

HEP Response to the Report of the High Energy Physics Advisory Panel (HEPAP) Committee of Visitors (COV) Review of HEP Research and Technology R&D Program

Dates of COV: Oct 1, 13, 21-22, 2020 (virtual)

Dates of HEP Response: Jan 12, 2021.

Program POC: Dr. Glen Crawford

	COV Recommendation	HEP Response
1	<p>Increase effort in the Experimental, Theoretical, Accelerator R&D and Detector R&D research programs in order to realize the promise of the portfolio of current and new experiments and to prepare for future endeavors. In the next year HEP should present a strategy to HEPAP for increasing the allocation to these programs by at least 4-5% per year until effort returns to the pre-P5 level, and should strive to return to 40% of HEP expenditures.</p>	<p>We understand the depth and breadth of this challenge, and its importance to the community.</p> <p>We agree that annual increases to core HEP Research, with an ultimate goal of returning to 40% of total HEP budgets, is an appropriate and important set of benchmarks, and we will strive to meet those goals.</p> <p>HEP will present a strategy to HEPAP in 2021 for increasing core Research budgets within the context of the FY2022 Budget Request and get further input from HEPAP.</p>
2	<p>Ensure that an adequate number (at least 3) of written reviews is in hand for each PI in advance of the panel review.</p>	<p>A minimum of three reviewers <i>per proposal</i> (not PI) is the current requirement (per SC merit review criteria).</p> <p>To minimize the overall burden of reviews on the community we often look for reviewers who can cover more than one research area so the total number or reviewers is often less than (3 x number of PIs), but since reviewer is asked to evaluate all PIs in their research area, each PI generally gets at least 3 independent evaluations.</p>

3	Solicit mail reviews as part of the laboratory comparative reviews. The mail reviewers should include university scientists.	HEP Will solicit mail reviews of laboratory proposals (FWPs) as part of the comparative review process for lab Research programs going forward. The next HEP lab comparative research reviews are planned for summer/fall 2021.
4	Develop guidance for mail-in and panel reviewers about proposal ratings in order to improve consistency.	HEP will develop additional guidance for mail-in and reviewers.
5	Inform review panels and mail-in reviewers about the impact of biases regarding gender, race, age, and institution.	HEP will develop additional guidance for mail-in and reviewers. See #4 above.
6	Set clear expectations for mail-in and panel reviewers that proposal evaluation should be based on proposal content and documented information, rather than on impressions or anecdotal information about prior performance by the PI(s).	HEP will develop additional guidance for mail-in and reviewers. See #4 above.
7	Promote the importance of effective mentorship as a consideration in the proposal review process.	Effective Mentorship of junior researchers is a Program Policy Factor in the FY21 HEP Comparative Review. HEP will consider incorporating Mentorship as an explicit additional merit evaluation criteria in the FY22 FOA cycle.
8	Work with SC for more timely release of FOAs in order to allow adequate time for proposal preparation and review and PI notification before the start of the award period. In the case of the Early Career awards, the timeline should accommodate both mini-panel and super-panel reviews.	HEP will work with SC to expedite the FY22 FOA process. The planned FY21 HEP Early Career timeline allows for both mini- and super-panel reviews, but HEP PMs have discretion on whether they want to employ mini-panels, depending on number and quality of applications received.

9	Notify PIs of award decisions promptly, whether positive or negative.	We endeavor to do this in all cases, but have generally opted to make decisions “in bulk” for large FOAs such as HEP Comparative Review so that all PIs are informed of decisions at approximately the same time. This means that some decisions wait until all reviews are finalized. HEP will consider setting internal deadlines for informal response to PIs and PAMS “Make Decision” tied to the application submission date.
10	Provide an explanation of funding decisions to PIs, particularly in the case of declined proposals or those with significant weaknesses.	We will work on improving consistency and clarity of Panel Summaries and Program Manger comments contained in PAMS reviews. HEP will develop guidance for Panel Summaries and Program Manager comments in written reviews.
11	Advise panelists to prioritize feedback to PIs through written reviews and/or summaries of panel discussions over detailed rankings of PIs and proposals.	See #10 above.
12	Implement measures to improve the collection of demographic data for participants in HEP processes (PIs, personnel supported by grants, reviewers, etc.).	HEP will work with SC working groups to develop and implement better demographic data for grant-supported personnel as well as reviewers. We understand this will be one of the initial activities of the SC DEI working group.
13	In consultation with SC, develop and implement strategies and policies to foster diversity, equity and inclusion in supported university groups as well as at the laboratories. The policies should be widely publicized to the community, for example through presentations to HEPAP and at PI meetings.	See #12 above.
14	Fill the open positions for a program manager for the AI/ML and HEP computing program and for a Theory IPA as soon as possible.	Job announcement for HEP AI/ML and Computing PM position to be opened Jan 2021. Search for a Theory IPA candidate is ongoing. HEP will form a small task group to identify and recruit possible IPA candidates.

15	Strengthen existing and explore new collaborative, multidisciplinary efforts that could advance the P5 science goals and increase the science productivity of the field.	<p>HEP is already optimizing interdisciplinary partnerships with QIS community through the core HEP-QIS Research. There are additional exciting opportunities for new collaborations in emerging and crosscutting science areas that could benefit HEP and advance P5 goals.</p> <p>We also note that the new cross-cutting and special initiatives office under the Principal Deputy Director of the Office of Science was stood up for this reason — to foster new multidisciplinary efforts across SC, and HEP is playing an active role in helping to launch some of those efforts.</p> <p>Identification of promising new interdisciplinary areas that can both have impact on and derive benefit from HEP will be one of the topics addressed in the just-launched National Academy of Sciences decadal survey of particle physics, as well as the community-led Snowmass planning process already underway. We look forward to those discussions and reports to help broaden and enrich the HEP landscape going forward.</p>
16	Seek an appropriate role for HEPAP in the future advisory processes for ARDAP.	<p>This is ultimately a SC Management decision. HEP will advise SC management on this issue.</p>
17	Generate a roadmap for investments in detector R&D based on future research needs of the field, with emphasis on innovation, including a substantial role for university-based R&D.	<p>HEP will follow the model of Accelerator R&D roadmaps developed after the GARD subpanel, and informed by the 2020 Detector R&D BRN Workshop Report. The HEP Detector R&D program manager will be tasked with identifying appropriate Roadmap areas and a process timeline.</p>

18	<p>Strengthen the HEP QIS program through 1) greater integration of traditional HEP research efforts with the QIS program; 2) clear articulation of QIS goals that capitalize on and advance HEP expertise; and 3) advancing QuantISED pilots that promise to address the P5 science drivers.</p>	<p>We understand the community concerns about the future direction(s) of the QuantISED program and the desire for a better definition of the scope of the program. We expect further evolution of the program based on the initial results and interactions with DOE/SC, the DOE QIS Centers, and other partners.</p> <p>We also expect important community and external input on HEP QIS efforts from the Snowmass and National Academy studies now underway (see also #15 above).</p> <p>HEP will solicit further community input on the status, future directions and goals of HEP QIS as the program matures, including potentially new workshops and/or HEPAP studies.</p>
19	<p>Develop a cross cutting view of the allocations in computing, software, and AI/ML broken down by program and type of cost (e.g., computing facilities, FTE, operations, R&D).</p>	<p>HEP Computing includes hardware and data management activities managed under Facilities as well as R&D and HEP applications managed under Research. An integrated view of these activities will aid in overall program management.</p> <p>This effort is currently being coordinated by an internal HEP working group. Ultimately this will be the responsibility of the AI/ML and Computing Program Manager (see #14 above).</p>

20	Establish a mechanism in consultation with HEPAP to advise HEP when a programmatic choice must be made that significantly deviates from the P5 plan or when the context for that choice has evolved significantly from P5 expectations	<p>The standard mechanism for such advice would be a request to HEPAP and/or a charge to form a subpanel to study the issue at hand.</p> <p>Should major programmatic choices arise which would incur a significant deviation from the P5 plan; or, if the context of such choices has evolved significantly from P5 expectations, such that further community input is desirable, the HEP Associate Director will, in consultation with NSF, recommend to the SC Director that the advice of HEPAP be sought on the matter.</p>
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