Physics Division 2015 Committee of Visitors (PHY COV)

Met at NSF, Feb 4-6, 2015

Written report submitted March 6, 2015

Presentation to MPSAC
Eric Cornell
4/3/2015
Physics Division 2015 Committee of Visitors (PHY COV)

The charge:

The COV was charged to address and prepare a report on:
- the integrity and efficacy of processes used to solicit, review, recommend, and document proposal actions;
- the quality and significance of the results of the Division’s programmatic investments;
- the relationship between award decisions, program goals, and Foundation-wide programs and strategic goals;
- the Division’s balance, priorities, and future directions;
- the Division’s response to the prior COV report of 2012; and
- any other issues that the COV feels are relevant to the review.
The COV: 30 members, 10 subcommittees. Subcommittee Chairs in Red.

**COV Chair**,  
Eric Cornell, JILA

**Physics of Living Systems**  
Jose Onuchic, Rice  
Ringe Dagmar, Brandeis  
Ranajeet Ghose, CUNY

**EPP Theory and Math Phys**  
Sally Dawson, BNL  
Joanne Hewett, SLAC  
Marcela Carena, Fermilab

**AMOP Theory+Exp, QIS**  
Chris Greene, Purdue  
Linda Young, ANL  
Fred Driscoll, UCSD  
Gerald Gabrielse, Harvard

**Nuclear Physics**  
Roxanne Springer, Duke  
Julie Roche, Ohio U.  
Helen Caines, Yale

**EPP Exp and Grid Comp.**  
Gabriella Sciolla, Brandeis  
Michael Hildreth, Notre Dame  
Herman White, Fermilab

**Particle Astrophysics**  
Lucy Fortson, Minnesota  
Pierre Sokolsky, Utah  
Betty Young, Santa Clara

**Integ. Activities in Physics**  
Cathy Mader, Hope College  
Marco Cavaglia, Mississippi

**Accelerator**  
Fulvia Pilat, JLAB  
Pietro Musumeci, UCLA

**PFC +Midscale+ Comp. Phys.**  
Jonathan Bagger, TRIUMF  
Paul LaMarche, Princeton  
Amber Boehnlein, Stanford

**Gravity (inc. LIGO)**  
Jeffrey Livas, NASA  
Jorge Pullin, LSU  
John Friedman, Wisconsin-Milw.
The Report:

“[O]nly the exhaustive can be truly interesting.”
Thomas Mann, preface to *The Magic Mountain*, his novel of 722 pages.
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Thomas Mann, preface to *The Magic Mountain*,
his novel of 722 pages.

“You will want to read every page.”
The 2015 PHY Committee of Visitors, in reference to their report of 110 pages.
The Division:

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<th>FY2012</th>
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<td>Research Project Support</td>
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<td>Facilities</td>
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<td>Total</td>
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**FY12-14 Research Project Support**
The Division:

PHY funds grants that differ by more than a factor of 1000 in dollar amount.

Topics range from neutrino oscillations to biomechanics.
Some key findings and recommendations:

1. Approach to reviewing.
2. Management in the Time of Budget Stress
3. Data Collection re Broadening Participation
4. Portfolio management
1. Approach to reviewing.

We looked at 100s of jackets, and were uniformly impressed with quality, rigor, fairness, of process.

We like the multi-tiered approach. Robust to flaws in individual elements of process. Labor intensive, but “the gold standard.”

Program officer remains key figure. Nurture, retain, don’t burn them out.
2. Management in the Time of Budget Stress

Dehmer and Caldwell became Caldwell and Keister. Lots of other personnel changes. Meanwhile, the rescission!

It could have been really bad.

Disaster averted. Short-term and long-term balanced. Tough choices: approach hard-nosed but transparent.

COV feels confident in leadership and whole staff.
3. Data collection re broadening participation.

Broadening Participation persistent problem especially with respect to URM.

Hard to fix what you can’t measure.

Problem both in collection and distribution of data. (Not just PHY.)

Example: REU programs. But issue at all levels.

Privacy issues aren’t insurmountable. (cont’d)
3. Data collection re broadening participation (cont’d)

Circular problem.

Recommendation: Trigger for data collection.

“Don’t wish to reveal”, means can nudge PIs.

After data is collected, how can it be looked at. Foundation-wide issue.
4. Science-driven portfolio approach

program-driven vs science-driven

COV really likes the PHY emphasis on latter.

Good for: communicating with public; demonstrating alignment with National Priorities; management and balance!