

# WELCOME

J. Rosner – “Snowmass on the Mississippi” – July 29, 2013

Organized by DPF to discuss long-range US HEP plans

Meeting July 29 - August 6 sums up efforts of eight working groups

Web site <http://www.snowmass2013.org/>

Plenary talks today, August 5, and half of August 6

7/30–8/4: Parallel sessions (inter-group discussions), colloquia (early PM; non-experts welcome), panels (late PM)

Colloquia and panels to have ample time for audience participation

“Elevator speech” initiative between early sessions

Two days of Snowmass-related reports at DPF 2013

University of California at Santa Cruz, August 13-17

Web site <http://scipp.ucsc.edu/dpf2013/>

Register by July 30; DOE approval received

# DPF LEADERSHIP

## Chair line

Past chair: Pierre Ramond (Chair in 2012)

Chair: Jonathan Rosner (2013)

Chair-elect: Ian Shipsey (Chair in 2014)

Vice-Chair: Nick Hadley (Chair in 2015)

Secretary-Treasurer: Howie Haber (2013-2015)

Councillor: Marjorie Corcoran (2010-2013)

## Executive Committee members:

Jonathan Feng (2011-2013)

Nikos Varelas (2012-2014)

Lynne Orr (2011-2013)

Robert Bernstein (2013-2015)

Yuri Gershtein (2012-2014)

Sally Seidel (2013-2015)

Election of 2014 Vice-Chair, two new EC members  
to take place soon

# SNOWMASS 2013 GROUPS

## Conveners of “Frontiers”

Energy: Chip Brock, Michael Peskin

Intensity: JoAnne Hewett, Harry Weerts

Cosmic: Jonathan Feng, Steve Ritz

Instrumentation: M. Demarteau, Ron Lipton, H. Nicholson

Facilities (“Capabilities”): Bill Barletta, Gil Gilchriese

Computation: Lothar Bauerdick, Steve Gottlieb

Education and Outreach: Marge Bardeen; Dan Cronin-Hennessy

Theory: Michael Dine

## Subgroups:

Each group has several subgroups; see web page

Initial plenary meeting was at Fermilab (October 2012)

Many preparatory meetings; last at Seattle, end of June

# QUESTIONS – EXAMPLES

## Higgs boson properties

Coupling measurements: How precise?

One Higgs or more?

Relative advantages of LHC, ILC, TLEP, ...

## Long-baseline neutrino experiment

Science yields of each stage of LBNE

Added value of underground detector

Added value of 34 kT vs 10 kT

Added value of enhanced neutrino beam

## Dark matter experiments

Variety of possible types of dark matter

Complementarity of search experiments

Resource for strategic planning and decisions

# COLLOQUIA ('HARD QUESTIONS')

7/29: Dark matter (complementary probes)

7/30: Higgs boson: couplings, sector, naturalness

7/31: Neutrinos: masses, mixings, grand unification

8/1: Precision measurements; new physics in loops

8/1: Cosmic surveys: Dark energy, inflation, neutrinos

8/2: Weakly coupled particles: dark photons, axions, ...

8/2: Energies beyond LHC

8/3: Lepton and quark flavor; CP

8/3: High energy cosmic particles

8/4 (AM): Intensities beyond the planned era

8/4 (PM): Transformative technologies  
(instrumentation, computing)

# PANELS

7/30: New physics? How will we find it?

N. Arkani-Hamed, K. Cranmer, J. Feng, A. de Gouvea, R. Rameika

7/31: Indirect tests from short-distance physics

D. Hitlin, S. Kettell, E. Silverstein, D. Wark, M. Wise, D. Zerwas

8/1: Selling long-term science in Washington

J. Blazey (OSTP), A. Burke (Lewis-Burke Associates), M. Fisher (ex-Congressional staff), K. Kirby (APS), S. Vigdor (NP)

8/2: Interconnections and common cause with other fields

L. Greene, T. Jones, H. Murayama, R. Ruchti, R. Rosner, H. Weerts

8/3: Overseas vs. domestic facilities

P. Cushman, D. Gross, S. Henderson, J. Incandela, C. Quigg,  
K. Scholberg

8/4 (AM): Theory plenary (chaired by Michael Dine)

# IN ADDITION ...

Public lecture by Saul Perlmutter (Today, 8 PM, Coffman Memorial Union)

Education, Outreach, Communication: lunch sessions  
8/1: Communication training (K. Yurkewicz, A. Burke)

Physics SLAM: Friday evening, in U of M hockey rink

Bring a sweater! Temperature is 58 degrees

“Big Questions”: <http://dpfnewsletter.org/?p=915>

Reception: Tuesday, 7/30, Weisman Art Museum

Banquet: Sunday, 8/4, McNamara Alumni Center

Tours of Soudan and Ash River labs: see

<http://www.hep.umn.edu/css2013/events.html>

# NEXT STEPS

## Snowmass Report

Proceedings will include “White Papers” posted to arXiv by 9/30;  
input by 8/6 needed if referred to by ~30-page subgroup reports

Summaries feed ~30-page “Frontier” writeups (including Theory)

Executive summaries provide input to 30-page overview

300+ pages to reading and editorial committees by August 31

Report by November 1  $\Leftrightarrow$  Eur. Physics Briefing Book

<http://europeanstrategygroup.web.cern.ch/europeanstrategygroup/>

Setting forth main questions and means to answer them

## Setting priorities

The work of a separate “P5” panel formed by September

“Dear Colleague” letter: Send names for panel to Andy Lankford

Community input from Snowmass Report and “Town Meetings”

P5 to report to HEPAP by mid-2014