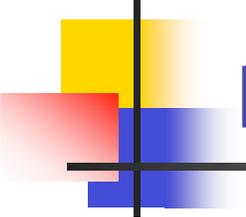


EPP2010 Report

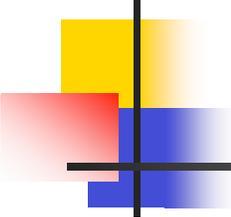
Jonathan Bagger

Presentation to HEPAP, 02/14/05



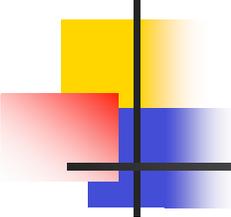
EPP Decadal Survey

- Most recent Decadal Survey in Elementary Particle Physics was completed in 1998
- But since then, much has changed
 - Discovery of Dark Energy
 - Connections with Astronomy
 - Physics of the Universe
 - Discovery of Neutrino Mass
 - Connections with Nuclear Physics
 - APS Neutrino Study
 - Precision Electroweak Measurements
 - World consensus on Linear Collider
 - ITRP technology choice



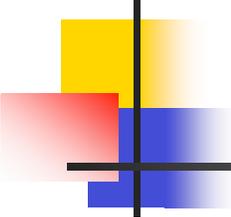
EPP Decadal Survey

- A new Survey is needed to
 - Lay out the grand questions that are driving our field
 - Find the opportunities that are ripe for discovery
 - Identify the tools that are necessary to achieve the scientific goals
 - Articulate the connections to other sciences and to society at large
 - Foster emerging collaborations with scientists around the globe
 - Recommend a realistic implementation plan



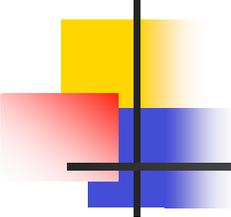
EPP2010 Charge

- Committee is charged to
 - Identify, articulate, and prioritize the scientific questions and opportunities that define elementary particle physics
 - Recommend a 15-year implementation plan with realistic, ordered priorities to realize these opportunities
- Emphasis on ranking science priorities
 - The NRC, HEPAP, NuSAG and P5 all have important roles to play. Communication is essential!



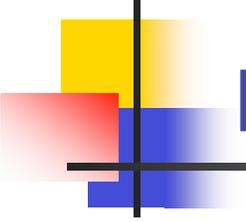
EPP2010

- Study will build on many earlier studies
 - *Quantum Universe* (HEPAP)
 - *The Science Ahead, The Way to Discovery* (HEPAP)
 - *Physics of the Universe* (OSTP)
 - *Office of Science 20-year Facilities Outlook* (DOE)
 - *Quarks to the Cosmos* (NRC)
- No need to reinvent the wheel...



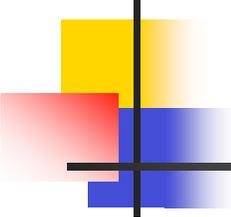
Committee Members

- N. Augustine (Lockheed Martin)
- J. Bagger (JHU) BPA Liaison
- P. Burrows (London)
- S. Dawson (BNL) *Vice-Chair*
- S. Faber (UC Observatories)
- S. Freedman (UC Berkeley)
- J. Friedman (MIT)
- D. Gross (UC Santa Barbara)
- J. Hezir (EOP Group)
- N. Holtcamp (ORNL)
- T. Kajita (Tokyo)
- N. Lane (Rice)
- N. Lockyer (Penn)
- S. Nagel (Chicago)
- H. Quinn (SLAC)
- R. Patterson (Cornell)
- C. Shank (LBNL)
- H. Shapiro (Princeton) *Chair*
- P. Steinhardt (Princeton)
- H. Neal (Michigan)
- H. Varmus (MSK)
- E. Witten (IAS)



Not your Usual Committee

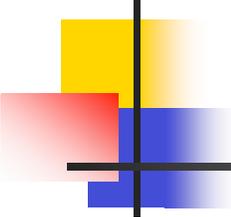
- Non-physicists
 - Strengthen connections with society / values
 - Sharpen physics questions
- Non-particle-physicists
 - Engage other scientific communities
- International representation
 - Place US particle physics in an international setting
- Overall goal: To present a compelling vision for our field and to create an action plan that will allow us to achieve our goals



Work Plan

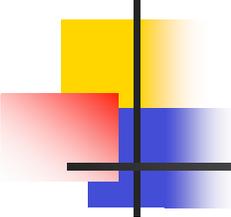
- 1st meeting in Washington, Nov 30 - Dec 1, 2004
- 2nd Meeting at SLAC, Jan 30 - Feb 1, 2005
- 3rd Meeting at Fermilab, May 16 - 17, 2005
- 4th Meeting at Cornell, Aug 2 - 3, 2005
- Goal: Report by Dec, 2005

Also: Field trips to CERN, DESY, KEK



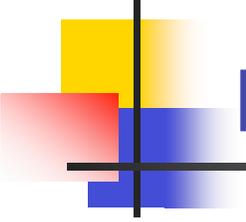
Washington Meeting

- Physics Presentations
 - Chris Quigg, Joe Lykken, Persis Drell
- Agency Perspective
 - Michael Turner, Robin Staffin
- Prioritization
 - Pat Looney, Chris McKee, Abe Seiden, Barry Barish
- DPF Town Meeting
 - Michael Tuts, Daniela Bortoletto, Paul Avery, Keith Baker, Gustaaf Brooijmans, Bonnie Fleming, David Kaplan, Peter Rosen, George Sterman, Mark Trodden, Chris Tully



SLAC Meeting

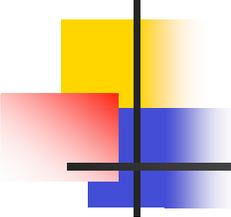
- LHC / LC Physics
 - Ian Hinchliffe, Hitoshi Murayama, JoAnne Hewitt
- Flavor Physics
 - Bob Cahn, Boris Kayser
- Astrophysics
 - Steve Kahn
- DPF Town Meeting
 - Bill Carithers, Jon Jaros, Blas Cabrera, Eckhard Elsen, Gregory Dubois-Felsmann, Peter Gorham, Peter Saltzberg, Tor Raubenheimer, Natalie Roe, Bruce Schumm, Peter McIntyre



Fermilab, Cornell Meetings

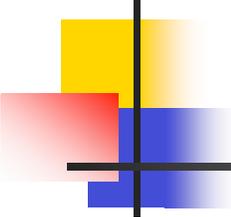
- Fermilab
 - Accelerator-based program
 - International perspective
 - Selected topics in nonaccelerator physics
- Cornell
 - Connections to astronomy and astrophysics
 - Other topics as necessary

The DPF will organize Town Meetings at each of these events



Reflections

- The Committee is coming together nicely
 - Outsiders are receiving tutorials from insiders
 - Insiders are receiving tutorials from outsiders
- The Committee is asking the right questions
 - The community had better be able to answer them!
 - The outsiders see through cheap and easy answers
- The Committee's leadership is outstanding
 - Harold Shapiro and Sally Dawson are working together seamlessly
 - They are taking their responsibility very seriously



Community Input

- Open forum at every meeting
 - Organized by DPF Executive Committee
- Email to epp2010@nas.edu
 - All communications are public. Click on
 - www.nationalacademies.org/bpa/EPP2010.html

It is essential that the Committee receive crisp and clear answers to the questions it asks