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# P5 Status

HEPAP Discussion  
7 December 2013

S. Ritz

<http://interactions.org/p5>

## Charge: Deliverables (1)

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- *“...develop an updated strategic plan for U.S. high energy physics that can be executed over a 10-year timescale, in the context of a 20-year global vision for the field.”*
- *“...an assessment of the current and future scientific opportunities over the next 20 year period.”*
- *“...a critical examination of the investments...to ensure the vitality, scientific productivity, and discovery potential of U.S. high energy physics research...”*
  - *“...examine current, planned, and proposed U.S. research capabilities and assess their role and potential for scientific advancement;*
  - *assess their uniqueness and relative scientific impact in the international context; and*
  - ***estimate** the time and resources (facilities, personnel, R&D and capital investments) needed to achieve their goals...technical readiness and feasibility...”*
- *“...consider the appropriate balance of small, mid-scale, and large experiments and identify, where possible, multiple or complementary pathways to address the important scientific questions.”*

# Back in September...

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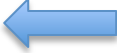
## Community

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- Snowmass output is essential input to P5.
- Most meetings will have public components, geographically distributed.
- In addition to all the other work to set up P5, we have been talking extensively with community members about P5, the process, and the issues. This will continue.
- P5 website under construction. Will be updated frequently with news and information. In addition, an input portal is being set up.
- Community buy-in is critical to our success.
  - Process as it develops will be inclusive and clear
  - Rationale for the choices must be articulated
  - Note that it is possible to support a plan even if it doesn't match one's specific taste in physics.
  - Work will continue after the report is complete.
- HEPAP has very important roles throughout this process.

# Status: Summary of Activities

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- P5 Website <http://interactions.org/p5> 
  - News (w/RSS)
  - **Web Submissions Form** (27 as of 3 December)
  - Meetings and webcast info
  - Also have internal P5 set of web-based tools
- Meetings:
  - Three face-to-face meetings (see agendas, all linked to P5 website)
    - Huge amount of work done, community is extremely responsive and helpful!
    - Meeting host labs GREAT support, much appreciated.
    - P5 alone time
    - Face-to-face meetings planned for January and February, more to follow.
  - **Town Halls**
    - Unstructured, open time. Reception afterward for additional discussions.
  - Three 90-minute phone calls so far before/between face-to-face meetings to keep work moving forward. This will continue. Panel is fully engaged and is working hard.
- We have a great panel!
  - deep expertise, well matched to our deliverables
  - wisdom and ability to think broadly about the whole field, not as representatives of particular constituencies.
  - working very well together

# Status: Additional Topics

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- Taking advantage of other ongoing studies. Paying close attention to process and scope...and to the calendar!
- Thinking carefully about report structure and effectiveness:
  - Length
  - Narratives (what do we want to learn, how do we want to get there, how do the pieces fit together, what is essential and why?)
  - Global context and interdependencies
  - Also starting to think about how to communicate results, both within our field and beyond.
  - Scientifically, this is a GREAT TIME in particle physics!
- Community
  - Input and feedback is necessary throughout the process. Multiple community emails, including targeted messages to younger physicists.
  - Need HEPAP's help:
    - Feedback on our process – how are we doing with community engagement; anything missing?
    - Feedback on preliminary findings (1 March)
    - Feedback on draft report (suggest we plan to deliver around 10 April, request detailed comments by 17 April).
    - Help communicating the results within our field, to decision makers, and to our colleagues in other fields. Strong community buy-in, including by those whose projects do not go forward, is necessary for success.

# Discussion

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# Additional Slides

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# From September Presentation

## Charge: Deliverables (2)

- “...examine the need to maintain a healthy and flexible domestic infrastructure so that the U.S. high energy physics program can deliver science results regularly throughout the coming decade.”
- “...include an explicit discussion of the extent to which it is necessary to construct, maintain, and/or upgrade leading domestic HEP facilities in order to maintain a leadership position in this global scientific effort, while at the same time maintaining a healthy balance that preserves essential roles and contributions for national laboratories and universities and enables opportunities for global coordination of large initiatives.”

5 September 2013

S. Ritz P5

4

## Charge: Deliverables (3)

- “...articulate...the approximate overall level of support that is needed in the HEP core research and advanced technology R&D programs to achieve these opportunities in the various scenarios.”
- “...provide a detailed perspective on whether and how the pursuit of possible major international partnerships (such as LHC upgrades, Japanese-hosted ILC, LBNE, etc.) might fit into the program...in each of the scenarios.”

5 September 2013

S. Ritz P5

5

## Charge: Deliverables (4)

- “We would find it useful if your report can update the discussion of the scientific questions that drive the field... also crisply articulate the value of basic research and the broader impacts of high-energy physics on other sciences and on society, including the impacts of training of particle and accelerator physicists.”
  - “...effective communication about the excitement, impact, and vitality of high-energy physics...will be critical in making the case for the new strategic plan.”
  - There are two supporting reports (broader science impacts and broader technology impacts), currently under construction, which will be helpful inputs to P5. See J. Siegrist presentation.

- **Preliminary comments by 1 March 2014**
- **Final report by 1 May 2014**

5 September 2013

S. Ritz P5

6

7 December 2013

S. Ritz P5

8



## Charge: Scenarios

- Ten-year budget profiles:
  - A. *FY2013 budget baseline: flat for 3 years, then +2% per year.*
  - B. *FY2014 President's budget request baseline: flat for 3 years, then +3% per year.*
- Notes:
  - We will likely assume inflation at 2% per year. Some implications.
  - Difference between scenarios integrated over the decade is ~\$530M.
  - ***“...consider these scenarios not as literal budget guidance but as an opportunity to identify priorities and make high-level recommendations.”***
  - *“...budget scenarios should not drive the prioritization to the degree that projects are promoted solely for their ability to fit within an assumed profile”*
  - *“...articulate the science opportunities which **can and cannot be pursued...**”*
- C. *Unconstrained budget scenario*
  - Beyond A. and B., prioritize projects *“...needed to mount a leadership program addressing the scientific opportunities identified by the research community.”*

5 September 2013

S. Ritz P5

# Budget Scenarios

## Charge: Scenarios

### Additional notes:

- (Repeating) ***“...consider these scenarios not as literal budget guidance but as an opportunity to identify priorities and make high-level recommendations.”***
- We are not being asked for an explicit ranked list in a prescribed order. Instead:
  - State clearly the most important next steps for our field, what is needed, and why. Show clearly how it fits together. “Wow” the reader.
  - Make the difficult choices and explain them. In addition, we are invited to dream big (within reason) -- big, new initiatives are not impossible. **The report can do both.**
  - Agencies will look for every opportunity to make these projects happen. Flexibility in the advice is helpful.

7 December 2013

S. 5 September 2013

S. Ritz P5

8