

Generic Detector R&D for an Electron Ion Collider

20th Advisory Committee Meeting

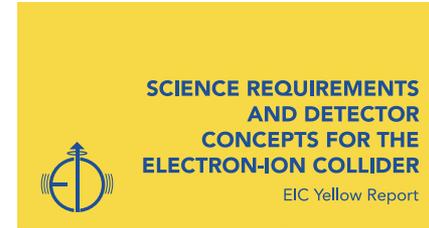
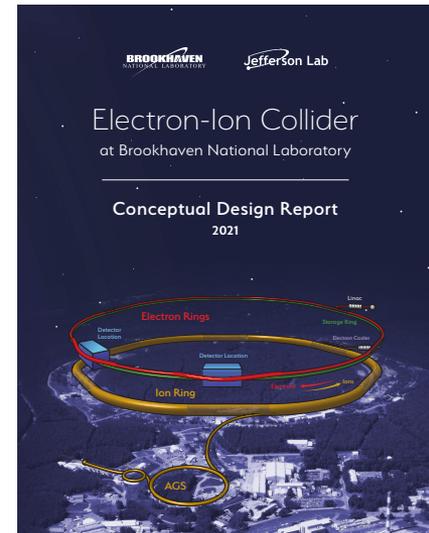
March 24-26, 2021

Thomas Ullrich
March 24, 2021



EIC on Steroids

- January 2021:
 - ▶ Release of CDR: contains description of reference detector concept (see also YR)
 - ▶ CD-1 Review (R&D plan presented)
 - ▶ R&D plan to be improved with input from this meeting. Will be refined after detector selection.
- March 2021:
 - ▶ EIC Community release Yellow Report that provides comprehensive set of science requirements and detector concepts
 - ▶ Call for Detector Proposals
- > March 2021
 - ▶ Indications for 3 groups working on detector proposals
 - ▶ Detector selection December 2021



Future of R&D

- This/current/our Generic R&D Program will end September 30
 - ▶ 10 years: 2011-2021
 - ▶ Program had considerable impact on the evolution of the EIC and its detector technologies
- New:
 - ▶ Project funded R&D program
 - DOE Mandated: Focus on R&D to reduce risks for technologies that are chosen for the baseline detector (a.k.a. targeted R&D)
 - Final detector & technology choices by collaborations will focus and sharpen the process.
 - ▶ Paths are being pursued to continue a generic detector R&D program of scale \$1-1.5M/year
 - Support of technologies that are not ready for day-1 (CD-4a timeline) but would offer superior technologies down the road (future upgrades, 2nd detector). Also support higher risk items that, if successful, could be ready for day-1.
 - ▶ New Detector Advisory Committee (DAC)

Outgoing Committee

Generic R&D Advisory Committee:



Marcel Demarteau
(ORNL, chair)



Carl Haber (LBNL)



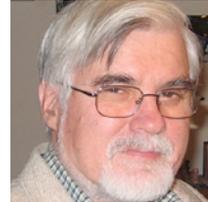
Peter Krizan (Ljubljana)



Ian Shipsey (Oxford)



Rick Van Berg (UPenn)



Jerry Va'vra (SLAC)



Glenn Young (BNL)

Meet the Incoming Committee

Detector Advisory Committee (DAC):



Edward Kinney (Colorado, chair)



Werner Riegler (CERN)



Andrew White (UT Arlington)



Marcel Demarteau (ORNL, ex-officio)



Ana Amelia Machado (Campinas)



Ewa Rondio (NCNR)



Chi Yang (Shandong)



Thomas Ullrich (BNL, ex-officio)



Etiennette Auffray (CERN)



Heidi Schellman (Oregon)



Peter Krizan (Ljubljana)



Greg Rakness (Fermilab)



Brigitte Vachon (McGill)



Glenn Young (BNL)

FY2021 Funding Period

- 13 projects are funded in FY21
 - ▶ eRD1 - Calorimeter consortium
 - ▶ eRD6 - Tracking consortium
 - ▶ eRD14 - PID consortium
 - ▶ eRD17 - Simulations/BEAGLE
 - ▶ eRD21 - Background studies
 - ▶ eRD22 - GEM TRD
 - ▶ eRD23 - Streaming Readout
 - ▶ eRD24 - Roman Pots
 - ▶ eRD25 - Si Tracking
 - ▶ eRD26 - Compton Polarimetry
 - ▶ eRD27 - ZDC
 - ▶ eRD28 - SC nanowire
 - ▶ eRD29 - ToF

green = consortia

maroon = new (FY21)

Statistics (latest count):

281 participants

75 institutions

37 non-US institutions

Logistics

- Same as for every remote meeting
 - ▶ **Mute** when you are not speaking
 - ▶ Questions by the committees have priority
- Please send slides to Alexander <ayk@bnl.gov> (CC to me) **one (1)** day in advance
- There will be no dedicated homework sessions. If the Committee has questions we will let you know. Please send the answers directly to me.
- Agenda:
https://wiki.bnl.gov/conferences/index.php/March_2021