Future Planning
EIC Users Meeting 2019
Paris

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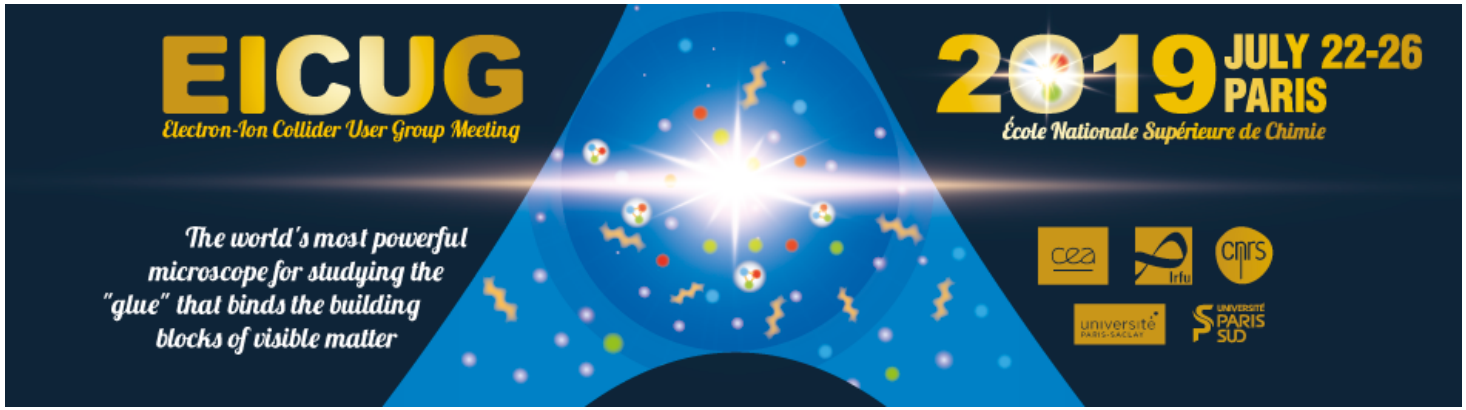
On behalf of the EIC UG Steering Committee



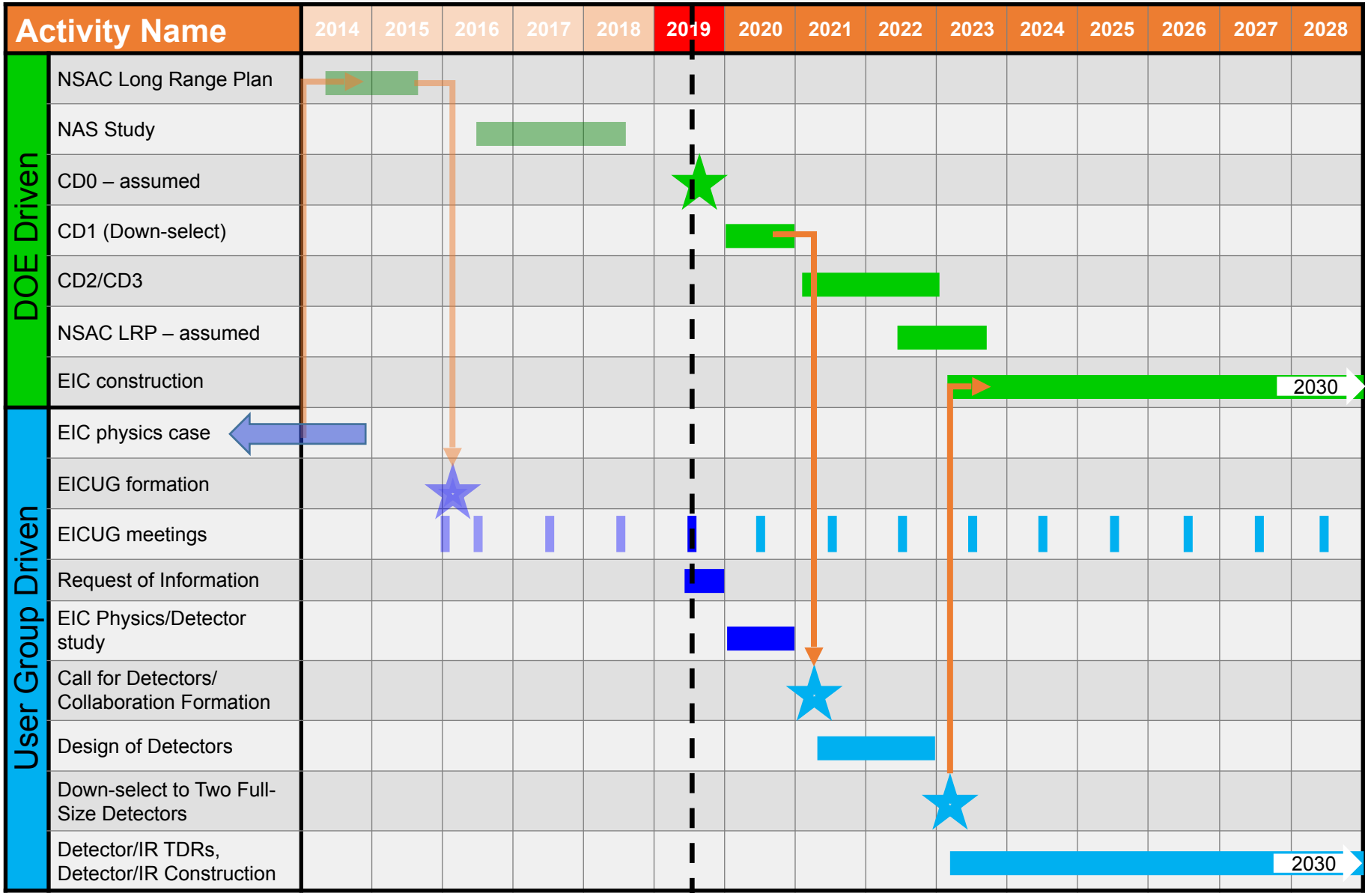
Overview

- The realization of a US-based Electron-Ion Collider has steadily moved forward:
  - EIC Whitepaper: "Understanding the glue that binds us all." / arXiv:1212.1701
  - 2015 Long Range Plan for Nuclear Science: "Construction of a high-energy luminosity polarized electron-ion collider (EIC) as the highest priority for new construction following the completion of FRIB."
  - Review of the EIC Science Case by the National Academies of Sciences, Engineering and Medicine requested by the Department of Energy (February 2017 - July 2018)
  - Release of the NAS report: July 24, 2018 / Gordon Baym (Co-chair): "The committee finds that the science that can be addressed by an EIC is compelling, fundamental and timely."
  - Anticipation of CD0 in FY2019: DOE FY2020 Congressional Budget Request: "Critical Decision-0, Approve Mission Need, is planned for FY2019."
- EIC Steering Committee with input from other colleagues formulated several initiatives intended to help moving the realization of an EIC forward, strongly engaging the EIC Users' Group:
  - Request of Information: Survey of institutional physics / hardware interest and infrastructure.
  - Timeline: Timeline highlighting anticipated DOE and EICUG driven steps.
  - EIC physics and detector design studies: Next step beyond Whitepaper and Detector and Physics Handbook over a ~1 year period - documented and presented at workshops.

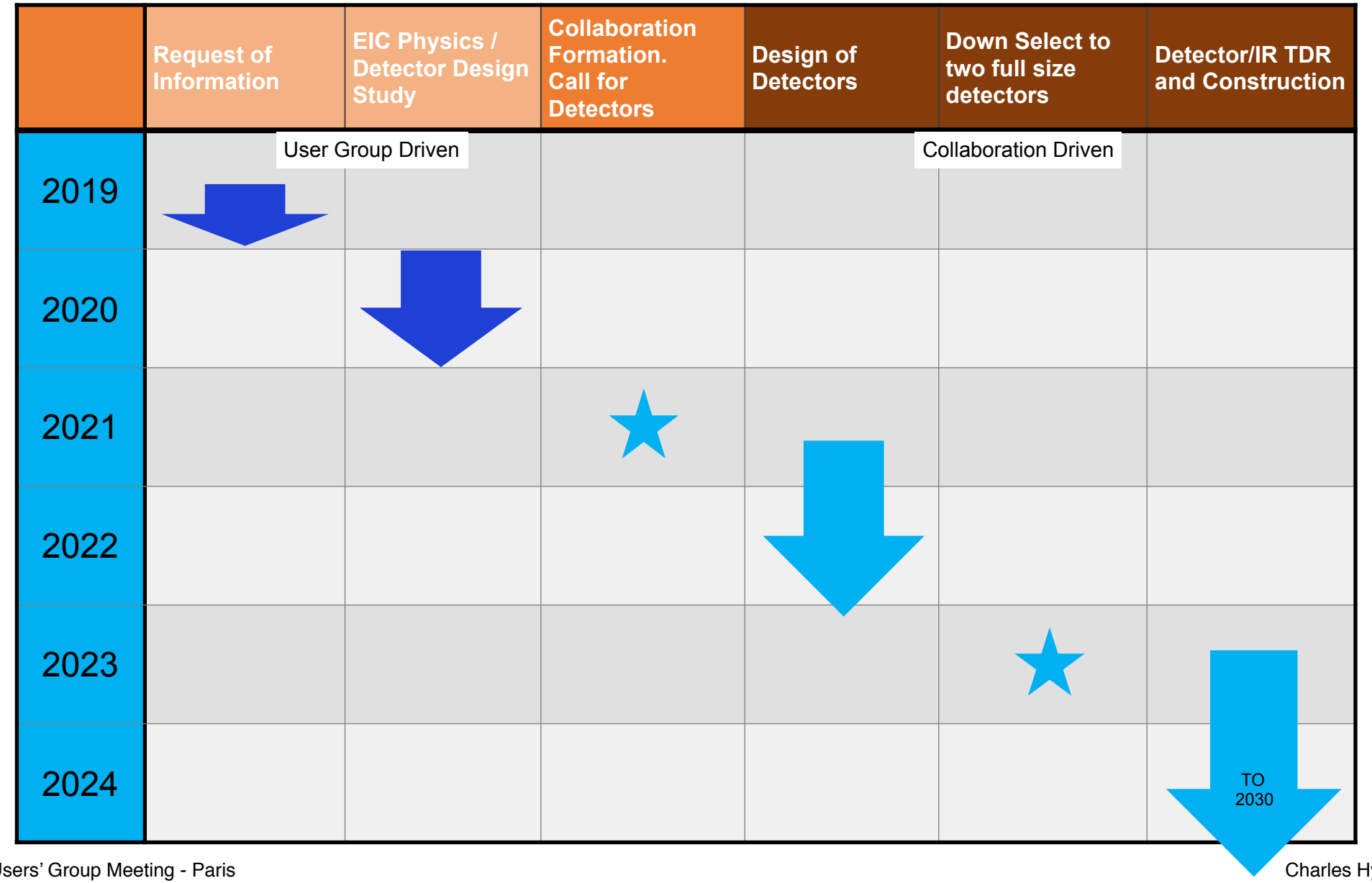
Request of Interest

- Request of Information was circulated to EICUG on Saturday, July 20, 2019
- Goal:
  - Information gathering initiative in preparation for the start of the EIC project.
  - Collect various EICUG essential information by institution such as size, physics interest, detector interest, facility information, infrastructure, and technical expertise using an EICUG WWW-page database tool / Google forms.
  - Information is relevant to determine the coverage of various physics and technical topics and determine in particular the broader interest of international groups.
  - Information gathered will only be used for internal, EICUG-specific, planning purposes and will reside with the EICUG Institutional Board.
  - The EICUG SC will analyze the collected data and present it in anonymous statistical form to the EICUG during an upcoming EICUG meeting. This survey is essential to guide the process for the formation of study groups, the discussion of detector options for two interaction regions, and the steps towards experimental collaborations potentially crystalizing among common-interest groups/institutions.
- Guidelines:
  - Each Institutional Board member is asked to collect the requested information. We are asking you that your information is provided per institution collecting the requested information for your institutional research groups represented by theory and experimental faculty and senior staff beyond postdoctoral level long-term appointments.
  - Please provide the information based on your current institutional capabilities/funding as a base.
  - The completion of the survey will take about 15-20 minutes. Deadline: August 30, 2019

EICUG Timeline



EICUG Detector Timeline Steps



EIC Detector and Physics Design Study

- Purpose: Advance the state of documented physics studies (Whitepaper / Detector and Physics Handbook) in preparation for EIC.
  - Quantify physics measurements for existing or new physics topics
  - Quantify detector needs and requirements (resolution, segmentation, grouping)
  - Engage the EIC community independent of laboratories
  - Create conditions for formation of Experimental Collaborations

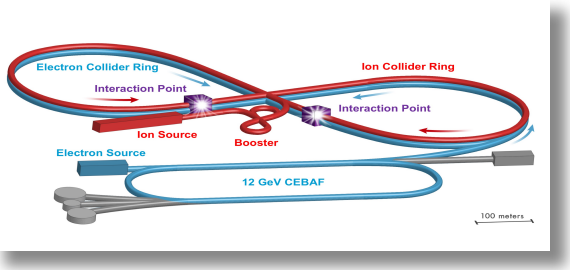
- Proposal: EIC Users Group plans a long (~1 year) workshop series whose output is a physics/detector book that is composed of papers (typically 10 to 20 pages long) authored by the participants in the workshop series (as required, this can be repeated to prepare for later phases of the EIC).

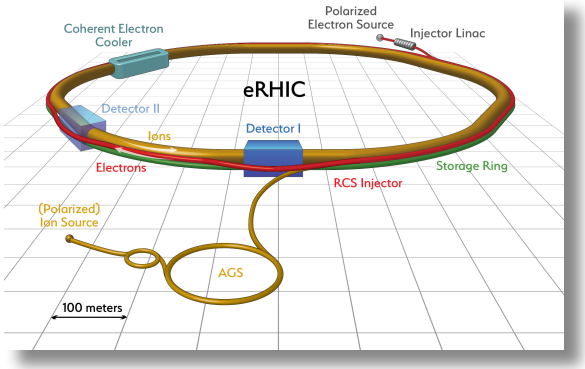
- Format: Define 5 - 10 "areas" and appoint conveners (Experimentalists / Theorist) for each area, and one member of the EICUG Steering Committee as observer. The conveners accept proposed topics for study and organize meetings when appropriate. The Steering Committee observer has the responsibility to ensure activity and progress.

Summary

- We are at the dawn of an exciting period realizing a future Electron-Ion Collider.

- EIC Steering Committee with input from other colleagues developed a strategy to help moving the realization of an EIC forward strongly engaging the EIC Users' Group:
  - EICUG Request of Information: Survey of institutional physics / hardware interest and infrastructure.
  - EICUG Timeline: Timeline highlighting anticipated DOE and EICUG driven steps
  - EICUG EIC Detector and Physics Design Study - Next step beyond Whitepaper and Detector and Physics Handbook.





- We strongly encourage you to discuss this strategy over the next couple of days and join as at the IB meeting and the summary / feedback session on Friday.

- We need your input and active participation!

Thank YOU!

- We would like to express our sincere thanks to several colleagues who provided input in developing this strategy:
  - EICUG Steering Committee
  - The guidance and suggestions from a recent meeting on June 13 are greatly appreciated from several colleagues:
    - Richard Milner (MIT)
    - Abhay Deshpande (BNL/SBU) & Rolf Ent (JLab)
    - Christoph Montag (BNL) & Andrei Seryi (JLab)
    - Jianwei Qiu (JLab) & Raju Venugopalan (BNL)

Merci Beaucoup!