DPF NEWSLETTER - July 1, 1994

To: Members of the Division of Particles and Fields

From: Robert N. Cahn, Secretary-Treasurer, rncahn@lbl.gov

HEPAP Subpanel Reports

The HEPAP Subpanel on Vision for the Future of High-Energy Physics has issued its report, which was endorsed by HEPAP itself. The *Conclusions* and *Recommendations* are given below:

Conclusion 1

We have inherited a great tradition of scientific inquiry. The field of particle physics has made dramatic progress in understanding the fundamental structure of matter. Recent discoveries and technological advances enable us to address such compelling scientific issues as the origin of mass, the underlying cause of the preponderance of matter over antimatter, and the nature of the invisible matter that accounts for up to 90% of the mass of the universe.

Recommendation 1

As befitting a great nation with a rich and successful history of leadership in science and technology, the United States should continue to be among the leaders in the worldwide pursuit of the answers to fundamental questions of particle physics.

Conclusion 2

To sustain excellence in the U.S. high-energy physics program for two decades and beyond, three elements are essential.

> a flexible, diverse, and dynamic ongoing research effort to address scientifically compelling questions. This implies strong support for university groups, effective use and timely upgrades of domestic accelerators, and an active program of nonaccelerator-based inquiries.
> vigorous studies to develop and master the technologies for future accelerators and detectors, and
> significant participation at the highest energy frontier, for which the best current opportunity beyond the Tevatron is through international collaboration on the LHC at CERN.

Conclusion 3

A temporary and modest bump of $50M/year in the total funding for three years from FY 1996 through FY 1998, followed by a return to a constant-level-of-effort budget at the level of the President's proposed FY 1995 budget, as shown in Figures 2 and 3, would revitalize the ongoing research program and sustain it through the construction years of the two upgrades at Fermilab and SLAC. Within that budget profile, it would be possible to reverse the FY1995 cut in the research (operations plus equipment) budget, permitting its restoration to the FY1994 level in buying power and, thus, the productive use of investments made to date; and also to initiate significant participation in building the LHC, with the level of commitment growing slowly until FY1997 and reaching its full level in FY1999.

Recommendation 2

The subpanel recommends that the federal government commit itself to a budget for the Department of Energy's High-Energy Physics program that provides constant-level-of-effort funding plus a $50M/year bump for three years, starting in FY1996, to implement the following program:

> Productive use of existing domestic facilities and their ongoing upgrades, including support for the university-based researchers, and flexibility to pursue new ideas.
> Significant participation in the LHC accelerator and detectors, both to provide research opportunities at the energy frontier and to ensure that U.S. physicists remain integrated in the international high-energy physics community.
> Enhanced effort in accelerator research and development, in preparation for a strong role in creating the accelerators of the next century.

Recommendation 3

Given the above three-year supplement and a commitment to support at no less than constant-level-of-effort funding thereafter, the subpanel recommends that the U.S. government declare its intention to join other nations constructing the LHC at CERN and initiate negotiations toward that goal. Participation in the LHC should be endorsed with a timely decision of support. This will enable the high-energy physics community in the United States to take full advantage of this opportunity and to maintain momentum in the collaborations that have been forming in the hope of applying to the LHC the expertise and technology developed for the SSC and its detectors, and of sharing in its discoveries.

Conclusion 4

The subpanel emphasizes the importance of future major high-energy physics construction projects being fully authorized at the start of the project. This process, although it does not guarantee full funding by the government, can be important in building the support in Congress that is essential for the success of a large project. Full authorization at initiation of a construction commitment will bring needed strength to the role of the U.S. as a reliable partner prepared to undertake and complete long-term

commitments. It can also help to ensure that projects proceed efficiently and expeditiously.

We also endorse the conclusion, emphasized in the report on "Science, Technology, and Congress: Organizational and Procedural Reforms" (February 1994) by the Carnegie Commission on Science, Technology and Government, that multi-year funding would greatly facilitate the planning of large projects and increase their operating efficiency. For the high-energy physics program, a budget cycle of two or more years would provide major advantages, because experiments depend primarily on large and complex instruments that take many years to build, and research generally involves long-term collaborations.

Recommendation 4

The government should give serious consideration both to restoring earlier practices of full authorization at the start of major scientific construction projects and to introducing budget cycles of two or more years.

Conclusion 5

We emphasize that the main purpose of the temporary $50M budget bump is to strengthen the existing program. Without a three-year, $50M/year supplement in FY1996, the current U.S. program would suffer continued damage. The program's scope and flexibility would be further diminished, and ongoing commitments would be stretched out. This conclusion is independent of U.S. involvement in the LHC.

We do not believe that this problem should be addressed by continued proportional budget decreases at each of the laboratories and in each area of the program. We do believe that new priorities would have to be set that would likely call for sacrificing important parts of the U.S. program, in order to preserve quality and productivity in what survives. The inevitable consequences will be continued loss of vitality in the current program and further discouragement to the new generation entering the field.

Recommendation 5

If there is no three-year, $50M/year bump in the budget, the subpanel recommends that the Department of Energy appoint a special subpanel of High-Energy Physics Advisory Panel to review the current U.S. high-energy physics program (preferably jointly with the National Science Foundation) and recommend appropriate changes and sacrifices.

However, the Subpanel still believes that joining the LHC collaboration is of sufficient importance that the U.S. should commit to doing so under a constant FY1995 level-of-effort budget, and should enter negotiations toward that goal.

Conclusion 6

The subpanel understands that a vigorous process for encouraging and reviewing proposals for on-site use of buildings and equipment is now proceeding under a cooperative agreement between the Department of Energy and the Texas National Research Laboratory Commission (TNRLC). These uses could be educational, medical, scientific, or commercial -- or some combination of these. The subpanel applauds this effort to make good use of the on-site investment.

One possible use of the buildings and equipment is a superconducting magnet laboratory, which might be the center for U.S. participation in the CERN LHC project. The subpanel anticipates difficulties with such a use. The powerful cadre of scientists and engineers that came together to design, assemble, and operate the SSC has now been widely dispersed. Prospects for rebuilding and maintaining a scientific and technical staff of the highest caliber, far from a high-energy accelerator laboratory, are, in our judgment, not good.

Recommendation 6

Proposals for a scientific mission for the former SSC site should undergo stringent peer review. The review should call upon international experts in relevant areas of science to judge the proposals on their scientific and technical merit, feasibility, and cost-effectiveness compared with other possible avenues for doing the same work.

Concerns about the vitality of a superconducting magnet laboratory for high-energy physics that is geographically separated from an accelerator laboratory will have to be weighed in evaluating proposals for such a laboratory on the former SSC site. The subpanel believes that these concerns weigh against such use.

Disposition of movable equipment will depend upon agreements between the Department of Energy and the State of Texas, which may involve the resolution of financial claims of the State. The subpanel does not presume to comment on issues outside our scientific and technical expertise in high-energy physics. However, if some of the equipment will not ultimately be used on site, it could be used elsewhere to the benefit of the U.S. high-energy physics program. The subpanel urges all parties to decisions regarding the disposition of SSC assets to recognize that a timely resolution will make it more likely that they will be put to good use.

DPF Sponsors Long-Term Planning Study

The DPF has organized, in parallel to the Drell subpanel, a year long Long-Term Study of the field. The study is structured on the basis of Working Groups, selected along physics topics. These Working Groups are internally organized by a set of conveners and constitute a sort of floating Snowmass. Each Working Group is supposed to articulate the broad range of physics questions in their area, discuss means by which these questions can best be addressed and relate these means to present and future facilities both in the US and elsewhere.

Three main points characterize the DPF Long Term Study:

> The study is aimed at presenting as broad and as deep an examination of the field as possible
> In arriving at this assessment, it is important that the study should fully involve the high-energy community
> A two-step process will be employed to arrive at the study's final report. The first step of this process comprises the reports that each Working Group is now developing, outlining crucial issues and priorities within each broad area. The second step will involve integrating the reports from the Working Groups into a coherent and nuanced overview of the science our field is pursuing.

Most of the Working Groups presented preliminary reports on their work at a two-day Workshop held at Johns Hopkins University on May 6 and 7. The Workshop was attended by more than 100 physicists and was quite productive. It will provide excellent input for the final reports of the Working Groups. These will be presented at a special one day meeting, in Albuquerque on August 7, directly following DPF 94. Before that time there will be numerous meetings of the various subgroups. For instance, the Neutrinos Group and the Astroparticle Physics, Cosmology and Unification Group will meet during the Snowmass Workshop, June 29 to July 14. There will be a meeting of the Structural Issues Group, July 8-9 in Berkeley. (Contact madden@csa.lbl.gov for further information.)

The Working Groups and their conveners are listed below.

1. *Tests of the Electroweak Theory*
    - Frank Merritt (University of Chicago)
    - Alberto Sirlin (New York University)
    - Morris Swartz (SLAC)
    - Hugh Montgomery (Fermilab)
2. *Heavy Flavor Physics and CP Violation*
    - John Cumalat (University of Colorado)
    - Estia Eichten (Fermilab)
    - Ed Thorndike (University of Rochester)
    - Helen Quinn (SLAC)
    - Michael Schmidt (Yale)
    - Yau Wah (Chicago)
3. *QCD*
    - Al Mueller (Columbia University)
    - Berndt Muller (Duke University)
    - Wesley Smith (University of Wisconsin)
    - Claudio Rebbi (Boston Univ.)
4. *Neutrinos*
    - Paul Langacker (Univ. of Pennsylvania)
    - Gina Rameika (Fermilab)
    - Hamish Robertson (LANL)

5. *Electroweak Symmetry Breaking*
    - Sally Dawson (Brookhaven Natl. Lab.)
    - Howard Haber (Univ. of California at Santa Cruz)
    - Jim Siegrist (SSCL)
    - Tim Barklow (SLAC)
6. *Astroparticle Physics, Cosmology, and Unification*
    - Michael Turner (Univ. of Chicago/Fermilab)
    - Frank Wilczek (Institute for Advanced Study)
    - Barry Barish (Caltech)
7. *Structural Issues in the US High Energy Physics Program*
    - Chip Brock (Michigan State University)
    - Stew Smith (Princeton University)
    - Bob Cahn (LBL)
8. *Accelerator Physics, Technologies, and Facilities*
    - Steve Holmes (Fermilab)
    - Ron Ruth (SLAC)
    - Bob Palmer (BNL)
    - Don Hartill (Cornell)
9. *SUSY, Gravity, and Strings*
    - David Gross (Princeton)
    - Gordy Kane (Michigan)
    - Ed Witten (IAS)
10. *Particle Detectors*
    - Dan Marlow (Princeton)
    - Andy Lankford (UC Irvine)
    - Jim Bensinger (Brandeis)

DPF Elections

The current roster of the DPF Executive Committee and the final year of their terms is

Chair: Mike Zeller (1994)
Chair-Elect: David Cassel (1994)
Vice-Chair: Frank Sciulli (1994)
Past Chair: Roberto Peccei (1994)
Secretary-Treasurer: Bob Cahn (1994)
Division Councillor: Barry Barish (1994), Anne Kernan (1995)
Executive Board: Sally Dawson (1996), Lina Galtieri (1994)
Tom Kirk (1994), Vera Luth (1995)
Michael Shaevitz (1996), Bruce Winstein (1995)

This year we will elect a Vice-Chairman, a Secretary-Treasurer, a Division Councillor, and two regular members of the Executive Committee. The nominees for Vice-Chairman are Paul Grannis (SUNY Stony Brook) and David Gross (Princeton). The nominees for Secretary-Treasurer are Jonathan Bagger (Hopkins) and Paul Garbincius (Fermilab). The candidates for regular members of the Executive Committee are James Brau (Oregon),

David Burke (SLAC), Martin Einhorn (Michigan), Mark Oreglia (Fermilab), Andrew White (University of Texas at Arlington), and John Rutherfoord (Arizona). Marjorie Shapiro (U.C. Berkeley) and Henry Frisch (Chicago) are the candidates for Division Councillor. The statements of the candidates are given below:

VICE-CHAIR: VOTE FOR ONE

PAUL GRANNIS, SUNY Stony Brook

Paul Grannis received the B.S degree from Cornell University in 1961 and Ph.D. from the University of California at Berkeley in 1965. After a research associateship at LBL, he joined the faculty at the State University of New York at Stony Brook in 1966. He was an Alfred P. Sloan Fellow from 1969 to 1971 and has held visiting appointments at the Rutherford Laboratory, University College London, Fermilab and CERN. He has conducted experiments at Brookhaven Laboratory on various two-body scattering and production experiments and on the anomalous production of electrons and electron pairs. At the CERN ISR, he worked on experiments to measure the total \overline p p and p p cross-sections, inclusive particle production and high p_T particle production. He has participated in searches for C-violation in \eta meson decays at the Rutherford Laboratory, and on studies of multihadron decays of the Z boson with the OPAL collaboration at LEP. Since 1983, his research has centered upon the study of very high energy collisions at the Fermilab \overline p p Collider with the D0 Detector. Since its inception, Grannis has served as spokesman (since 1993, co-spokesman) of the D0 experiment. His current research interests include the study of the electroweak interaction through measurements of the W/Z bosons and the search for the top quark, and the study of the strong force through tests of QCD. He has served on the Program Advisory Committees at Brookhaven, SLAC, CESR, and SSC; on the Advisory Committee for Physics at the National Science Foundation; and on several Laboratory visiting committees. He is a Fellow of the American Physical Society.

DAVID GROSS, Princeton

David Gross was born in 1941 in Washington, D.C., received his B.Sc. from the Hebrew University in 1962, and his Ph.D from the University of California at Berkeley in 1966. After three years at Harvard as a Junior Fellow he joined the faculty at Princeton University where he has been a Professor of Physics ever since.

Gross's early work was on current algebra and deep-inelastic scattering, where he derived sum-rules that test the quark-like nature of hadronic constituents. In 1973 he was the co-discoverer of asymptotic freedom which lead to the proposal of QCD as the theory of the strong interactions. He worked for some years on scaling violations in QCD, on instantons and semi-classical methods, and on non-perturbative attempts to solve QCD. In the early 1980's his interests shifted to unified theories and quantum gravity. He was heavily involved in the revival of string theory and a discoverer of the heterotic string--the most promising candidate for a unified theory of matter and gravity. After many years

of work on string theory his interests have partially returned to QCD.

He has served on many advisory committees to laboratories and universities. He served for four years and was the chairman of the Program Advisory Committee of the SSC. He is a member of the National Academy of Science, a Fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science and the American Physical Society. He is a recipient of the J. J. Sakurai Prize of the American Physical Society, a MacArthur Foundation Fellowship Prize and the Dirac Medal.

SECRETARY-TREASURER: VOTE FOR ONE

JONATHAN BAGGER, Johns Hopkins

Jonathan Bagger received his A.B. from Dartmouth College in 1977. After a year at Cambridge University as a Churchill Scholar, he he pursued his graduate study at Princeton University. He received his Ph.D. in 1983 and moved to SLAC as a postdoctoral associate. In 1986 he was appointed Associate Professor at Harvard University, and in 1989, Professor at Johns Hopkins University.

Bagger has been a member of the Institute for Advanced Study in Princeton, a Sloan Foundation Fellow and an NSF Presidential Young Investigator. This past year he served on the HEPAP subpanel on the Future Vision of High-Energy Physics. Bagger's research interests center on high energy physics at the interface of theory and experiment. Most recently, he has focused on the physics of the TeV scale, and especially on the question of electroweak symmetry breaking. Together with Julius Wess, he is the author of the monograph *Supersymmetry and Supergravity*.

Statement: At this critical time in the development of our field, it is important for the DPF to articulate the concerns of the particle physics community. It must play a leadership role in building bridges between factions within our field and between our field and the broader community of scientists, citizens and public officials. Finally, I believe that the DPF needs to suggest ways in which an education in particle physics might be strengthened to ensure that young Ph.D.'s have a broad range of career options from which to choose.

PETER H. GARBINCIUS, Fermilab

Peter H. Garbincius was born in New York City and raised in Yonkers, New York. He received his B.S. in Physics from Manhattan College (1970) and his Ph.D. from Cornell University (1974) where he participated in a series of deep inelastic electron scattering experiments. He then became a Research Associate at the Massachusetts Institute of Technology and worked on Fermilab E-118. In 1976, he joined Fermilab and held many positions in the Proton Department, the Experimental Areas Department, and the Research Division Office. Highlights included R\&D on low current superconducting magnets for beamline use, beamline and experimental areas operations, experimental area cryogenics, and administration, culminating in a term as Head of the Research Division.

Peter has participated in the Fermilab experimental physics program through a series of experiments using the Fermilab Single Arm Spectrometer (E-118, E-451, E-469), hadroproduction of charm (E-400), and photoproduction of charm (E-687). He also collaborated on a SLAC experiment searching for Anomalous Single Photons (PEP-21 ASP). For the past two years, he has been assigned to the Fermilab Physics Section, working on analysis and publication of E-687 and preparing for E-831, a photoproduction experiment with the goal of reconstructing 1 million charm particles.

DIVISION COUNCILLOR: VOTE FOR ONE

HENRY J. FRISCH, University of Chicago

Henry Jonathan Frisch was born in Los Alamos, N.M., on August 18, 1944. He was raised in Cambridge, Mass. where he graduated from Cambridge High and Latin School. He received a BA degree from Harvard in 1966, and a Ph.D. from UC Berkeley in 1971. He has been at the University of Chicago since then, where he is a professor of physics in the Physics Department and the Enrico Fermi Institute. His professional interest is in experimental High Energy Physics, in particular precision tests of electroweak physics and searches for new phenomena. He has been involved with the CDF experiment at Fermilab since 1977. He is married and has two children. Recreational interests are music, reading, skiing, and sailing. He has been active in the Chicago school reform movement as well, with the present focus being on changing mathematics and science education in the 600 public schools in the city. He is one of the founders of the Teachers Academy for Mathematics and Science in Chicago, an institution dedicated to excellence in teaching for all of the children in big city school systems nation-wide.

He has served on the DPF Executive Committee, HEPAP and four HEPAP subpanels, in addition to the SLAC EPAC and the Fermilab PAC. He is a Fellow of the APS. He is a recipient of the University of Chicago Quantrell Award for Excellence in Undergraduate Teaching.

MARJORIE SHAPIRO, U.C. Berkeley

Marjorie Shapiro received an A.B. from Harvard University in 1976 and a Ph.D. from University of California, Berkeley in 1984, after working on the TPC experiment. She became a research associate at Harvard, joining the faculty in 1987. In 1990, she became a member of the faculty at University of California, Berkeley. She is a member of the CDF experiment and has recently joined the ATLAS collaboration. Her experimental work has been in the area of QCD jet production, and more recently in the study of B-hadron decays.

Professor Shapiro has served as a member of the Fermilab Physics Advisory Committee and the NSF Advisory Committee on Physics. She has been a member of two HEPAP Subpanels on High Energy Physics (1989 and 1993). She is a Fellow of the American Physical Society.

Statement: High Energy Physics is now at a crossroad. The death of the SSC and the reduction in current dollar support for the base program have seriously affected our field. The DPF should play an important role in revitalizing U.S. particle physics. This task must include helping the community to set its research priorities. It must also include communicating the importance and excitement of HEP to the public, to our University colleagues and to the administration and Congress.

EXECUTIVE COMMITTEE: VOTE FOR TWO

JAMES BRAU, University of Oregon

Jim Brau was born and raised in Tacoma, WA. He graduated from the U.S. Air Force Academy and following active duty in the Air Force, did graduate work at MIT, where he earned a Ph.D. in 1978. His thesis research concerned hadronic interactions in the Fermilab 30-inch hybrid bubble chamber. He worked at SLAC as a postdoc for four years doing baryonium and charm photoproduction experiments in the SLAC Hybrid Facility. He joined the faculty of the University of Tennessee in 1982, where he worked until 1988, when he moved to the University of Oregon and started the experimental high-energy physics group. For over a decade he has concentrated on the SLD experiment at SLAC, where he worked on hadron calorimetry, developed the silicon-tungsten luminosity monitor, and studied electroweak physics. He now is project manager for the SLD CCD vertex detector upgrade. During the past five years he devoted much of his effort to the SSC physics program, first as co-spokesman of EMPACT/TEXAS, and subsequently on GEM. His group is also collaborating on the precision electroweak neutrino experiment at Fermilab, NuTeV. He has served on the SLAC experimental advisory committee and on the executive committees of the SLAC and SSC users' organizations.

Statement: While maintaining the traditional functions of informing professionals within our field and supporting the development of young physicists, the DPF should facilitate the diffusion of physics knowledge and the thrill of discovery to the public. The DPF must make the case for basic research, and particularly particle physics research, to the lay community, young and old.

DAVID BURKE, SLAC

David Burke received his B.S. in Physics from Purdue University in 1971, and Ph.D. from the University of Michigan in 1978. He moved to the Stanford Linear Accelerator Center as a research associate in 1978 and joined the faculty in 1982. He is now a professor, research group leader, and assistant director of the SLAC Technical Division.

Burke is a Fellow of the American Physical Society. He has served on numerous conference and advisory committees including the Executive Committee of the SLAC Users Organization, the Cornell CESR Program Committee, and the 1994 HEPAP Subpanel on High-Energy Physics. His research interests have focused on particle physics with high energy electron-positron collisions, and on the detectors and

accelerators needed to study these reactions.

Statement: There are exciting physics goals to be realized in the remainder of this decade and in the next, but competition for resources from other areas of science as well as from other parts of the nation's economy will continue to increase. It will be more important than ever that we maintain strong national organizations to facilitate discussions within our field, sort our priorities, and speak with a unified voice to our government and the American people. The Division of Particles and Fields has an essential role to play in this process.

I have a particular interest in the problems of international cooperation and collaboration, and as a member of the DPF Executive Committee will seek to strengthen ties with organizations of physics communities of other nations. I believe that such bonds will be essential components in the foundations of future high-energy physics facilities.

MARTIN EINHORN, University of Michigan

Martin Einhorn received his B.S. from Caltech in 1965 and his Ph.D. from Princeton in 1968. Following postdoctoral positions at SLAC and LBL, he joined Fermilab where he became a staff physicist. He has been at Michigan since 1976, where he is Professor of Physics. He was selected a DOE Outstanding Junior Investigator in 1978, and has been Visiting Professor at NORDITA, SLAC, the Hebrew University of Jerusalem, and the Centre de Physique Th\'eorique in Marseilles. From 1990-1992, he served as Deputy Director of the Institute for Theoretical Physics in Santa Barbara. He is an APS Fellow.

His research publications span topics in the parton model, perturbative and nonperturbative QCD, cosmology, Higgs physics, supersymmetric grand unification, mass singularities and their consequences, and extended technicolor models. His primary interest is in the physics beyond the Standard Model. Presently, however, he is working on an aspect of the cosmological constant puzzle, trying to determine whether quantum fluctuations in a universe with a nonzero cosmological constant grow with time.

He has served on numerous NSF and DOE advisory committees, including HEPAP (1983-87). He has been a consultant to DOE for reviews of SLAC, FNAL, and BNL. Ten years ago, he was active in helping initiate TASI, was its organizer the first year, and subsequently served on its Scientific Advisory Board, including a term as Chair. He has served on the Executive Committee of the Forum on Physics and Society. He currently serves on Sakurai Prize selection committee of the DPF. At the University of Michigan, he is Chair of the faculty's Research Policies Committee.

Statement: At the moment, the future of U.S. high-energy physics is especially uncertain, with questions being raised that challenge the very existence of the research universities and the special missions of NSF and DoE. The APS is being asked to help set priorities among the various subdisciplines, an unnatural role for a professional society that seeks to be inclusive. Even the DPF has been invited to discriminate among its subfields. While there are no easy answers, without a vigorous enterprise probing the limits of knowledge

of the basic constituents of matter and their behavior, the discipline of physics would be a body without a soul. Beyond the military and technological spinoffs, we must seek effective ways to communicate the value of this historical quest for understanding and to foster a political constituency that will demand that this research be continued. Challenges to the DPF include keeping the dream alive in the face of adversity, reaching out to K--12 educators and to the public at large, and expanding the recruitment and representation of women and minorities. We must encourage career opportunities for young people within the field and work with the APS to provide support for those in transition.

MARK OREGLIA, University of Chicago

Mark Oreglia received his degrees from Stanford University; his Ph.D. was obtained in 1981. He became an Enrico Fermi Fellow at the University of Chicago's Enrico Fermi Institute in 1981, and joined the faculty in 1984; he is currently an Associate Professor. In 1983 he was A. H. Compton Lecturer, in 1985 he became a Presidential Young Investigator, and in 1986 he was awarded a Sloan Foundation fellowship. His physics interests have included charmonium studies at SLAC (Crystal Ball experiment), neutrino scattering and oscillation at FNAL (CCFR collaboration), and precision electroweak measurements at CERN (OPAL experiment). Future interests include particle astrophysics in addition to more Standard Model investigations. Oreglia has been active in University affairs, having been Spokesperson of the College Council from 1992-94, and a member of far too many committees.

I am an adamant supporter of curiosity-driven research. I believe that the U.S. program in HEP must include serious participation in cutting-edge experiments, whether in this country or abroad. But I also believe that we must support -- indeed, encourage -- non-Standard Model experiments and make broader use of our accelerator laboratories.

JOHN RUTHERFOORD, University of Arizona

John Rutherfoord received his B.S. in physics from Union College in 1964 and his Ph.D. from Cornell University in 1968. He then went to Tufts University, first as a research assistant and then as faculty. In 1976 he moved to the University of Washington, first on the research faculty and later on the teaching faculty. On moving to the University of Arizona in 1988 he started a new experimental group.

He served on the Fermilab Physics Advisory Committee from 1987 to 1991 and was elected to the Fermilab Users Executive Committee, once in 1978 and again in 1990. Both times he chaired this committee for one year. He was also chair of the nominating committee for the SSC Users Executive Committee in 1990.

His research interests started in pion photoproduction, including polarization phenomena, and moved to large angle Compton scattering in the mid-70's. Di-muon production and the Drell-Yan process absorbed the next 10 years where he served as deputy spokesperson for Fermilab E439 and as spokesperson from 1984 through 1986 for

Fermilab E605. He next joined D0 and worked on liquid argon calorimetry. He also played various roles in the EMPACT and later EMPACT/TEXAS collaborations and was a charter member of the GEM collaboration, concentrating on high luminosity detector R&D using liquid argon calorimetry, and serving as coordinator of the forward calorimeter subsystem until the SSC's demise in 1993. He then joined ATLAS and is helping with problems they face in the forward region.

Statement: Our field is facing new challenges in the post-SSC era which will require flexibility and the willingness to adapt. We must sell the fruits and promise of our research to the public and push hard to ensure that our field continues to be vital. I am particularly concerned that the intellectual and inspirational driving forces within particle physics be supported as we restructure for the future.

ANDREW WHITE, Univ. of Texas at Arlington

Andrew White was educated at the University of Southampton, England (B.Sc., Honors) and at the University of London (Ph.D.). His thesis work included the derivation of the transformation between the spin formalisms of the two major inelastic partial wave analyses in use at the time. He worked as a staff physicist at Imperial College of Science and Technology from 1973 to 1985, including a period of three years at SLAC working on the rapid-cycling bubble chamber. He also worked on the development of the Inner Trigger and Tracking Chamber for the Aleph Experiment at CERN. While in Europe he was, for several years, a member of the ECFA Working Group on Computing in High-Energy Physics. In 1985 Andrew White took a position at the University of Florida and led the Florida group's entry into the D0 Experiment in 1986. His contributions to D0 include solving the problem of the nonuniformity of energy response across the D0 calorimeter system by use of an additional detector element (the intercryostat detector), and initiating the search for supersymmetric particles in D0.

In 1991 he was hired as a Professor of Physics at the University of Texas at Arlington to start a new experimental high-energy physics research group. He has lead this group's participation in the D0 Experiment, particularly as the first convener of the New Phenomena physics group. He also joined the SDC experiment, working to develop a muon module production facility on the U.T. Arlington campus. Recently he has lead the U.T. Arlington group's entry into the ATLAS Experiment at CERN.

Statement: The DPF has a vital role to play in establishing a balanced U.S. base program, and fostering frontline international collaborative projects both to sustain the vitality of our subject and to stimulate the best young scientists to join the field.

DPF 94 at University of New Mexico

DPF 94 will be held August 2 - 6, 1994 at the University of New Mexico in Albuquerque. Directly following, on August 7, the DPF Working Groups on Long-Term Planning will present their reports. Registration packets and full information can be obtained by contacting the DPF 94 Coordinator, Dept. of Physics and Astronomy, Univ. of New

Mexico, Albuquerque NM 87131 (dpf94@unmb.unm.edu).

Last modified 17 November 1995