

eRHIC Bi-Weekly Status Report

February 5, 2018

Recent Developments:

- Work has accelerated on the eRHIC Pre-Conceptual Design Report (pCDR) report with a draft of the science overview now prepared and the first version of the science chapter completed. The IR design portion is now written and there is good progress on the IR vacuum system section. A draft of the overview is being distributed to Laboratory management and to the eRHIC Program Steering Group this week. Feedback on the pCDR will be the subject of the February eRHIC Program Steering Group, which will take place on Thursday, February 22, 2018.
- eRHIC Work Breakdown Structure (WBS) Level 2 estimators are currently developing a high-level eRHIC cost estimate, which will be included as part of the pCDR. Work continues on the estimates with the goal of a first draft by February 12, 2018, leaving time for iterations before the draft pCDR is submitted to the pCDR review team.
- Descriptions of two injector schemes for eRHIC (Linac Recirculating Injector and Rapid Cycling Synchrotron) were sent to international experts in the field for review. Charge questions for the reviewers focused on feasibility, tolerances, and cost. The report is being developed by the team and will be submitted to Ferdinand Willeke soon, at which time we will be ready to make the final injector decision.
- A complete draft of the NAS Study of the EIC Science Case has been sent to external reviewers with reviews being due in six weeks.
- A special discussion session will be held on April 17 in conjunction with the XXVI International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2018, April 16-20, 2018 in Kobe Japan) aiming at producing a white paper on future electron-ion scattering facilities for the European Strategy Update for Particle Physics. In the same workshop, and in addition to a parallel session on the “future of DIS”, a one-day pre-DIS2018 workshop is being organized for April 15. The pre-workshop will have a two-fold agenda: a) to inform the predominantly Japanese attendees about the science and status of the EIC, and b) to initiate a discussion on connections of EIC and its science with other areas of science such as cosmic ray physics, neutrino-matter interactions, and high energy physics. The workshop was recently announced by the EIC Users Group, and is being organized by Yasuyuki Akiba, Abhay Deshpande, Yuji Goto, Yoshitaka Hatta, and Bernd Surrow along with seven other members of the Japanese scientific community.
- The next Center for Frontiers in Nuclear Science (CFNS) Seminar will be given by Christiano Fanelli of MIT and will take place on February 19 at Stony Brook. If you have suggestions for seminar speakers please send them to Pia Zurita, Andrey Terasov, Christos Kallidonis, or Nils Feege.
- The website for CFNS is under construction and a preliminary version can be found at www.stonybrook.edu/cfns. Please send any website comments to Abhay Deshpande.
- The next eRHIC Coffee Break is planned for Wednesday, February 7, 2018 in the C-AD Lobby (Building 911). Please encourage those interested in eRHIC to attend.

Issues:

- We received guidance for the DOE Nuclear Physics budget briefing in Germantown on February 15, 2018 and are preparing the briefing materials.
- Strategies will need to be developed for enlarging support for an EIC both within NP and the broader science community.
- The process for preparing a European Strategy Update for Particle Physics is starting and it will be important for the EIC community to contribute to the deliberations.

- The ability of the NPP Directorate to successfully manage and complete the sPHENIX project is an important demonstration to the DOE Nuclear Physics Program that BNL can successfully complete mid- to large-size construction projects. The current focus is on a successful sPHENIX CD-1 DOE Review in FY2018.

Major Near-Term Milestones:

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| • National Academy Panel Report | Spring 2018 |
| • eRHIC Pre-Conceptual Design Report | March 2018 |
| • eRHIC Pre-Conceptual Design Review | April 2018 |
| • Publish eRHIC Pre-Conceptual Design Report | May/June 2018 |
| • Ready for CD-0 Mission Need decision of EIC | June 2018 |
| • Anticipated CD-0 (Mission Need Determination) | Late 2018 |
| • eRHIC CD-1 Goal and Key Project Planning Assumption | Summer 2020 |

Calendar:

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| • eRHIC Coffee Break to be held at 3:30 p.m. in the C-AD Lobby (Building 911) | February 7, 2018 |
| • Center for Frontiers in Nuclear Science (CFNS) Seminar (at Stony Brook Univ.) | February 19, 2018 |
| • eRHIC Program Steering Group Meeting - ½ day | February 22, 2018 |
| • sPHENIX Director's Review | March 6-8, 2018 |
| • eRHIC Program Steering Group Meeting | March 29, 2018 |
| • eRHIC Pre-Conceptual Design Review (<i>PLEASE NOTE DATE CORRECTION</i>) | April 25-26, 2018 |
| • sPHENIX DOE CD-1 Review (<i>PLEASE NOTE DATE CHANGE</i>) | May 23-25, 2018 |
| • Expected Award Date for the DOE Accelerator R&D Funding Proposals | July 15, 2018 |

eRHIC SharePoint Site:

- Copies of these Bi-Weekly Reports and other information about eRHIC are located on the eRHIC SharePoint site <https://brookhavenlab.sharepoint.com/sites/eRHIC/SitePages/Home.aspx> . If you have trouble accessing this site, please contact Alyssa Petrone at apetrone@bnl.gov or x7735.