

Dear Colleagues,

The 2023 Particle Physics Project Prioritization Panel (P5) report will be released at the upcoming High-Energy Physics Advisory Panel (HEPAP) [meeting on Dec. 7-8, 2023](#). This major update of the 2014 P5 report will be based on input provided by the 2021 Snowmass Community Planning Process, additional input collected by P5, and the recently released report from the International Benchmarking HEPAP subpanel. The report will provide a strategic plan for U.S. high-energy physics over the next 10 years within the context of high-energy physics worldwide over the next 20 years.

Community support and advocacy for this new P5 plan will be crucial if it is to successfully foster robust investment in high-energy physics in the U.S. in the coming decade. With this in mind, we are writing to share some background information. As soon as the P5 report is available we hope you will read it carefully and consider the issues discussed from the perspective of achieving a balanced program based on scientific priorities and consistent with the budgetary constraints specified. Specifically, we call your attention to these items:

- The previous [2014 P5 report](#), “Building for Discovery,” presented a strategic plan for U.S. high-energy physics by identifying five “science drivers” spanning the field and suggested a program to make progress on the identified questions through a comprehensive program including continued U.S. participation in LHC, HL-LHC, LBNF/DUNE, PIP-II, and a suite of dark matter, rare process and precision measurements, and astroparticle physics experiments. The 2014 P5 subpanel recommendations received the [endorsement](#) of over two thousand members of our community. The report, its demonstrated community support, and the [continuing yearly process](#) of advocacy for high energy physics reinforcing the program envisioned by the P5 subpanel have been remarkably successful. The total DOE HEP budget has grown from approximately \$797M in FY2014 to \$1,166M in FY2023, and we have seen important investments in our scientific programs.
- The [charge to the current P5 subpanel](#) in constructing a new strategic plan comprises a reassessment of the 2014 P5 science drivers, an evaluation of ongoing projects and identification of potential new projects now needed to address the science, a description of the physics case for new facilities and capabilities to enhance U.S. leadership and partnership in high-energy physics, and the recommendation of a program portfolio for the next 10 years within the context of high-energy physics world-wide over the next 20 years.
- Community input to the 2023 P5 process has been collected in various ways. First, major input is taken from the [Snowmass 2021 US Community Study on the Future of Particle Physics](#). The P5 charge itself refers to several high-priority issues identified at Snowmass, including the issues of balancing the portfolio of large, medium, and small projects, and the need to support new projects while also supporting ongoing research in theory, experiment, instrumentation, and accelerator technology. The charge also cites the need to create a diverse and inclusive workforce and asks that the panel recommend strategic actions to address or mitigate barriers to achieving this goal. In addition, the P5 panel held a series of Town Halls, provided opportunities for individuals or groups to provide written input, and gave multiple presentations in various venues, as [described here](#).
- Crucially, [the charge](#) asks the P5 subpanel to construct recommendations based on specific budget scenarios. A [description of what these scenarios mean in the context of ongoing and proposed projects](#) was provided during the August 7, 2023 HEPAP meeting. Under the budget scenarios specified, nearly all of the funds available for projects during the next five years are

committed to ongoing programs, such as Dune Phase I, HL-LHC, LSST/Vera Rubin Observatory, and Mu2e. Even beyond the first five years, the lower budget scenario fails to keep up with inflation and leaves little room for any new projects to be considered during the next 10 years. While the higher budget scenario provides some headroom for new high-priority projects to be launched, tough choices will need to be made even in this case as the full menu of projects proposed at Snowmass would require more than double the available funds over the period considered. The panel will also provide recommendations of how additional funds, if they are forthcoming, could be used to enhance and extend the program to provide even greater scientific impact.

The lesson from the success of the 2014 P5 subpanel report is clear: our field benefits when we can provide a compelling scientific vision that is supported by a unified U.S. high-energy physics community and which demonstrates our understanding that tough choices need to be made to construct a realistic program. We hope you will view this report in the context of the field as a whole, understanding that it is fiscally impossible for all meritorious projects to be supported, and consider carefully whether, as approved by HEPAP, the new report deserves your support. Further information about the P5 process and the U.S. high-energy physics program is available at <http://usparticlephysics.org>.

If all goes as expected, the P5 report will be adopted by HEPAP on Dec. 8 by the end of their meeting. To engage with the community with this new report and address questions about it, a P5 report (hybrid) Town Hall will be held at FNAL from 1-4pm (with reception to follow 4-6pm) on Monday, Dec. 11. Details (including registration instructions and, shortly, a mechanism for asking questions of the P5 panel) can be found at this [Indico site](#). The Town Hall will include a presentation by P5 Chair Hitoshi Murayama and Deputy Chair Karsten Heeger, and time for Q&A. For those unable to attend in person, we encourage laboratory and university groups to arrange to watch the Town Hall together at a local venue and discuss the report.

While none of us know the details of the upcoming report, we trust that our P5 colleagues will provide a roadmap for a strong U.S. high-energy physics program for the coming decade that balances the different scientific priorities within budgetary constraints, and will provide a basis for a healthy program for U.S. leadership and global partnership for the next 10 years and beyond. We will be in touch by mid-December with a statement of support for the P5 report which we will ask you to consider signing.

Sincerely,

R. Sekhar Chivukula, UC San Diego, DPF Chair
Joel Butler, Fermilab, DPF Past Chair
André De Gouvêa, Northwestern, DPF Chair Elect
Heidi Schellman, Oregon State University, DPF Vice Chair
Kelly Stifter, SLAC, DPF Early Career Representative
Harvey Newman, Caltech, Chair US LHC Users Executive Committee
Caterina Vernieri, SLAC, Chair SLAC Users Organization
Jane Nachtman, University of Iowa, Chair Fermilab Users Executive Committee