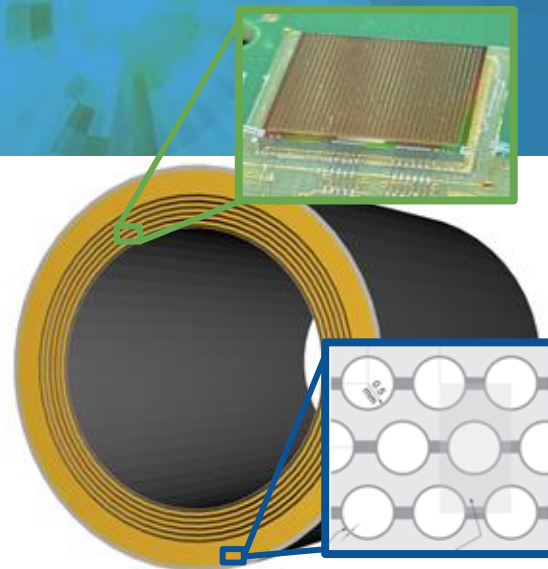


The ePIC Barrel Imaging Calorimeter

WELCOME!!

Jessica Metcalfe
Argonne National Laboratory

BIC Workshop
June 16, 2026



Safety @ ANL



Tornado Watch: Means a storm is coming that may be capable of producing a tornado

Tornado Warning: Means there is a possible tornado in the area and you should seek shelter immediately → outside sirens

Shelter Areas:

Tornado (Outside Sirens) → **Basement** by the vending machines (stairs down the hallway with the bathrooms)

Fire (Inside Alarm w/ flashing lights) → Go outside to the meeting point at the **cafeteria parking lot**



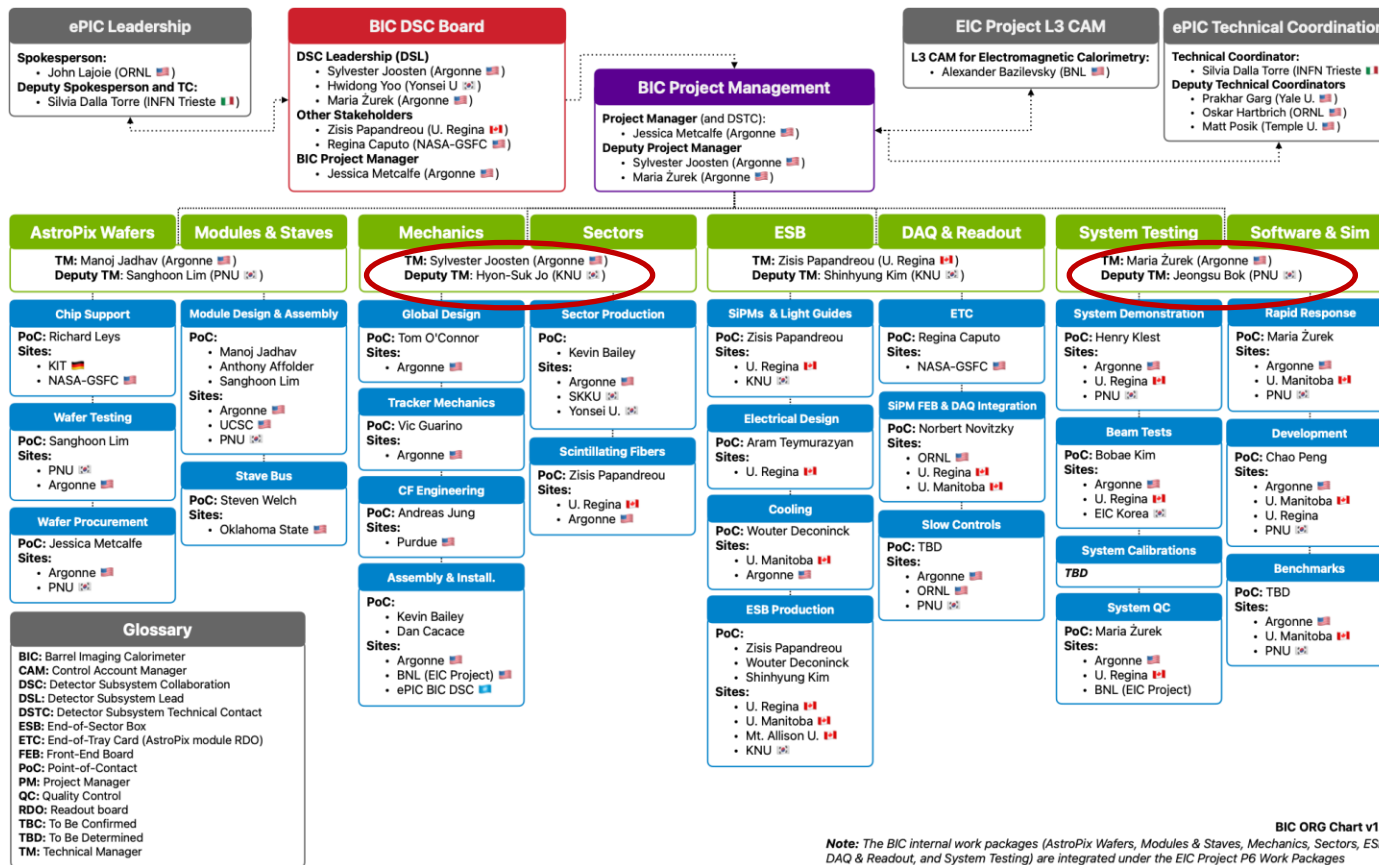
BIC Workshop Goals



Workshop Goals:

- Prepare for FDR in ~September → will have to focus on Sectors
- Prepare as much as possible for FDR for tracker layers
- Working session on QC documents → required by project for CD2
- Not the focus, but some discussion: major production planning issues

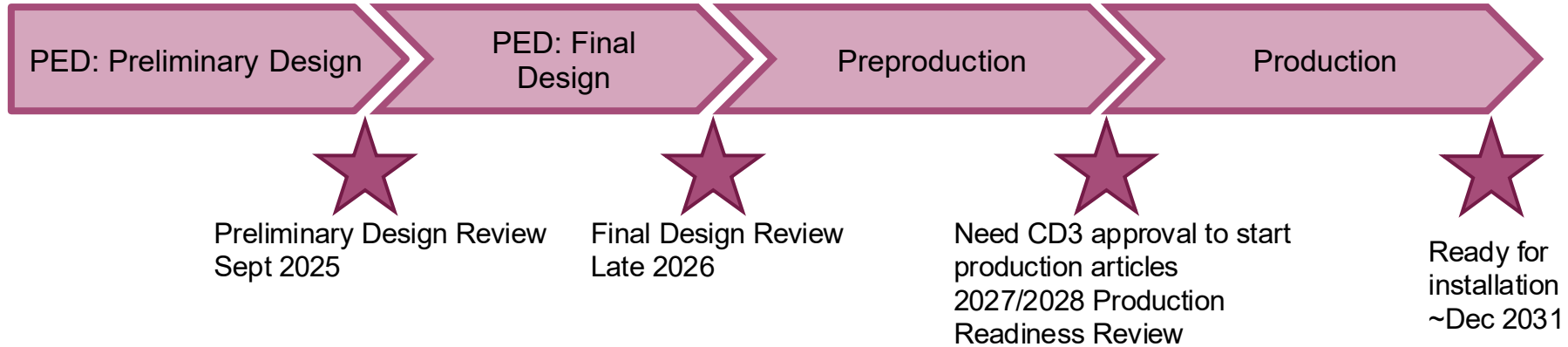
BIC Organization Chart



New and reorganized GTL Deputies Thank you!

BIC ORG Chart v1.0
 Note: The BIC internal work packages (AstroPix Wafers, Modules & Staves, Mechanics, Sectors, ESB, DAQ & Readout, and System Testing) are integrated under the EIC Project P6 Work Packages

BIC Project Phases



- Final Design Review, 90% design completion
- AstroPix v5
- BabyBCal & Lanky BCal
- Final-ish prototype of each component demonstrating all major technical design challenges are met

- AstroPix v5
- One full sector
- Production style procedures
- AstroPix v6 validation tests

- AstroPix v6
- 48 sectors

Project funding



- Project funding for BIC for FY26 was reduced compared to the request
- → was due to the uncertain budget situation when the request for funding distribution was made
- Request was based on a technically driven schedule (doing work as fast as reasonably possible)
- Received 33% of request for FY26 from EIC project → work proceeding more slowly
- Working with project to get next allotment for FY27

In-kind contributions:

- Canada is making in-kind contributions to the ESB → already incorporated into planning
- Korea is receiving funds for a major contribution to BIC → still need to work out the details
- Produced 'Objectives Planning' document (attached to agenda) a.k.a Bubble charts

Organizational Planning aka Bubble Charts



Purpose: To allow BIC collaborators to pick up responsibilities in areas that will benefit the project

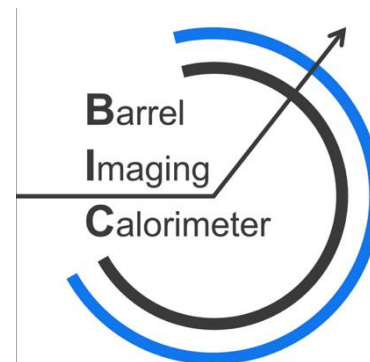
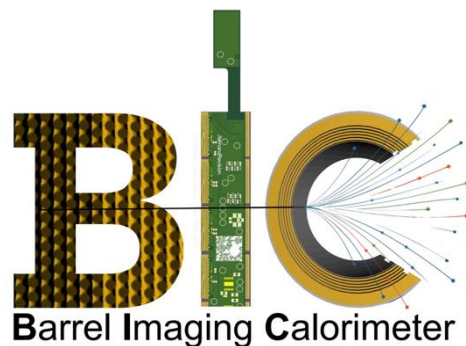
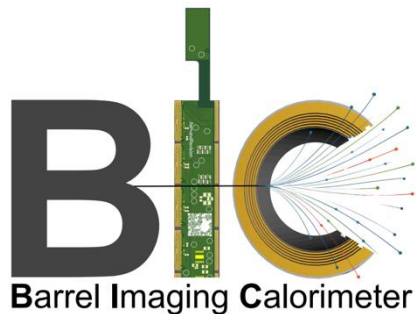
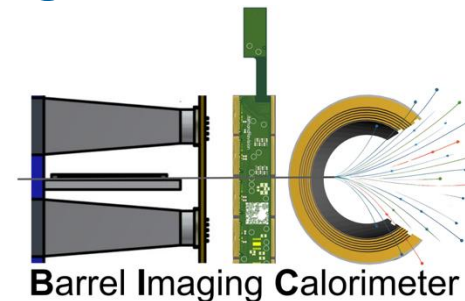
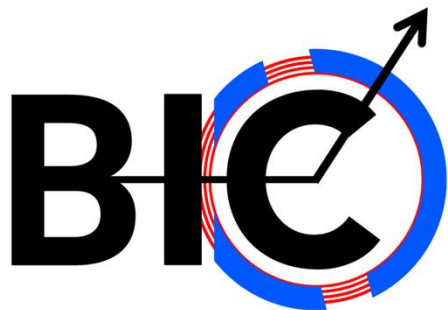
→ Avoid putting effort into things that won't benefit the project. There is plenty to do!

- Some areas already have responsible institutes/people (but there could still be room to contribute)
- Contact GTL (Green Team Leader: Manoj, Sylvester, Zisis, Maria) to discuss your potential contribution



BIC Logo Contest

Pick your favorite—voting link sent after meeting



QC Documents



Requested by the project for CD2 → not everything will be final, but we should fill out what we do know

Fibers –Zisis, Sylvester

Wafer QC -Sanghoon

Module/Tray QC -Manoj

AstroLinx -Oklahoma-Blake (TBC)

Trays/Module bases –Korea (TBC)

Tracker mechanics/sectors -Sylvester

Light Monitoring System -Shinhyung

SiPM's -Zisis

ESB mechanical -Aram

CaloRoc -Norbert

ETC-Regina

Link to QC docs:

<https://eic.jlab.org/Detector/>



Detector Quality Documentation

This section contains documentation associated with the quality control process that will be executed within the Detector sub-system. This documentation is currently under development by [Walt Akers](#) at Jefferson Lab. Updates and revisions will be published as the become available.

Name	Description
<input type="checkbox"/> Quality Assurance Guidance and Templates	
<input type="checkbox"/> QualityAssurancePlanning.pdf	This document contains a presentation that describes the heirarchy of documents that will be collected as part of the Detector sub-system's Quality Assurance program and how they are organized. This material is maintained by Walt Akers at Jefferson Lab.
<input type="checkbox"/> Detector-6.10-QualityControlPlan.pdf	This is the current overarching document that describes the Quality Assurance/Control expectations for all major sub-systems within the Detector. This serves as the top level Quality Control document for all Detector systems, and is referenced by the Individual Control Plans and Inspection and Test Plans. This material is maintained by Walt Akers at Jefferson Lab.
<input type="checkbox"/> ITPTemplate.docx	This document is a rudimentary template for producing and Inspection and Test Plan that is specific to an individual sub-system or component. The template provides a framework that assists the user in providing all pertinent information. This template is maintained by Walt Akers at Jefferson Lab.

Dinner



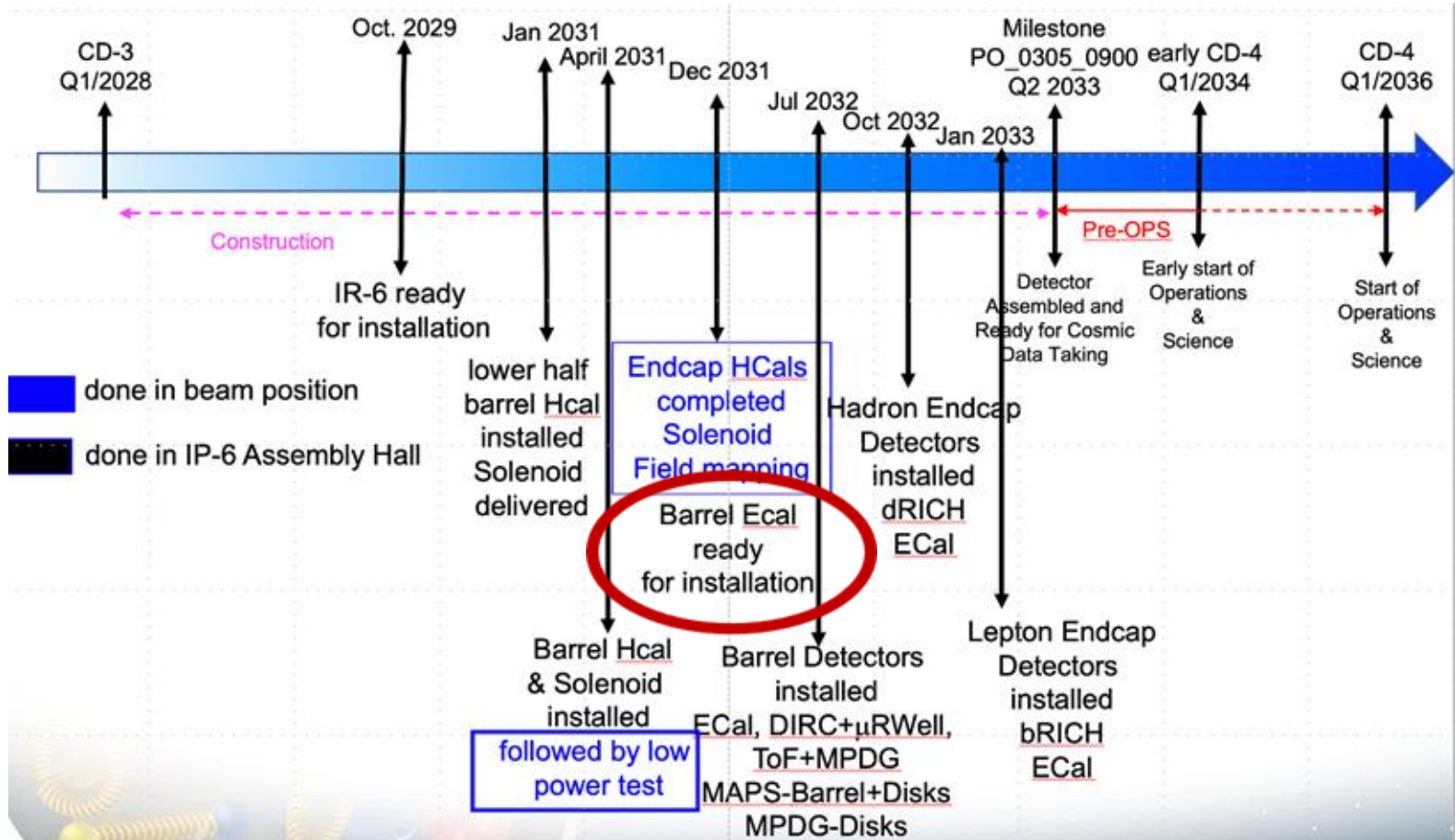
**Tuesday Evening: Pizza & Games at the Argonne Park
(or Skeleton Key if the weather is bad)**

Wednesday Evening: Mago's in Bolingbrook

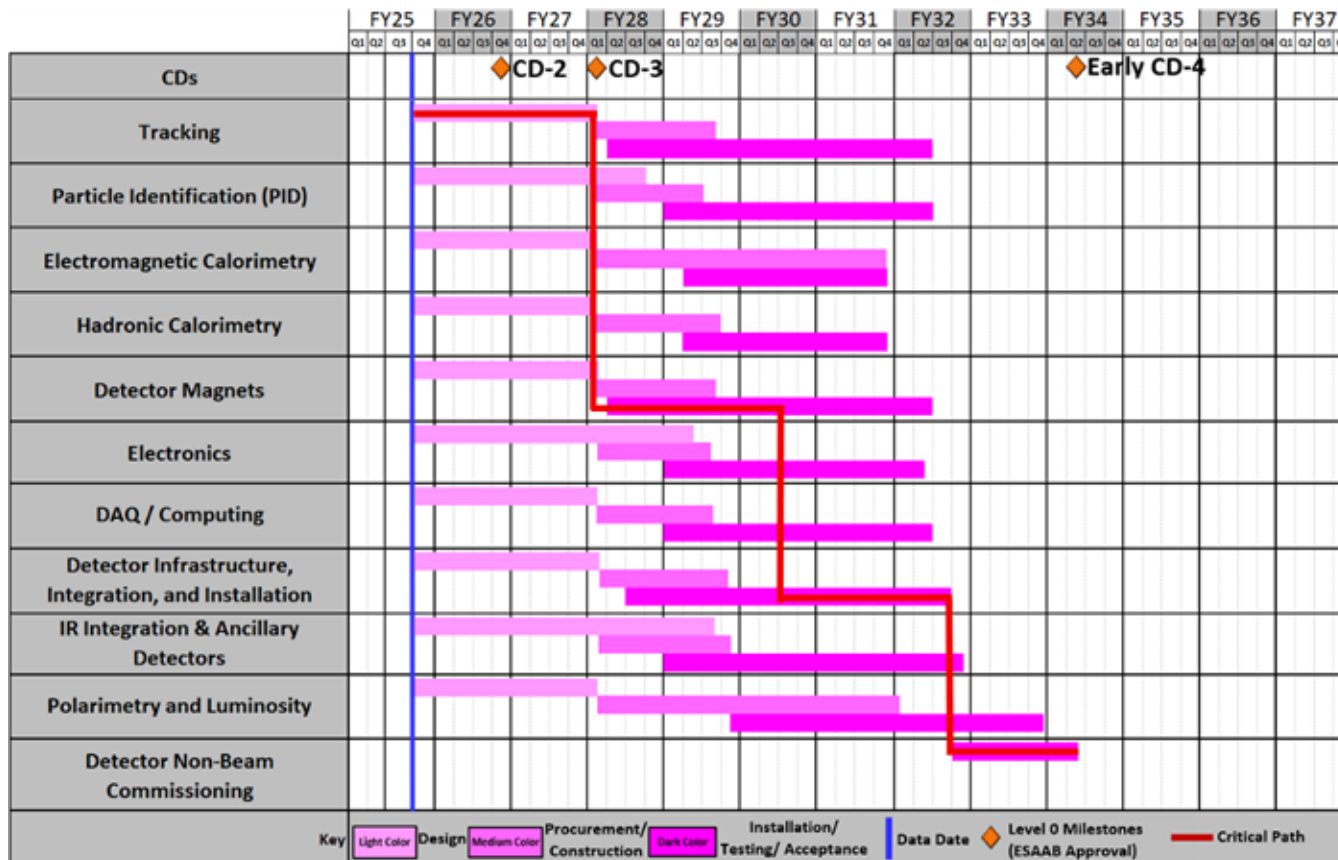
Raise of hands for attendees?

Backup

ePIC Schedule



EIC Project Dates



BIC Organization

BIC Organization Chart

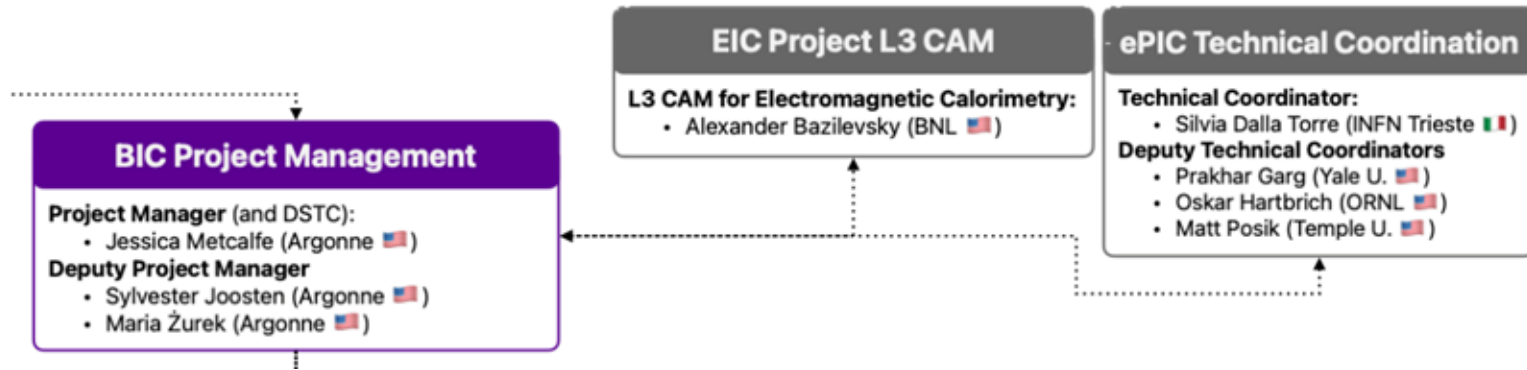


ePIC Collaboration:

- international user organization
- responsible for community needs, physics performance
- Detector Subsystem Collaboration → Red Team
 - DSL's Detector Subsystem Leads
 - provide oversight to the BIC collaboration
- Detector Subsystem Technical Contact
 - also BIC project manager

Glossary
BIC: Barrel Imaging Calorimeter
CAM: Control Account Manager
DSC: Detector Subsystem Collaboration
DSL: Detector Subsystem Lead
DSTC: Detector Subsystem Technical Contact
ESB: End-of-Sector Box
ETC: End-of-Tray Card (AstroPix module RDO)
FEB: Front-End Board
PoC: Point-of-Contact
PM: Project Manager
QC: Quality Control
RDO: Readout board
TBC: To Be Confirmed
TBD: To Be Determined
TM: Technical Manager

BIC Organization Chart



EIC Project:

- DOE funded project
 - accelerator & detector
 - responsible for building/delivering
 - US funds for the project are controlled by the Project
- BIC reports to the EM Calorimeter Control Account Manager (CAM)
 - Institutes receive funds via a contract with Statement of Work (SOW)

Glossary	
BIC:	Barrel Imaging Calorimeter
CAM:	Control Account Manager
DSC:	Detector Subsystem Collaboration
DSL:	Detector Subsystem Lead
DSTC:	Detector Subsystem Technical Contact
ESB:	End-of-Sector Box
ETC:	End-of-Tray Card (AstroPix module RDO)
FEB:	Front-End Board
PoC:	Point-of-Contact
PM:	Project Manager
QC:	Quality Control
RDO:	Readout board
TBC:	To Be Confirmed
TBD:	To Be Determined
TM:	Technical Manager

BIC Project Management Team



BIC Project Management Team



Purple Team:

- manage and support the BIC community
- deliver the BIC detector

Green Team Leaders:

- manage a major technical area
- contact for the BIC community in that technical area
- meet key deliverables and milestones within their area

BIC Management Roles & Responsibilities



Meeting Schedule



Green Team or Technical Area Meetings:

Wafers: Manoj

- Mondays at 4 pm Central—bi-weekly

Modules & Staves: Manoj

- Mondays at 4 pm Central—bi-weekly

Mechanics & Sectors: Sylvester

- Fridays at 1 pm Central

ESB, DAQ, & Readout: Zisis

- Tuesday at 8 am Central—bi-weekly

System Test: Maria

- Tuesday at 8 am Central—bi-weekly

Simulations: Maria

- Tuesdays at 2 pm Central

BIC General Meeting:

- ~Monthly
- Fridays at 8 am Central
- Organized by Jessica, Maria, Sylvester

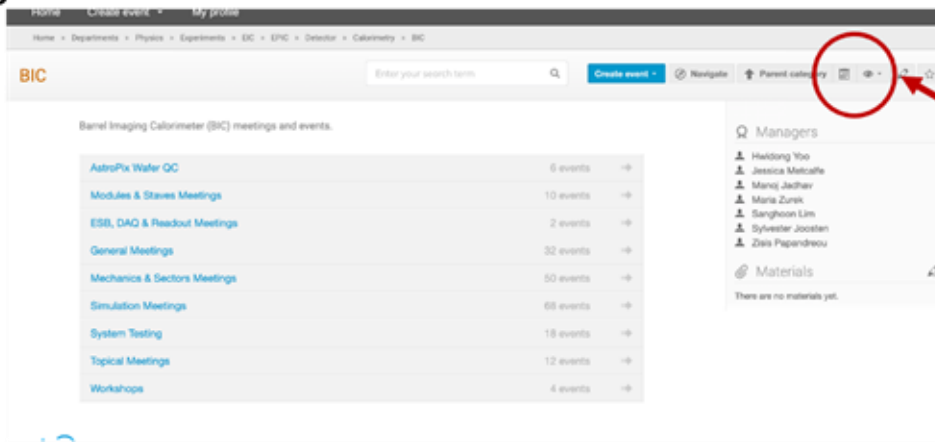
Weekly Summary:

1. Mondays @ 4pm
2. Tuesdays @ 8am
3. Tuesdays @ 2pm
4. Fridays @ 1pm

BIC Meeting Indico Calendar

■ Indico link

- All meetings can be found on indico
- You can add the meetings to your calendar
 - All of the BIC meetings from the BIC category
 - Or some by going to a sub-category and using the calendar link on that page



The screenshot shows the Indico interface for the BIC (Barrel Imaging Calorimeter) category. The top navigation bar includes a search bar, a 'Create event' button, and a 'Parent category' dropdown. A red circle highlights the calendar icon in the top right corner of the navigation bar. Below the navigation bar, the page title is 'BIC' and the subtitle is 'Barrel Imaging Calorimeter (BIC) meetings and events.' The main content area displays a list of meeting categories with their respective event counts and a right arrow icon:

Category	Events
AstroPix Water QC	6 events →
Modules & Staves Meetings	10 events →
ESB, DAQ & Readout Meetings	2 events →
General Meetings	32 events →
Mechanics & Sectors Meetings	50 events →
Simulation Meetings	66 events →
System Testing	18 events →
Topical Meetings	12 events →
Workshops	4 events →

On the right side, there is a 'Managers' section listing several individuals and a 'Materials' section with the text 'There are no materials yet.'

Calendar link to add (past) future meetings → automatically updates your calendar as new meetings are added

Documents



Zenodo

- ePIC endorsed file management system hosted by CERN
- version controlled
- share with collaboration
- searchable by keywords
- critical to get correct keywords
- epic-eic & bic

BOX

- BOX folder for sharing technical drawings
- Argonne hosted
- request access permissions to anyone in the Purple Team

Google Drive

- collaborative documents → shared editing
- presentations for reviews
- reference documents
- photos

Design Document Review/Approval



- Review key designs before fabrication
- Review/Approval Log

- 1) Make the design available on the google drive and fill in description, links, and deadline in the log. Define required approvers.
- 2) Present at a relevant meeting that is announced 1 week in advance (prefer if documents ready in advance, but not required)
- 3) Email BIC list and required approvers with request to review by deadline (minimum 1 week after presentation). Provide links to documents, presentation, comment collection document
- 4) Respond to comments
- 5) Final approval is logged

Presentation/Paper Review Process



For ALL BIC (or ePIC/EIC) related presentations or paper that will be shared outside the collaboration:

- review process to ensure the quality and consistency of results
- Instructions:
 - submit document via zenodo
 - request approval in zenodo and send an email notification
 - approvers for BIC should include Green Team Leader and/or Purple Team
- Want to be inclusive in the author list → paper drafts should be circulated to the BIC collaboration list and ask for anyone that feels they should be included on the author list can 'opt in'
- If the paper involves AstroPix, the AstroPix mailing list should also be notified with a request for potential authors to opt in

Reference Documents



- BIC Management Roles & Responsibilities
- Interface Document
- Organization Chart
- Risk Register/RAID log
- Presentation/Paper Approval Instructions
- Design Review/Approval Log