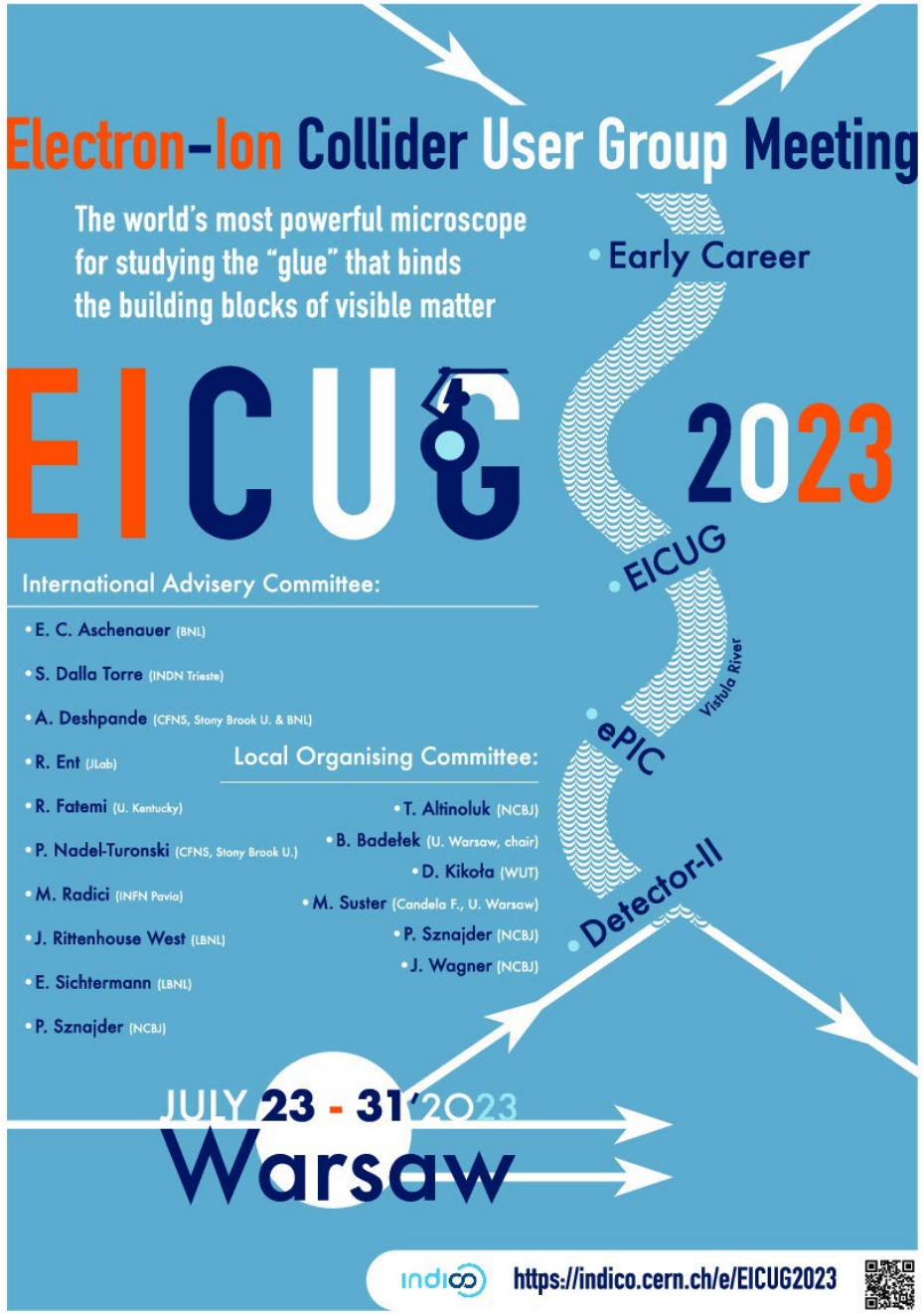
3 main coming appointments - 3

Next ePIC Collaboration Meeting:

- Organized jointly with EIC Users Group Meeting
- Univ. of Warsaw, July 23-31st
- Early career, EICUG and **ePIC** meetings

- REGISTER NOW!!
- IMPORTANT: do not forget to register if you attend from remote !

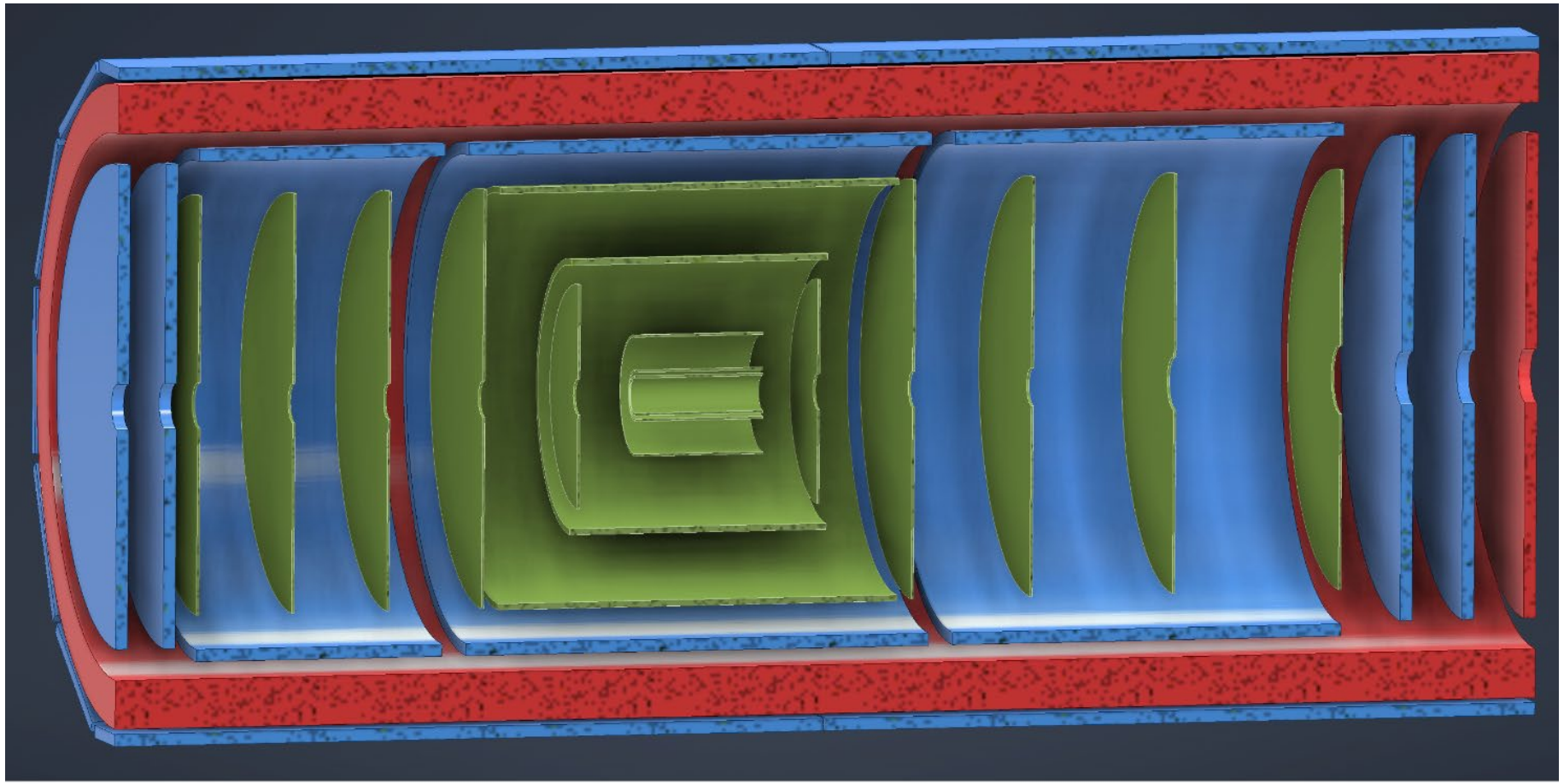
- https://indico.cern.ch/event/1238718/

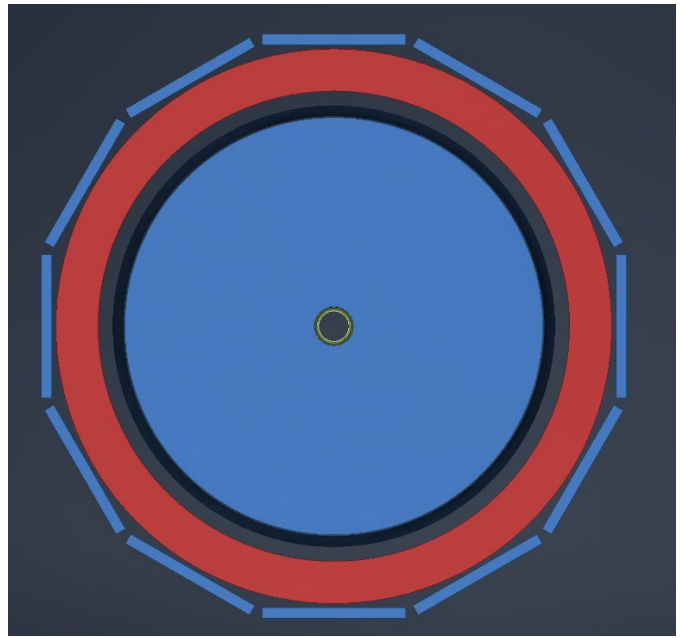


A relevant step forward towards the tracking layout !

*Presented at the **ePIC Tracking meeting on June 14**, communicated at **TIC meeting on June 19***

- *Goal: **readiness** for code-freeze first Monday in July and **July simulation campaign***





SVT MPGDs ToF (fiducial volume)

NEWS, MISCELLANEA 1/2

- *ePIC has been asked to present an* ***update on the computing model at the EIC RRB*** *in Dec. 2023, describing how international partners can contribute to computing for the EIC*
- *The design of the* ***computing model is the responsibility of ePIC, in concurrence with the host labs.***
- *The ePIC Streaming Computing Working WG together with the SCCs will guide the discussion on the computing model.*
- *A detailed schedule for the discussion on the computing model will be announced, involving the Joint Computing Institute of the host labs and other computing experts worldwide.*
- *The formation of* ***"The EIC Joint Institute for Computing and Software (EIC-JI-CS)"*** *by BNL and JLab is progressing well. It will serve as a single entity interfacing with the EIC project and ePIC.*
- *Prior to the EIC RRB in December, the Joint Computing Institute will organize a review of the computing model.*

NEWS, MISCELLANEA 2/2

The SP-office and TC, following a well motivated request by the PM, will ***focus July TIC activity on the FEE ASICs***

- *Critical analysis of detector requirements and ASIC specifications*
- *First ASICs at focus: HGCROC and EICROC*

- *As announced at the previous General Meeting, our TC Klaus Dehmelt is moving to a new position at Jlab and, therefore, he steps back from his role in ePIC*
  - *Our best wishes to Klaus*
  - *SP-office at work to identify an experienced TC for ePIC*

- ***dRICH software tutorial*** *(by Chris Dilks and contributions by Chandradoy Chatterjee also foreseen)*
  - *On going!*
  - A set of 6 turorial sessions (2 already given)
  - *For more information, please, visit :*
    https://github.com/eic/drich-dev/blob/tutorial/doc/tutorials/README.md

Self-organized Early Career effort

Early career members as defined in 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)."

More from the Charter:

- **Three CC members from the early career group elected by their peers, at least one of them being a graduate student** ← *ongoing effort*
- One EB member elected from the early career group

Self-organized election of the three CC members from the early career group

- "The volunteer ePIC early-career election team":
  - Derek Anderson, Alex Jentsch, Tyler Kutz

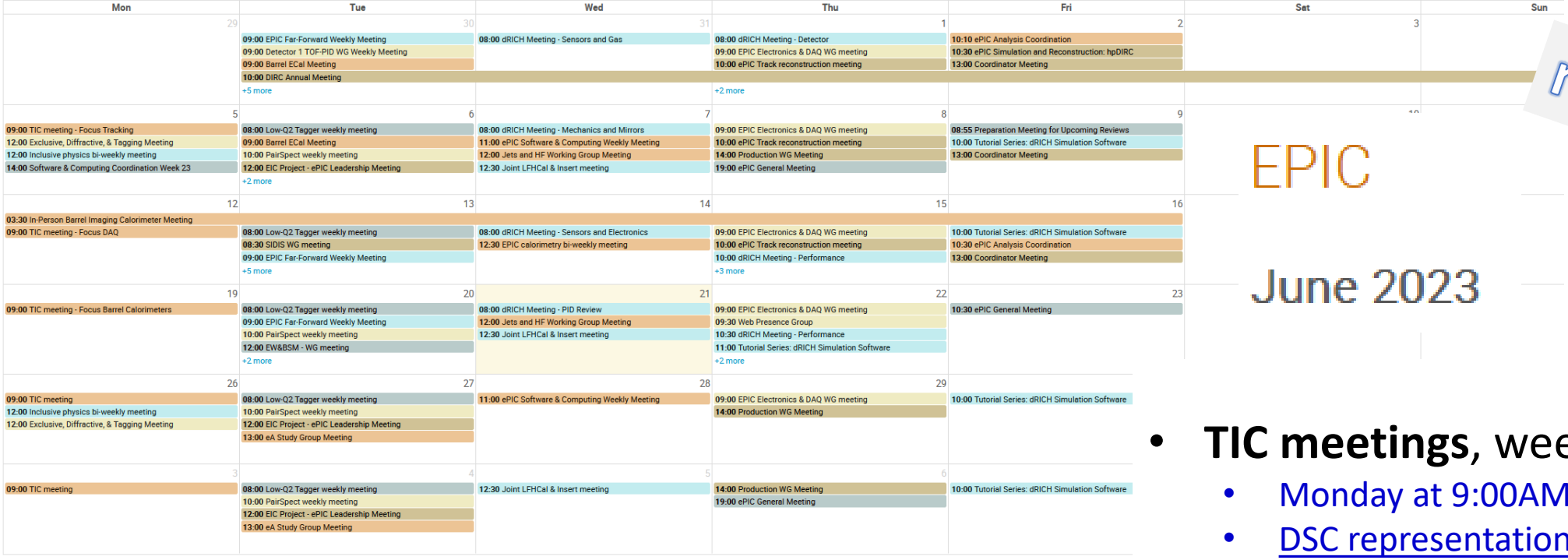
- **Nomination process** : May 5-19
- **Elections ongoing:**
- **The early-career elections will close this Friday, June 23 at 5pm EDT →**

TODAY = your last chance to vote !

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

Orient yourself in ePIC agenda



Mon	Tue	Wed	Thu	Fri	Sat	Sun
29	30 09:00 EPIC Far-Forward Weekly Meeting 09:00 Detector 1 TOF-PID WG Weekly Meeting 09:00 Barrel ECal Meeting 10:00 DIRC Annual Meeting +5 more	31 08:00 dRICH Meeting - Sensors and Gas	1 08:00 dRICH Meeting - Detector 09:00 EPIC Electronics & DAQ WG meeting 10:00 ePIC Track reconstruction meeting +2 more	2 10:10 ePIC Analysis Coordination 10:30 ePIC Simulation and Reconstruction: hpDIRC 13:00 Coordinator Meeting	3	
5 09:00 TIC meeting - Focus Tracking 12:00 Exclusive, Diffractive, & Tagging Meeting 12:00 Inclusive physics bi-weekly meeting 14:00 Software & Computing Coordination Week 23	6 08:00 Low-Q2 Tagger weekly meeting 09:00 Barrel ECal Meeting 10:00 PairSpect weekly meeting 12:00 EIC Project - ePIC Leadership Meeting +2 more	7 08:00 dRICH Meeting - Mechanics and Mirrors 11:00 ePIC Software & Computing Weekly Meeting 12:00 Jets and HF Working Group Meeting 12:30 Joint LFHCal & Insert meeting	8 09:00 EPIC Electronics & DAQ WG meeting 10:00 ePIC Track reconstruction meeting 14:00 Production WG Meeting 19:00 ePIC General Meeting	9 08:55 Preparation Meeting for Upcoming Reviews 10:00 Tutorial Series: dRICH Simulation Software 13:00 Coordinator Meeting	10	
12 03:30 In-Person Barrel Imaging Calorimeter Meeting 09:00 TIC meeting - Focus DAQ	13 08:00 Low-Q2 Tagger weekly meeting 08:30 SIDIS WG meeting 09:00 EPIC Far-Forward Weekly Meeting +5 more	14 08:00 dRICH Meeting - Sensors and Electronics 12:30 EPIC calorimetry bi-weekly meeting	15 09:00 EPIC Electronics & DAQ WG meeting 10:00 ePIC Track reconstruction meeting 10:00 dRICH Meeting - Performance +3 more	16 10:00 Tutorial Series: dRICH Simulation Software 10:30 ePIC Analysis Coordination 13:00 Coordinator Meeting		
19 09:00 TIC meeting - Focus Barrel Calorimeters	20 08:00 Low-Q2 Tagger weekly meeting 09:00 EPIC Far-Forward Weekly Meeting 10:00 PairSpect weekly meeting 12:00 EW&BSM - WG meeting +2 more	21 08:00 dRICH Meeting - PID Review 12:00 Jets and HF Working Group Meeting 12:30 Joint LFHCal & Insert meeting	22 09:00 EPIC Electronics & DAQ WG meeting 09:30 Web Presence Group 10:30 dRICH Meeting - Performance 11:00 Tutorial Series: dRICH Simulation Software +2 more	23 10:30 ePIC General Meeting		
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- **General meetings**, bi-weekly
  - Alternating the time
  - Friday Mornings: 10:30AM ET
  - Thursday Evenings: 7PM ET
- **CC meetings**
  - On general meeting time off-weeks
  - Presently, approximately every months
  - participation mandatory for the institutional representatives
  - CC meetings are open to the whole Collaboration
- **TIC meetings**, weekly
  - Monday at 9:00AM ET
  - DSC representation is mandatory!
  - TIC meetings are open to the whole Collaboration
- **Software and Computing Meetings** , weekly
  - Wednesdays 11:00 AM ET
  - Main meeting for ePIC Software and Computing
- **Coordinator meetings**, weekly
  - Coordinators and SP-office only

Keep connected to the ePIC collaboration life

reminder

- **With ePIC INDICO category (https://indico.bnl.gov/category/402/):**

- **New mailing lists (lists.bnl.gov), for TIC and PWG conveners**

… and do not forget our MATTERMOST channels:

About ePIC, here is the basic information

reminder

In wiki

- **A page dedicated to conference talks**

(https://wiki.bnl.gov/EPIC/index.php?title=Conferences)

- **Updated information about the collaboration structure**

(https://wiki.bnl.gov/EPIC/index.php?title=Collaboration)

conferences

Conferences

Upcoming conferences of interest and submitted abst

SPIN 2023

September 24-29, 202?

https://ind

April 11-14th, Minneapolis, MN

https://indico.jlab.org/event/667/

Invited Talk:

- Joerg Reinhold, "ePIC Overview"

Hard Probes 2023

management

Collaboration Council

Email-list: eic-projdet-ib-l@lists.bnl.gov

Subscribe to mailing list through: https://lists.bnl.gov/mailman/listinfo/eic-projdet-ib-l restricted

Collaboration Council Chair: Ernst Sichtermann <epsichtermann@lbl.gov>

Collaboration Council Vice-Chair: Bernd Surrow <surrow@temple.edu>

Spokesperson's Office

Spokesperson: John Lajoie <lajoie@iastate.edu>

Deputy Spokesperson: Silvia Dalla Torre <Silvia.DallaTorre@cern.ch>

Coordinators

Technical Coordinator: Klaus Dehmelt <klaus.dehmelt@stonybrook.edu>

Software and Computing Coordinator: Markus Diefenthaler <mdiefent@jl

Deputy Software and Computing Coordinator (Operations) er.deconinck@um

Deputy Software and Computing Coordinator ten@anl.gov

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Co-Analysis Coord

Co-Analysis

WGs

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S. Dalla Torre (INFN), Deputy Spokesperson

TECHNICAL COORDINATOR
Klaus Dehmelt (SBU)

SOFTWARE AND COMPUTING COORDINATOR
Markus Diefenthaler (JLab), Coordinator
Wouter Deconinck (Manitoba), Deputy
Sylvester Joosten (ANL), Deputy
Torre Wenaus (BNL), Deputy

ANALYSIS COORDINATORS
Salvatore Fazio (Unical)
Rosi Reed (Lehigh)

ELECTRONICS, READOUT AND DAQ
Fernando Barbosa (JLab)
Jeff Landgraf (BNL)
Jin Huang (BNL)

PID
Oskar Hartbrich (ORNL)
Thomas Ulrich (BNL)

TRACKING
Ernst Sichtermann (LBNL)
Matt Posik (Temple)

FAR FORWARD/ FAR BACKWARD
Simon Gardner (Glasgow)
Nathaly Santiesteban (UNH)

CALORIMETRY
Oleg Tsai (UCLA)

PRODUCTION
Sakib Rahman (Manitoba)
Thomas Britton (JLab)

PHYSICS AND DETECTOR SIMULATION
Kolja Kauder (BNL)
Chao Peng (ANL)

USER LEARNING
Holly Szumila-Vance (JLab)
Kolja Kauder (BNL)

RECONSTRUCTION
Shujie Li (LBNL)
Derek Anderson (ISU)

VALIDATION
Tori Jeske (JLab)
Dmitry Kalinkin (Kentucky)

ANALYSIS TOOLS
Kong Tu (BNL)
TBD

STREAMING COMPUTING MODEL
Marco Battaglieri (INFN Genova)
Jin Huang (BNL)

INCLUSIVE PHYSICS
Tyler Kutz (MIT)
Claire Gwenlan (Oxford)

EXCLUSIVE, DIFFRACTION AND TAGGING
Raphael Dupre (Orsay)
Rachel Montgomery (Glasgow)

SEMI-INCLUSIVE PHYSICS
Charlotte Van Hulse (Alcala)
Stefan Diehl (UConn)

JETS AND HEAVY FLAVOR
Olga Evdokimov (UIC)
Brian Page (BNL)

BSM AND PRECISION EW
Ciprian Gal (JLab)
Michael Nycz (Virginia)

ePIC Working Groups

DSCs

SPOKESPERSON'S OFFICE
J. Lajoie (ISU), Spokesperson
S. Dalla Torre (INFN), Deputy Spokesperson

TECHNICAL COORDINATOR
Klaus Dehmelt (SBU)

dRICH
Marco Contalbrigo (INFN)

hpDIRC
Greg Kalicy (CUA)

BACKWARD RICH
Alexander Kislev (BNL)

FAR FORWARD
Alex Jentsch (BNL)

FAR BACKWARD PAIR SPECTROMETE
Nick Zachariou (York)

FAR BACKWARD HIGH RATE CALORIMETRY
Krzysztof Piotrzkowski (AGH)

FAR BACKWARD HIGH RATE TRACKER
Jaroslav Adam (CTU)

Si TRACKERS
Ernst Sichtermann (LBL)

GASEOUS TRACKERS
Kondo Gnanvo (LBL)

BACKWARDS ECAL
Tanja Horn (CUA)

BACKWARDS HCAL
Leszek Kosarzewski (CTU)

BARREL ECAL
Sylvester Joosten (ANL)
Hwidong Yoo (Yonsei)

BARREL HCAL
John Lajoie (ISU)

FORWARD ECAL
Oleg Tsai (UCLA)
uan Huang (UCLA)

WARD HCAL
riederike Bock (ORNL)

FORWARD HCAL INSERT
Miguel Arratia (UCR)

AC-LGAD TOF
Zhenyu Ye (UIC)
Satoshi Yano (Hiroshima)

ePIC Detector Subsystem Collaborations

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- **Updated information about th structure**

(https://

ePIC Early-Career Member Information

ePIC Early-Career members are those who are students, or within 5 years of receiving their Ph.D.. The Early-Career members are represented by three representatives which each hold an independent vote on the ePIC Collaboration Council.

Information on the Summer 2023 election of Early-Career representatives can be found here: Early-Career Election

All Early-Career members should join the ePIC Early-Career Mailing list and Mattermost channels to stay up-to-date (you MUST be enrolled on the mailing list to receive election ballots).

Join ePIC early-career mailing list here: https://lists.bnl.gov/mailman/listinfo/eic-projdet-earlycareer-l

Join ePIC Mattermost channel here: https://eic.cloud.mattermost.com/main/channels/early-career

NEW !

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Upcoming conferences of interest and submitted abst

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September 24-29, 202?

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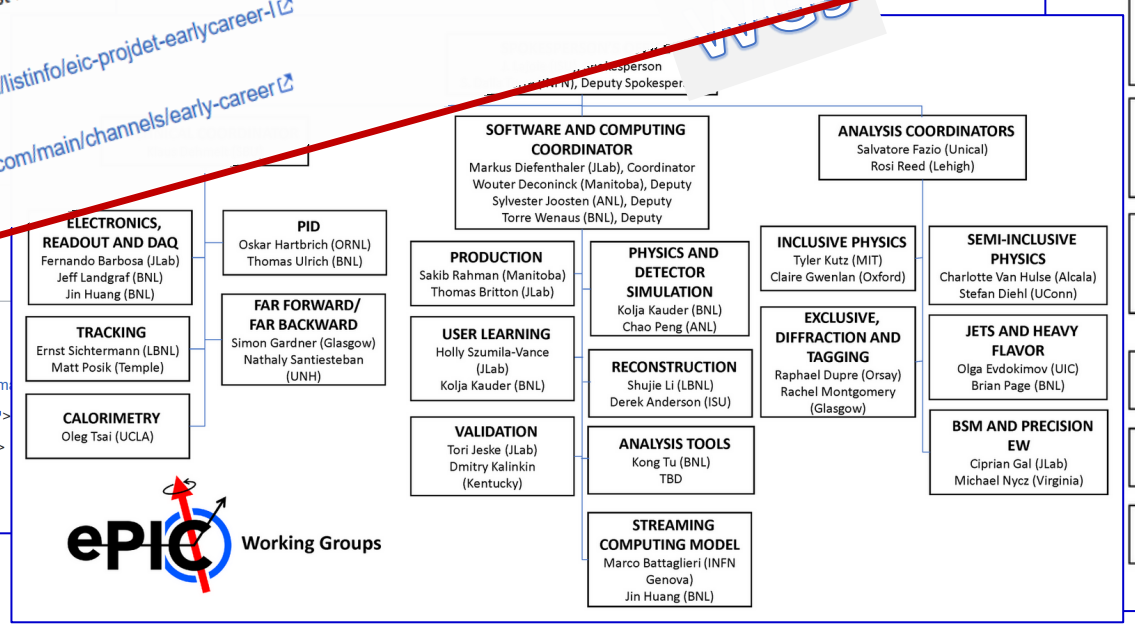
management

WGs

DSCs



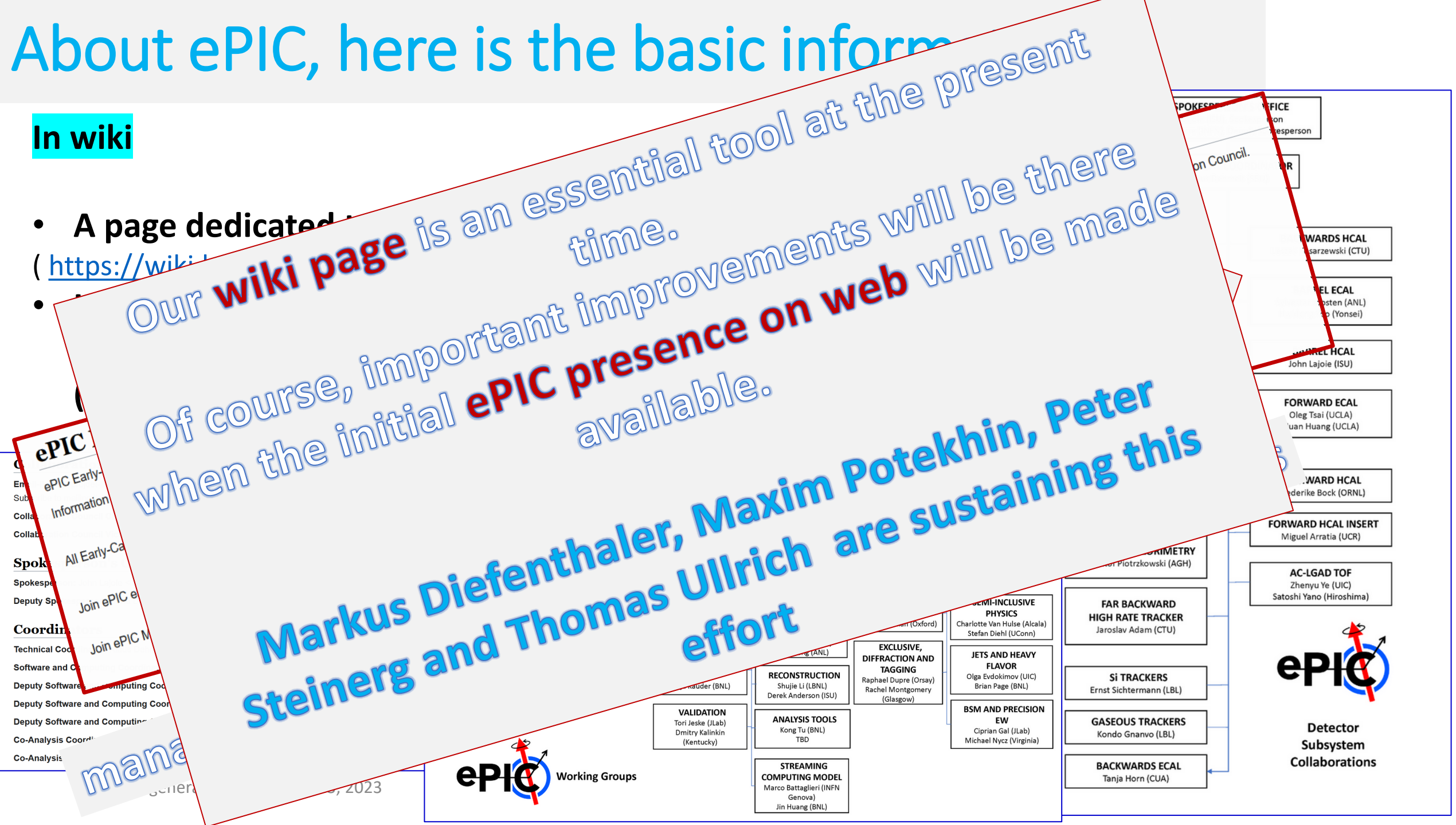
About ePIC, here is the basic inform

In wiki

- **A page dedicated**

(https://wiki

Our **wiki page** is an essential tool at the present time.

Of course, important improvements will be there when the initial **ePIC presence on web** will be made available.

Markus Diefenthaler, Maxim Potekhin, Peter Steinerg and Thomas Ullrich are sustaining this effort