

From the ALD's Desk
RHIC News Bulletin Update
March 2017

Last week we got a first look at the President's proposed budget for FY 2018. It provides an outline of the President's high-level spending plan and his priorities, and it is a precursor to the full budget the President will send to Congress for consideration in mid-May. It is still too soon to know exactly where the FY18 budget will end up in terms of funding for the DOE Office of Science, in general, or for Nuclear Physics or RHIC, specifically. As the process unfolds, it is important that we focus on doing outstanding science and educating the public about its value.



André Michalek

RHIC Run-17: RHIC Run-17 started in early February with cool-down of the superconducting accelerator magnets. We commissioned the collider and detectors for a few days and physics data taking was declared on February 24th. The program is on track to achieve its integrated luminosity goal of 400 pb⁻¹ for 510 GeV transversely polarized p+p collisions. Our main physics goal for the current run is probing the color interactions among quarks with high-statistics of single spin asymmetries of W-boson, forward Drell-Yan and direct photon measurements. A successful run will complete a DOE milestone (HP13) and test a theoretical concept of the strong force that would help pave the way toward mapping the proton's 3D internal structure at a future Electron-Ion Collider.

New detector systems, which have been installed and commissioned for Run 17, are the FMS post-shower detector, the FMS UV radiation curing system, new QT boards for the MTD, 1/8th of the Event Plane Detector, several eTOF prototype modules, forward calorimeter prototype modules, and the RHICf detector. The length of the ongoing run will depend on the final FY 2017 budget numbers, which are expected some time before the end of the current continuing resolution (April 28).

sPHENIX: The sPHENIX scientific collaboration continues to grow, with groups from LBNL, UC Berkeley, and Temple University recently having been admitted as new members. The sPHENIX project team, led by Ed O'Brien, is preparing for the CD-1 review for alternative selection and determination of a cost range for the project, which has been scheduled for November 7-9, 2017. A major activity for this year is the full field test of the BaBar magnet, which is planned to occur in September 2017.

RHIC Users Meeting: The 2017 RHIC/AGS Annual Users Meeting will be held June 20–23 at BNL. The Users Meeting will feature a special session dedicated to BNL's 70th anniversary next year.

RHIC/AGS PAC: The annual meeting of the RHIC/AGS Program Advisory Committee will be held June 15-16, 2017. The STAR Collaboration has been asked to submit a Beam Use Proposal for the RHIC runs in 2018 and 2019 by May 15, 2017. Reports on the status of analyses of data from previous RHIC runs have been requested from PHENIX and STAR. In addition, the sPHENIX and STAR Collaborations have been invited to present Letters of Intent for proposals of modest forward upgrades to their detectors for data taking after 2021. The current members of the PAC are: H. Gao (Duke) J. Harris (Yale, chair), H. Huang (UCLA), V. Koch (LBNL), J.C. Peng (UIUC), S. Pratt (MSU), K. Rajagopal (MIT), A. Schäfer (Regensburg), and J. Velkovska (Vanderbilt).

eRHIC R&D: The EIC Accelerator R&D Community Panel that met late last year to hear presentations by BNL, Jefferson Lab, and university scientists on R&D needs for a future Electron-Ion Collider has issued its report containing a prioritized list of these R&D needs.

NAS Panel on EIC: The National Academy Panel studying the scientific case for a U.S. based Electron-Ion Collider commenced its work with a first meeting on February 1-2, 2017. The panel, co-chaired by Ani Aprahamian and Gordon Baym, will hold its next meeting on April 19-20 in Irvine. The panel has asked for presentations of the EIC science case by the Chair of the EIC Users Group and by selected senior theorists.

Quark Matter 2017: The 26th International Conference on Relativistic Heavy Ion Collisions and Quark Matter was held in Chicago, February 5-11, 2017. The RHIC and LHC heavy ion experiments presented a veritable flood of new results, including results from the recent high-luminosity Au+Au and d+Au runs at RHIC and the new high-energy Pb+Pb, p+p, and p+Pb runs at the LHC. Among the highlights of this year's *Quark Matter* conference were results unambiguously showing collective flow of heavy quarks in A+A collisions, evidence for collectivity in small systems from high-multiplicity d+Au collisions down to the lowest energy measured at RHIC, indications of shape fluctuations of the proton in p+A collisions, evidence for global vorticity of the quark-gluon plasma in off-central A+A collisions, and a growing trend to multi-parameter model-data comparisons. Björn Schenke (BNL) was honored with the Zimanyi Medal that has been awarded at each *Quark Matter* conference since 2011 to an outstanding young theorist.