



# News from DOE OHEP

## HEPAP Meeting

February 24, 2009  
Washington, D.C.

**Dennis Kovar**  
**Associate Director of the Office of Science**  
**for High Energy Physics**

# Looking Back: The Year in Review

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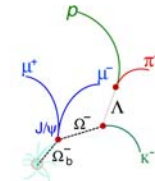
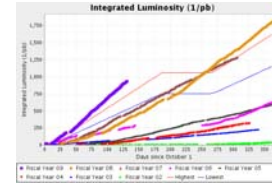
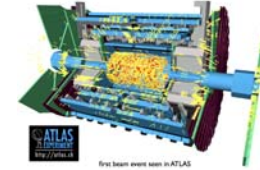
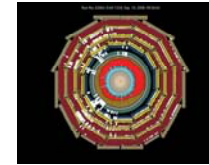
- **Dealt with a large funding reduction (-8.4%)**
  - Most serious impacts were mitigated
  - Productive year (given the context)
  - Delivered outstanding science
- **Developed (with the scientific community) a new strategic plan for U.S. HEP**
  - Particle physics at three scientific frontiers
  - A U.S. role that will deliver significant outcomes
  - Realistic and robust to funding/scientific discoveries
- **Reorganized the HEP Office and how it does business**
  - Funding is directed to achieve strategic goals
  - Funding is managed to optimized performance and deliverables
  - An office staff that can effectively manage the program

**It's worth taking a moment to mark the scientific progress...**

# Science Highlights: At all three Frontier

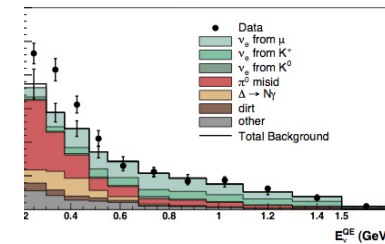
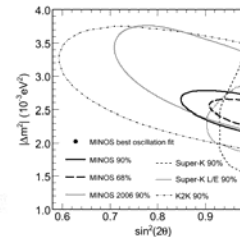
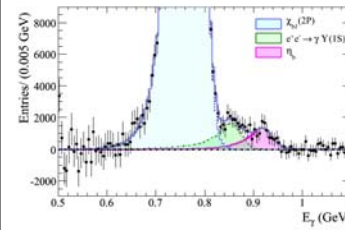
## Energy Frontier

- Operation of LHC  
 (AIP Top Ten Story)
- Tevatron (Performance/Experimental Results)  
 (AIP Top Ten Story)



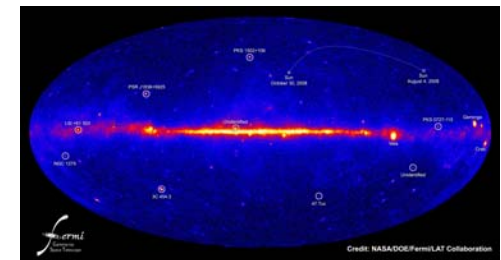
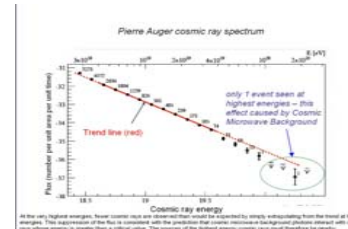
## Intensity Frontier

- BaBar discovery of bottomonium ground state  
 (AIP Top Ten)
- Results from MiniBooNE and MINOS



## Cosmic Frontier

- Pierre Auger  
 (AIP Top Ten Story)
- Fermi (GLAST)



# The Budget Challenge

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Three fiscal years and one stimulus bill in play:

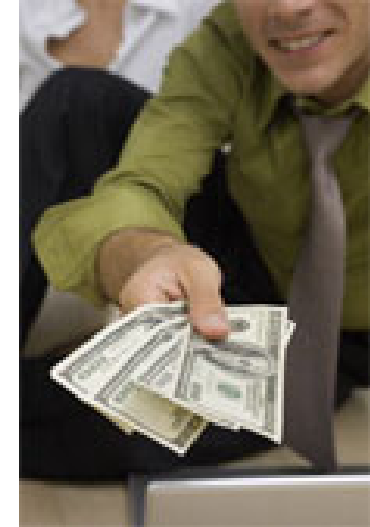
- **FY 2009 American Recovery and Reinvestment Act (ARRA)**
  - \$1.6B for DOE Office of Science
  
- **FY 2009 Appropriations**
  - Continuing Resolution or President's Request?
  
- **FY 2010 Congressional Request**
  - Not formally submitted to OMB yet. Internal discussions only
  
- **FY 2011**
  - In Planning stages

**I can't talk about any of these!**

# American Recovery and Reinvestment Act

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- President signed the FY 2009 American Recovery and Reinvestment Act (ARRA) on February 17, 2009
- One of the goals is to restore science and innovation as keys to economic growth
- DOE/SC received \$1.6 B and has proposed how to allocate the funding
- The Administration (OMB):
  - needs to approve the proposed allocation
  - has issued guidance on how the funding will be tracked
- OHEP has proposed to allocate funding consistent with
  - creation of jobs
  - investments in scientific infrastructure



There will be extensive “tracking” required from the laboratories, universities and industries that obtain ARRA funds

# FY 2009 Budget Status

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- **Continuing Resolution (CR) in effect through March 6**
- **Funding at the FY 2008 Appropriation level of \$689 Million**  
**Supplemental Funding of \$32M not counted**
- **Several possibilities exist**
  - Congress extends CR past March 6**
  - Congress signs Omnibus Bill before March 6—ends CR**
  - Omnibus Bill signed after March 6—ends CR extension**
- **President's Request is \$805 M**
  - Both House and Senate Marks for HEP at the Request**

# FY 2009 Program Status

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**Overall the program the program can survive CR until end of March**

**Because of:**

- **FY 2008 supplemental funding**
- **Termination of B-Factory operations**
- **Change in responsibilities for GPP**

**This allows:**

- **Tevatron operations to be supported until March**
- **LHC detector operations support issues to be addressed**
- **Research programs to provide +1% over FY 2008 level**
- **ILC and SRF R&D support to be restored to manageable levels**
  
- **Most projects were held to FY 2008 levels (may be some delays)**
- **NOvA has enough funds to stay on rebaselined schedule**

**If CR continues beyond March things begin to fall apart!**

# FY 2009 CR Budget

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY09 Jan</u>	<u>vs FY08</u>
Fermilab Accelerator Complex Operations	145.1	151.0	139.1	-7.9%
ATLAS/CMS M&O/Computing	56.8	65.6	65.3	-0.4%
Electron Based Facilities	79.0	36.5	17.0	-53.5%
<b>Facility Operations</b>	<b>280.9</b>	<b>253.1</b>	<b>221.4</b>	<b>-12.5%</b>
Proton Research	110.0	122.9	114.0	-7.2%
Electron Based Research	22.3	20.7	16.5	-20.5%
Non-Accelerator	58.3	63.3	65.8	3.9%
Theory	59.1	60.0	60.6	0.9%
<b>EPP Research</b>	<b>249.7</b>	<b>267.0</b>	<b>256.9</b>	<b>-3.8%</b>
Accel Science	37.4	45.1	34.2	-24.2%
General Accel Development	32.2	46.9	32.9	-29.8%
Superconducting RF	24.6	8.4	19.2	128.4%
ILC R&D	41.7	14.8	29.5	98.9%
Detector Development	31.7	22.9	25.4	10.7%
<b>Advanced Technology R&amp;D</b>	<b>167.7</b>	<b>138.1</b>	<b>141.2</b>	<b>2.2%</b>
<b>Core Research</b>	<b>417.5</b>	<b>405.1</b>	<b>398.0</b>	<b>-1.8%</b>
Project - NOvA	12.5	12.0	24.9	106.9%
Project - Minerva	4.0	7.2	4.1	-42.8%
Daya Bay	1.0	6.9	6.9	0.0%
LHC Detectors	3.2	0.0	0.0	
LHC Accelerator Upgrade Phase I	0.0	0.0	1.0	
DES	1.4	5.5	7.3	31.9%
<b>Projects</b>	<b>22.0</b>	<b>31.6</b>	<b>44.2</b>	<b>39.7%</b>
<b>Other (GPP/GPE/SBIR/STTR)</b>	<b>12.1</b>	<b>13.0</b>	<b>25.7</b>	<b>97.7%</b>
<b>High Energy Physics</b>	<b>732.4</b>	<b>702.8</b>	<b>689.3</b>	<b>-1.9%</b>



# FY 2010 Budget

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- DOE SC has obtained budget guidance for FY 2010
- SC has allocated funding for science programs
- OHEP will be making presentation to OMB this week
- Budget Narratives are due early March
- Expectations that President's FY 2010 Budget released in April

## **ARRA funding could reduce out-year commitments**

- **Could changes plans**
- **Could change funding**

# FY 2011 Budget Process

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- **FY 2008/FY 2009 Reviews and Briefings**
  - Fermilab and SLAC Reviews
  - Theory and Accelerator Science Laboratory Groups Reviews
  - Particle Data Group Review, BELLA/FACET Review
  - Detector R&D and General Accelerator Development Briefings
  - LARP, LHC, LQCD. SciDAC, etc.
  
- **Laboratory Management Budget Briefings Scheduled**
  - Feb 23: LBNL / Feb 26: FNAL / Feb 27: ANL
  - March 3: SLAC / March 4: BNL
  
- **OHEP Retreat - March 18-20**
  
- **FY 2011 HEP Budget submissions**
  - to SC in April
  - To DOE in May-June
  - To OMB in August
  
- **OMB Passback in November**
  
- **FY 2011 HEP Congressional Budget in December**

# Some things other than Budget!

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## Response to recommendations in P5 Report

- DOE/NSF charge to HEPAP for a review of particle astrophysics program
- Plans to organize an Accelerator R&D Workshop

## Updates on Programmatic Activities

- Cosmic Frontier
- Intensity Frontier

## Office Activities

- OHEP Personnel Changes
- New Positions to be filled in the Office

# Accelerator R&D Workshop

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- OHEP historically has been the steward of advanced accelerator R&D for DOE (particle physics and SC programs)
- Accelerators now play an important role in areas beyond scientific research
- OHEP and SC believes that this stewardship should be informed and responsive to national needs
- At an early planning stage of an Accelerator Workshop to address the R&D needs of broad group of stakeholders
  - **Medicine**
  - **Homeland Security**
  - **Industry**
  - **Basic Science**
- Stakeholders will play major role in workshop
- Tentative date: August 2009

# Accelerator R&D Workshop

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- **Workshop goals are to identify/understand:**
  - **Role of accelerators in society**
  - **Current status with regard to capabilities, costs, and deployment**
  - **Stakeholder requirements (intensity, resolution, timing, and energy)**
  - **Organization of current accelerator R&D efforts**
  - **Path forward to meet society's needs**
- **A report will be generated to document the findings and the recommendations of the workshop**
- **If appropriate, more workshops may be planned to address specific scientific and technical challenges identified by this workshop**

## Some activities at the Cosmic Frontier

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- **National Academy of Science Astronomy and Astrophysics Decadal Survey (Astro2010) well underway**  
**Roger Blandford is the Chair; still finalizing appointment of Subcommittees (320 science white papers received by 2/15/09)**
- **JDEM: European Space Agency has joined**  
**Combining JDEM and Euclid will ensure a strong dark energy mission. Agencies relooking at their roles and responsibilities**
- **Baryon Oscillation Spectroscopic Survey (BOSS)**  
**Dark Energy study on Sloan Digital Sky Survey phase III**  
**DOE HEP provided R&D and instrumentation funds in FY07 & FY08**  
**DOE recently approved operations funding starting in FY09.**  
**NSF and Sloan Foundation are also providing funds.**
- **Alpha Magnetic Spectrometer (AMS)**  
**Now on the Shuttle manifest for 2010**

# Intensity Frontier DUSEL

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- OHEP participated in the first meeting of the DUSEL Joint Oversight Group (JOG)
- DUSEL JOG:
  - comprised of representatives of NSF/Physics, DOE SC HEP and DOE SC NP
  - established to keep the agency offices informed on status of DUSEL
  - established to coordinate planning on possible experiments at DUSEL
- At December meeting:
  - NSF outlined the status of their planning for DUSEL
  - DOE HEP and NP outlined their plans for possible experiments.
  - HEP discussed how it planned to proceed within DOE on pursuing a Long Baseline Neutrino Oscillation Experiment (LBNE) Major Item of Equipment.
- OHEP has been invited to participate as observers at NSF reviews:
  - **January DUSEL Project Review at LBNL**
  - **S4 reviews and panels**



# Intensity Frontier

## Long Baseline Neutrino Experiment (LBNE)

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- **The two agencies are supporting each other to achieve their shared scientific goals. The model under consideration is:**
  - NSF will lead the design, construction and operation of DUSEL, with support from DOE for individual experiments therein.
  - DOE will lead the design, construction and operation of the LBNE beam and detector, with support from NSF for elements of both.
  - It is understood that both efforts are subject to approval by the respective agencies, the administration (OMB/OSTP) and Congress.
  
- **Each agency will follow its own procedures and project management policies in exercising its roles. The DOE procedure for LBNE is:**
  - OHEP is seeking approval from the Department for approval of Mission Need (CD-0) for the LBNE project.
  - OHEP has identified FNAL, working with BNL, to take responsibility for performing the work needed for approval of CD-1 (Exploration of Alternatives). This includes conceptual design, alternatives analysis, etc.
  - One of the alternatives that will be examined will be the one with Homestake as the site, where the NSF will take responsibility for the cavity, as part of the DUSEL scope, and DOE will take responsibility of the instrumentation and data handling, with NSF contributions.
  - With the approval of CD-0, DOE R&D funds will be made available to support this work, which is expected to involve participants from laboratories and universities.
  
- **DOE and NSF will work together closely to coordinate their efforts, avoid duplication, and optimize their investments.**

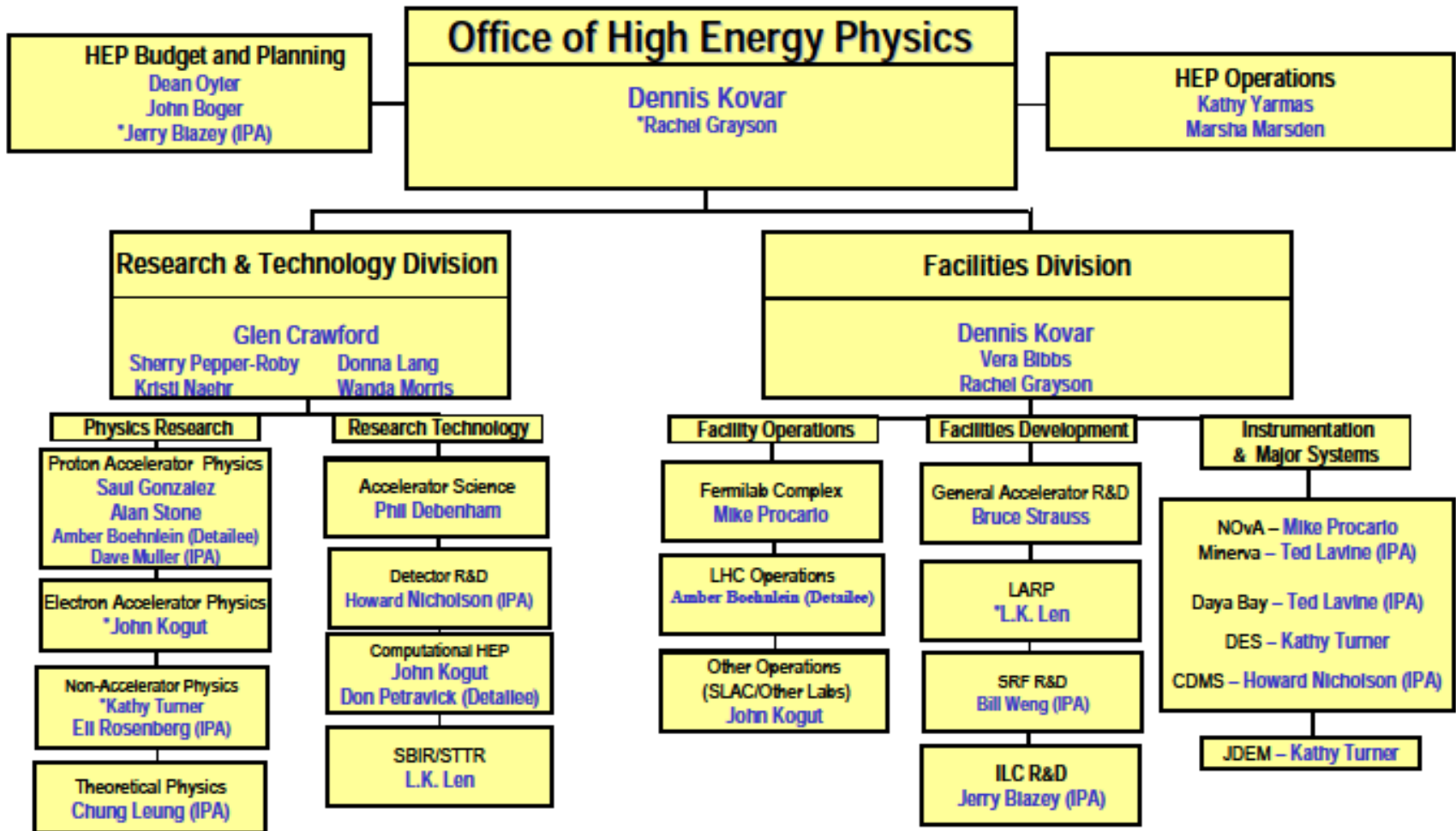


# OHEP Personnel News

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- **Welcome**
  - **Alan Stone, Proton Accelerator Physics**
  - **John Boger, Budget and Planning**
  
- **Open Positions (to be advertised)**
  - **Program Manager Non-Accelerator Research**
  - **Program Manager Instrumentation**
  - **Program Manager Theory**

# OHEP Organization Chart



\*Denotes base position