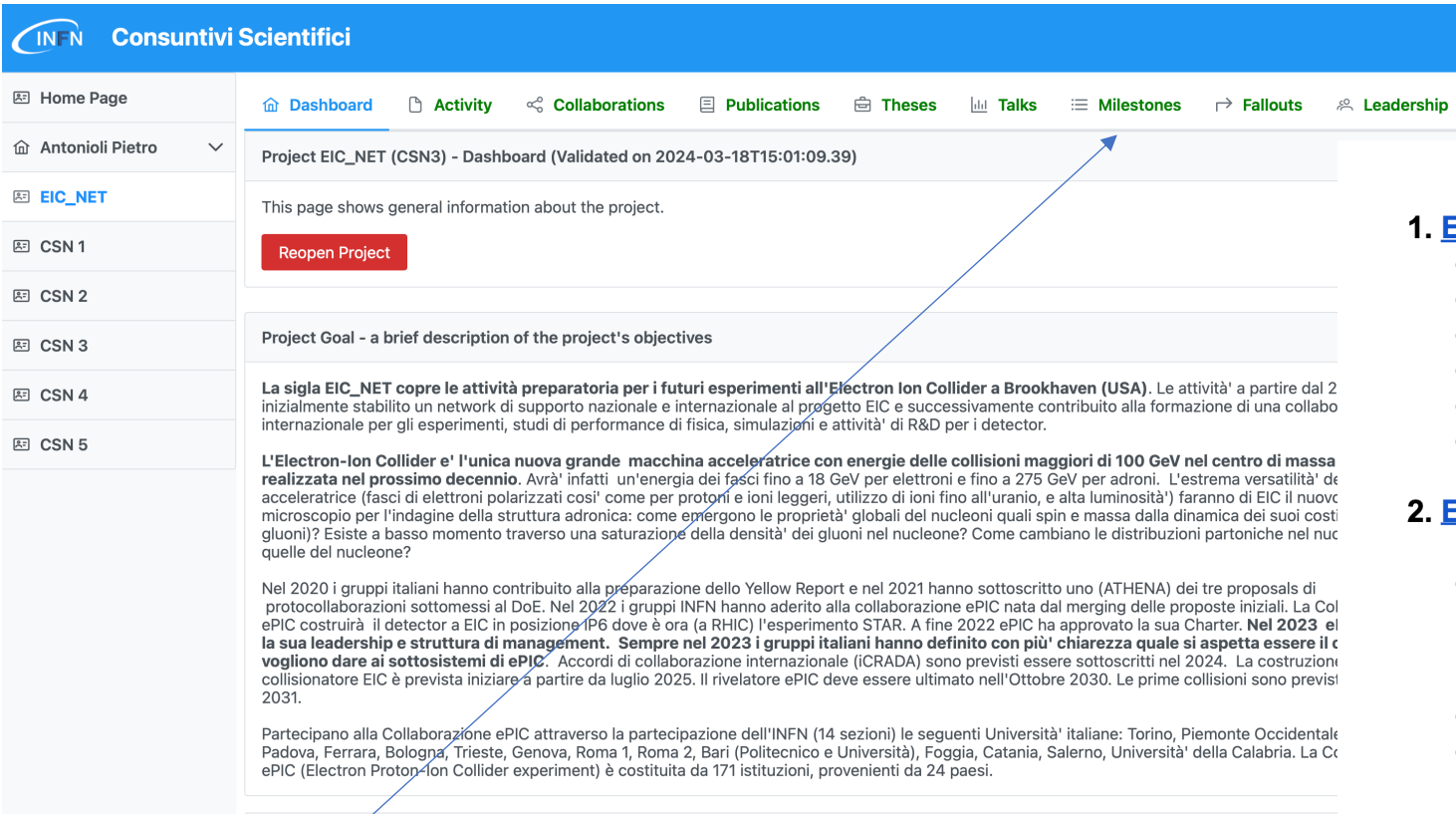


EIC_NET general meeting
Introduction and general news
22 March 2024

- No main updates from me --> main updates are group reports + follow ePIC general meetings!
- General news
 - consuntivi INFN
 - 2024 EIC_NET calendar
 - mailing list reminders
 - ePIC planning



INFN Consuntivi Scientifici

Home Page | Dashboard | Activity | Collaborations | Publications | Theses | Talks | Milestones | Fallouts | Leadership

Antonioli Pietro

EIC_NET

CSN 1

CSN 2

CSN 3

CSN 4

CSN 5

Project EIC_NET (CSN3) - Dashboard (Validated on 2024-03-18T15:01:09.39)

This page shows general information about the project.

Reopen Project

Project Goal - a brief description of the project's objectives

La sigla EIC_NET copre le attività preparatoria per i futuri esperimenti all'Electron Ion Collider a Brookhaven (USA). Le attività a partire dal 2 inizialmente stabilito un network di supporto nazionale e internazionale al progetto EIC e successivamente contribuito alla formazione di una collabo internazionale per gli esperimenti, studi di performance di fisica, simulazioni e attività di R&D per i detector.

L'Electron-Ion Collider e' l'unica nuova grande macchina acceleratrice con energie delle collisioni maggiori di 100 GeV nel centro di massa realizzata nel prossimo decennio. Avrà infatti un'energia dei fasci fino a 18 GeV per elettroni e fino a 275 GeV per adroni. L'estrema versatilità de acceleratrice (fasci di elettroni polarizzati così come per protoni e ioni leggeri, utilizzo di ioni fino all'uranio, e alta luminosità) faranno di EIC il nuovc microscopio per l'indagine della struttura adronica: come emergono le proprietà globali dei nucleoni quali spin e massa dalla dinamica dei suoi costi gluoni)? Esiste a basso momento trasverso una saturazione della densità dei gluoni nel nucleone? Come cambiano le distribuzioni partoniche nel nuc quelle del nucleone?

Nel 2020 i gruppi italiani hanno contribuito alla preparazione dello Yellow Report e nel 2021 hanno sottoscritto uno (ATHENA) dei tre proposals di protocollaborazioni sottomessi al DoE. Nel 2022 i gruppi INFN hanno aderito alla collaborazione ePIC nata dal merging delle proposte iniziali. La Col ePIC costruirà il detector a EIC in posizione IP6 dove è ora (a RHIC) l'esperimento STAR. A fine 2022 ePIC ha approvato la sua Charter. Nel 2023 el la sua leadership e struttura di management. Sempre nel 2023 i gruppi italiani hanno definito con più chiarezza quale si aspetta essere il c vogliono dare ai sottosistemi di ePIC. Accordi di collaborazione internazionale (iCRADA) sono previsti essere sottoscritti nel 2024. La costruzioni collisionatore EIC è prevista iniziare a partire da luglio 2025. Il rivelatore ePIC deve essere ultimato nell'Ottobre 2030. Le prime collisioni sono previsti 2031.

Partecipano alla Collaborazione ePIC attraverso la partecipazione dell'INFN (14 sezioni) le seguenti Università italiane: Torino, Piemonte Occidentale Padova, Ferrara, Bologna, Trieste, Genova, Roma 1, Roma 2, Bari (Politecnico e Università), Foggia, Catania, Salerno, Università della Calabria. La Cc ePIC (Electron Proton-Ion Collider experiment) è costituita da 171 istituzioni, provenienti da 24 paesi.

2023 Activity Report

1. EIC, the ePIC Collaboration and EIC_NET

- [The Electron Ion Collider and the CSN3 EIC_NET initiative](#)
- [The international project and the ePIC Collaboration](#)
- [EIC governance and INFN involvement](#)
- [The EIC_NET contribution to the ePIC Collaboration](#)
- [Internal Organization, Giornate nazionali 2023](#)
- [The First European School on the Phys. Go to page 7 the EIC](#)

2. EIC_NET R&D activities (Jan 2023 - December 2023)

- [Physics and software/computing coordination](#)
 - [Semi-Inclusive DIS and TMD \(PV\)](#)
 - [Exclusive processes: partonic imaging in coordinate space \(CS\)](#)
 - [Software and computing coordination \(BA CT TS\)](#)
- [Detector simulation \(BA SA TS\)](#)
- [Detector R&D: dual RICH \(BA BO CS CT FE GE LNS RM1 SA TO TS\)](#)
 - [dRICH prototype](#)
 - [SiPM studies and readout electronics](#)
 - [The ALCOR ASIC as SiPM front-end](#)
 - [LAPPD studies](#)
 - [High pressure Argon as gaseous radiator](#)
 - [Aerogel studies](#)
- [Detector R&D: Si-Vertex \(BA PD TS\)](#)
- [Detector R&D: uRWELL \(RM2\)](#)
- [Detector R&D: streaming readout \(CT GE RM2\)](#)

All milestones fulfilled completely!

Many thanks to the many contributors of the report
Good overview of our collective efforts

- 22 March: EIC_NET general meeting
- 6-7 May: EIC RRB (Rome)
- 7 June: preview CSN3 presentation to referee
- 18-19 June: CSN3 Cagliari → request to move EIC_NET to sigla ePIC
- 28-29 June: Giornate nazionale EIC_NET / ePIC Italia Collaboration meeting (Bologna) <https://agenda.infn.it/event/39909/>
- approx 1st July: EIC eRD/PED submission deadline
- 17 July: meeting with INFN referees
- 22-28 July ePIC Collaboration meeting (Lehigh University, PA) <https://indico.bnl.gov/event/20727>
- approx 26 July: INFN budget submission deadline
- 17-20 September CSN3
- 27 September (11:00-13:00) EIC_NET general meeting
- TBD (end November) EIC RRB
- 13 December (11:00-13:00) EIC_NET general meeting

Note for responsabili locali:

next CSN3 mid-April request of “sblocchi” for test beams and irradiation campaigns + other sub-judice

- 22 March: EIC_NET general meeting
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During March-June 2024 EIC_NET will elect **new Responsabile Nazionale!**

Pietro ends his term 30/X/2024

New RN-elect since early June to ensure orderly handover

Discussions on-going within groups + search committee: Pietro, RobertoP, AndreaB



Giornate Nazionali EIC_NET 2024 - Bologna

27–28 Jun 2024
Accademia delle Scienze
Europe/Rome timezone

Registration is open, the scientific program will be updated soon

Overview

Timetable

Registration

Venue

Map of Locations

Special Rate Hotels

Social Dinner

Visit of INFN Bologna

Past Editions

The "Giornate Nazionali EIC_NET 2024" in Bologna are the sixth edition of a series of annual meetings, where the INFN groups interested in future experimentation at the [Electron-Ion Collider](#) discuss the current status and prospects of the Italian involvement in the international scientific project. The meeting will be held in English, with open sessions on Thursday 27 June afternoon. Attendance to the closed sessions on Friday 28 June is restricted to the groups belonging to the EIC_NET initiative or upon invitation.

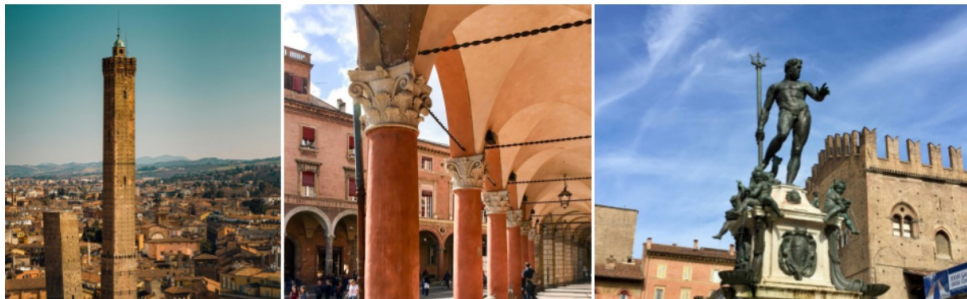
Since the first meeting in Bari in 2019 the situation has evolved significantly. The ePIC Collaboration, responsible for the design, construction and operation of the main experiment at the EIC, was established in 2022. In February 2023 John Lajoie (Iowa University) and Silvia Dalla Torre (INFN Trieste) have been elected spokesperson and deputy spokesperson, respectively. In October 2024 the Technical Design Report (TDR) of the ePIC experiment at the EIC will be presented.

The ePIC Collaboration has held four international meetings: at Stony Brook in July 2022, Jefferson Lab in January 2023, Warsaw in July 2023 and at Argonne National Laboratory in January 2024. All meetings have seen active participation from many Italian groups. The [next meeting of the ePIC Collaboration](#) will take place at Lehigh University on 22-28 July 2024, jointly with the international meeting of the [EIC Users Group](#).

Contact

✉ Roberto.Preghenella@bo.infn.it

✉ Pietro.Antonioli@bo.infn.it



- Thanks to EIC_NET Bo group!
- Registration is open!
- <https://agenda.infn.it/event/39909/>
- Social dinner with individual receipt (like in Turin, Catania and Bari)

Aiming at “wide” attendance!

Timetable will be built during coming weeks, we will review ePIC status, TDR preparation and INFN commitments

Possibility to visit INFN lab Thursday morning

Start at 2:00 PM Thursday

End: at 4:30 PM Friday

Our many mailing lists



ePIC Collaboration: <https://lists.bnl.gov/mailman/listinfo/eic-projdet-collab-l>
eic_net_all: https://lists.infn.it/sympa/subscribe/eic_net_all?previous_action=info

dRICH: <https://lists.bnl.gov/mailman/listinfo/eic-projdet-drich-l>
eic_net_tracking: https://lists.infn.it/sympa/subscribe/eic_net_tracking?previous_action=info
eic_net-mcsupport: https://lists.infn.it/sympa/subscribe/eic_net_mcsupport?previous_action=info

- + more specialized mailing lists (sipm electronics, characterization, test beams, simulation)
- + ePIC mailing lists for SVT, MPGD and SRO + all WG (including simulation, software, physics)
- + ePIC/EIC/EICUG mailing lists: <https://lists.bnl.gov/mailman/listinfo>

Ask your responsabile locale or:

- Marco Contalbrigo → dRICH
- Domenico Elia → SVT
- Annalisa D'Angelo → MPGD
- Marco Battaglieri → SRO

or in case of doubt me!

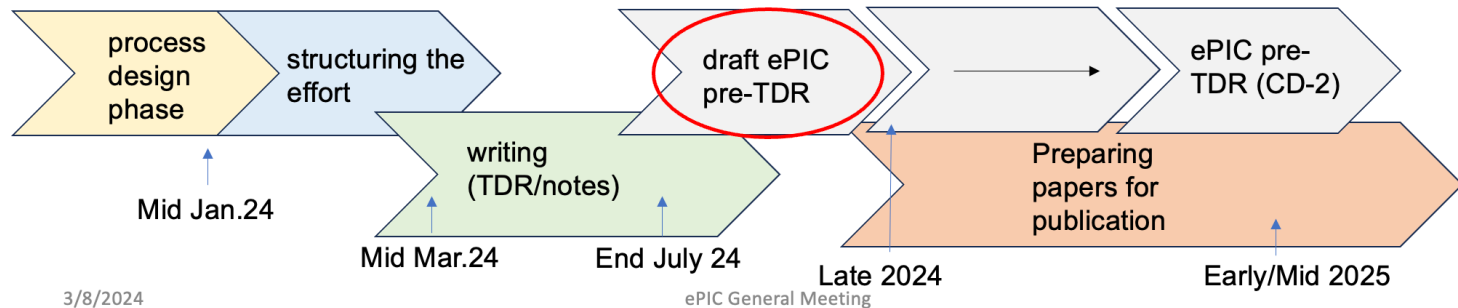
TDR Strategy and Publications



- In 2024 the ePIC collaboration will produce:
 - The ePIC contributions to the EIC TDR
 - The EIC TDR is the top priority
 - Chapters on *Physics Goals and Requirements* and *Experimental Systems*
 - Not just the document, but the simulations and detector R&D that form the basis
 - Requires close cooperation between the collaboration and the project!
 - An ePIC Detector Design paper:
 - Derived and expanded from the *Experimental Systems* TDR chapter
 - An ePIC Physics Performance paper:
 - Derived and expanded from the *Physics Goals and Requirements* TDR chapter
- Both to be published in a scientific journal (such as NIMA, JINST, or PRC)
- These publications will serve as a focus in developing the ePIC Membership and Publication policies.

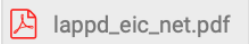

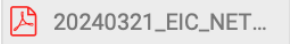
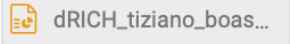
Focused activity in the TIC:
Report by Silvia to follow

AC Report in last General Meeting:
<https://indico.bnl.gov/event/21562/>



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- Not yet formally announced but very likely CD-2 and CD-3 separated in 2025 and CD-3 shifted to end 2025 (early 2026)
- It should have an impact on overall timeline but no assessment so far (so **“detector ready by mid-2030”** remains our target!)

11:00	→ 11:15	General updates Speaker: Pietro Antonioli (Istituto Nazionale di Fisica Nucleare)	🕒 15m	✎
11:15	→ 11:35	Physics tasks opportunities toward TDR Speaker: Salvatore Fazio (Universita' della Calabria ed INFN-Cosenza)	🕒 20m	✎
11:35	→ 11:55	R&D updates: LAPPD results Speaker: Dr Mikhail Osipenko (GE) 	🕒 20m	✎
11:55	→ 12:15	R&D updates: SiPM proton energy scan Speaker: Luisa Rosa Maria Occhiuto (Istituto Nazionale di Fisica Nucleare) 	🕒 20m	✎
12:15	→ 12:35	R&D updates: MAPS recent results Speaker: Domenico Colella (Istituto Nazionale di Fisica Nucleare) 	🕒 20m	✎
12:35	→ 12:55	dRICH simulation studies Speaker: Tiziano Boasso (INFN Trieste) 	🕒 20m	✎