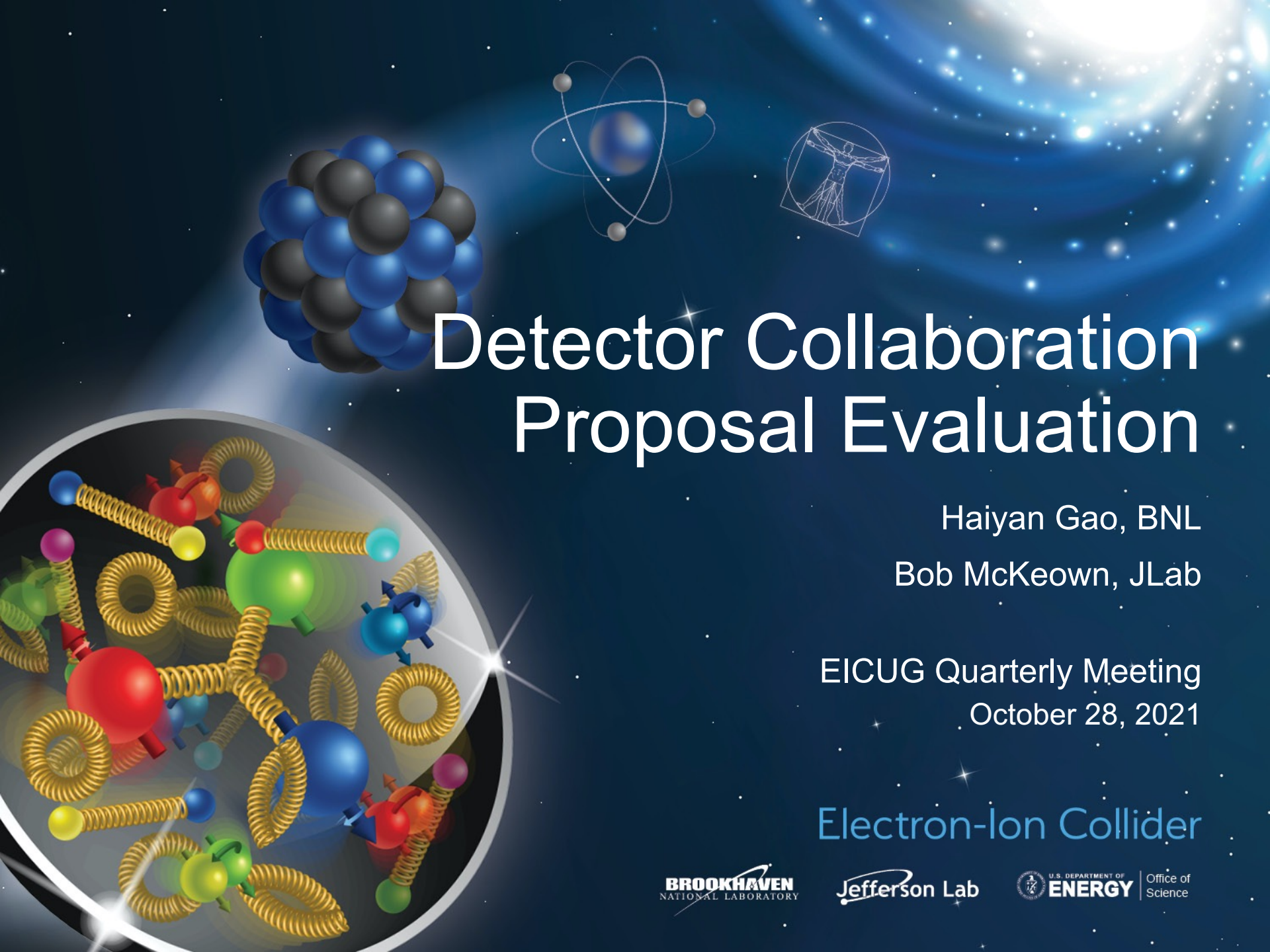


Detector Collaboration Proposal Evaluation

Haiyan Gao, BNL

Bob McKeown, JLab

EICUG Quarterly Meeting

October 28, 2021

Electron-Ion Collider

BROOKHAVEN NATIONAL LABORATORY

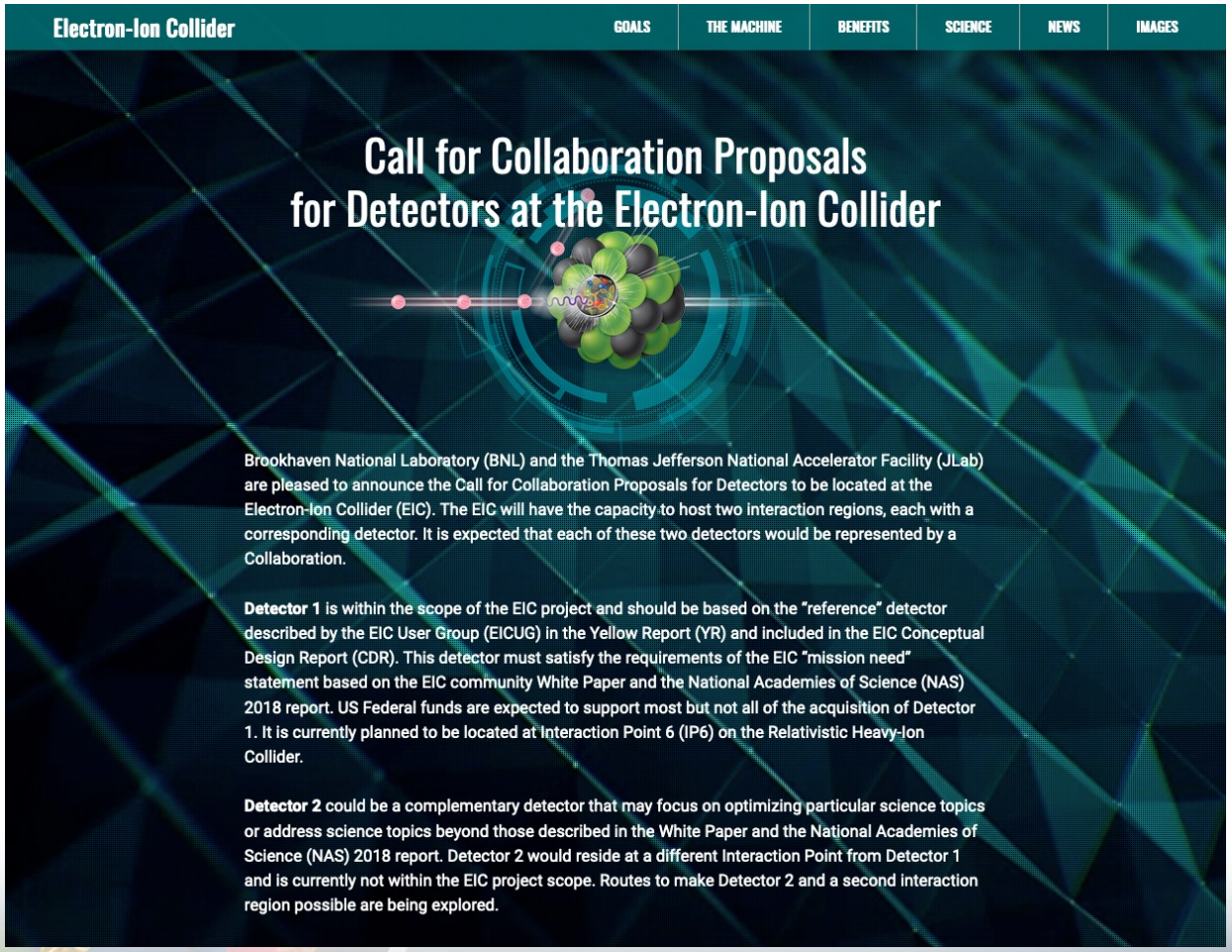
Jefferson Lab

U.S. DEPARTMENT OF ENERGY | Office of Science

The Call for Proposals

Issued jointly by BNL and JLab in March 2021, with input from DOE and EIC User Group.

Proposals due December 1, 2021



EIC Detector Proposal Advisory Panel

A scientific-technical committee of renowned and independent experts to evaluate the proposals. Jointly appointed by BNL and JLab.

Patricia McBride, co-chair	FNAL
Rolf Heuer, co-chair	CERN, Former CERN Director General
Sergio Bertolucci	INFN Sezione di Bologna, Former CERN Research Dir.
Daniela Bortoletto	Oxford Univ.
Markus Diehl	DESY
Ed Kinney	U. Colorado EIC DAC Chair
Fabienne Kunne	Paris-Saclay
Andy Lankford	UC Irvine
Naohito Saito	KEK, Former J-PARC Director
Brigitte Vachon	McGill Univ. EIC DAC Member
Tom Ludlam, Scientific Secretary	BNL

(Note: proto-collaborations should not engage in unsolicited communication with the Panel)

The Panel reports to: H. Gao (BNL), R. McKeown (JLab)

Draft Charge to the Advisory Panel

Brookhaven National Laboratory (BNL) and the Thomas Jefferson National Accelerator Facility (JLab) announced a Call for Collaboration Proposals for Detectors to be located at the Electron-Ion Collider (EIC), see https://www.bnl.gov/eic/CFC.php. The EIC will have the capacity to host two interaction regions, each with a corresponding detector. It is expected that each of these two detectors would be represented by a Collaboration.

Draft Charge to the Advisory Panel

The primary goal of the EIC Detector Proposal Advisory Panel is to advise BNL and JLab on how to realize an optimal set of experimental equipment at the EIC utilizing the resources and expertise of the EIC user community. This advice should address the following:

- The first priority is to identify the optimal approach to realize a detector system, designated Detector 1, to be primarily funded by the EIC project and capable of addressing the science case in the EIC White Paper and NAS Report.

- The second priority is to assess options for an alternate detector system, designated Detector 2, possibly addressing science beyond the White Paper and NAS Report and/or enabling some complementarity to Detector 1. Such a second detector could be envisioned to be realized up to 3-5 years after Detector 1. Currently, the EIC project scope does not include the construction of Detector 2 or the accelerator components needed for the second interaction region.

Draft Charge to the Advisory Panel

Based on the proposals submitted, the Panel should evaluate the scientific merit, the expected scientific performance, technical risk, cost, and schedule of the experiment proposed as well as the availability of resources. We welcome guidance and advice on the following topics:

- What are the strengths and weaknesses of the submitted collaboration proposals for detectors at the EIC, including the criteria listed above?
- How can the resources and expertise of the EIC user community be best utilized?
- Comment on the complementary science reach of two potential EIC detectors to be located at Interaction Points 6 (IP6) and 8 (IP8).

To aid the Panel in its assessment, the EIC Project Detector Advisory Committee (DAC) will provide an independent evaluation of each of the detector proposals, based on the DAC's expertise in detector technologies and related cost and risk assessment.

EIC Project Detector Advisory Committee (DAC)

Name	Institition	Expertise
Edward Kinney	Boulder CO	EIC Science, general
Ewa Rondio	Warsaw	EIC Science, general
Werner Riegler	CERN	Integration
Greg Rakness	FNAL	Integration
Peter Krizan	U Ljubljana	Particle Identification
Ana Amelia Machado	University of Campinas, Brazil	Particle Identification, Sensors
Heidi Schellman	Oregon State	Computing
Brigitte Vachon	McGill	Electronics
Glenn Young	BNL	Calorimetry
Etiennette Auffray	CERN	Calorimetry
Andrew White	U. Texas Arlington	Tracking
Chi Yang	SDU China	Tracking

Timeline for Proposal Evaluation

December 1, 2021 Proposals submitted: ATHENA, ECCE, CORE expected

Proposals distributed to Advisory Panel and DAC members

December 13-15, 2021 First public Advisory Panel meeting (3 days, Virtual)

- Presentations from proto-collaborations
- Panel discussion of DAC input (written report)
- Panel develops homework questions for collaborations to address at January meeting

January 19-21, 2022 Second 3-day public Advisory Panel meeting

- Responses to homework and further input from DAC
- Panel begins Report writing

March 1, 2022 Panel Report & Recommendations submitted

Detector Proposal Advisory Panel Public Meeting December 13-15, 2021

(Remote, via Zoom)

Each Proto-collaboration will make two presentations:

Part 1: Overview of key points, addressing the science requirements in the Call for Proposals, the conceptual realization of the detector given the technology choices, and expected performance via simulation studies.

Part 2: Describe the collaboration structure, the proposed schedule and cost (including potential sources of non-project funding and assumptions), the R&D needs and risks, and potential upgrade paths.

With panel members around the globe, the plan is to have presentations recorded on zoom for the panel to access from a secure site.

Public Meeting site: https://www.bnl.gov/dpapanelmeeting
Registration is required for participation

Draft agenda

December 13, 2021

PST	MST	CST	EST	UK	CEST	JST	Topic	Presenter	Duration (min)
5:00am	6:00am	7:00am	**8:00am**	1:00pm	2:00pm	9:00pm	Introduction		30
5:30am	6:30am	7:30am	**8:30am**	1:30pm	2:30pm	9:30pm	ATHENA Part 1		90
7:00am	8:00am	9:00am	**10:00am**	3:00pm	4:00pm	11:00pm	Break		15
7: 15am	8:15am	9:15am	**10:15am**	3:15pm	4:15pm	11:15pm	ECCE Part 1		90
8:45am	9:45am	10:45am	**11:45am**	4:45pm	5:45pm	12:45am+1	Longer Break		45
9:30am	10:30am	11:30am	**12:30pm**	5:30pm	6:30pm	1:30am+1	CORE Part 1		90
11:00am	12:00pm	1:00pm	**2:00pm**	7:00pm	8:00pm	3:00am+1	DPAP Executive Session		60

December 14, 2021

PST	MST	CST	EST	UK	CEST	JST	Topic	Presenter	Duration (min)
5:00am	6:00am	7:00am	**8:00am**	1:00pm	2:00pm	9:00pm	ATENA Part 2		90
6:30am	7:30am	8:30am	**9:30am**	3:00pm	4:00pm	11:00pm	Break		15
6:45am	7:45am	8:45am	**9:45am**	3:15pm	4:15pm	11:15pm	ECCE Part 2		90
8:15am	9:15am	10:15am	**11:15am**	4:45pm	5:45pm	12:45am	Break		45
9:00am	10:00am	11:00am	**12:00pm**	5:30pm	6:30pm	1:30am	CORE Part 2		60
10:00am	11:00am	12:30am	**1:00pm**	6:30pm	7:30pm	2:30am+1	Technical Implementation of IR2		30
10:30am	11:30pm	1:00pm	**1:30pm**	7:00pm	8:00pm	3:00am+1	Break		15
11:15am	12:15pm	1:45pm	**1:45pm**	7:45pm	8:45pm	3:45am+1	DPAP Executive Session		

Day 3: an open session + executive sessions + closeout

Questions?