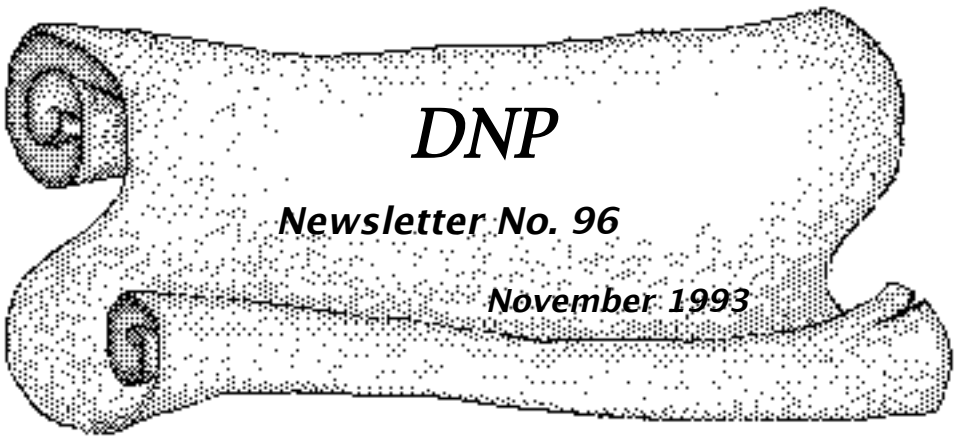

TO: Members of the Division of Nuclear Physics, APS
FROM: Virginia R. Brown, LLNL - Secretary-Treasurer, DNP

ACCOMPANYING THIS NEWSLETTER:

- A ballot and brief biographies of DNP Candidates
- A Bonner Prize Fund Donation Form

Future Deadlines

• **8 Dec. 1993**	-	Invited abstracts to Carl B. Dover
• **7 Jan. 1994**	-	Last Day for Abstracts to College Park, MD, APS Office For Spring Meeting (See Item 3)
• **14 Jan. 1994**	-	DNP Election Ballot
• **1 Apr. 1994**	-	Nominations for APS Fellowship (See Item 8)

1. ELECTION OF OFFICERS AND EXECUTIVE COMMITTEE FOR 1994

The terms of the officers and three members of the present Executive Committee will expire at the close of the regular meeting of the Division to be held in conjunction with the APS general meeting in Crystal City, VA, 18-22 April 1994. Carl B. Dover will become Chair, Noemie Benczer-Koller will become Past-Chair, and Susan J. Seestrom, Brian D. Serot, and Stephen J. Wallace will remain members of the Executive Committee. A Chair-Elect, Vice-Chair, Secretary-Treasurer, and three members of the Executive Committee are to be elected before April 1994.

Compliance with the new DNP Bylaws requires a Division with the governance sequence of Vice-Chair, Chair-Elect, Chair, and Past-Chair. The introduction of the Chair-Elect position on the enclosed ballot is a one-time election of this position. The elected Chair-Elect will serve as Chair in 1995 and Past-Chair in 1996. The Vice-Chair will serve through the complete governance sequence.

This year's Nominating Committee consists of T. J. Bowles (Chair), J. A. Cizewski, G. T. Garvey, and S. E. Koonin. The candidates selected by the Nominating Committee are as follows:

Chair-Elect, (one position)

Walter F. Henning, ANL
John D. Walecka, CEBAF

Vice-Chair, (one position)

Robert D. McKeown, California Inst. of Technology
Lee L. Riedinger, Univ. of Tennessee

Secretary-Treasurer

Virginia R. Brown, LLNL

Executive Committee (three positions)

A. Baha Balantekin, Univ. of Wisconsin, Madison
Elizabeth J. Beise, Univ. of Maryland at College Park
R. Russell Betts, ANL
Berndt Mueller, Duke University
Johanna Stachel, SUNY at Stony Brook
Glenn R. Young, ORNL

The enclosed ballot must be signed and may be returned in the enclosed envelope with your name and address printed or signed legibly in the upper left hand corner of the envelope. It must be received by ***Virginia R. Brown*** on or before ***14 January 1994*** in order to be counted.

If you are a DNP member, please exercise your right to vote for candidates in the upcoming DNP elections. Typically only about 900 election ballots are mailed in by members. **Your vote counts, and it is important!**

2. REPORT ON THE DNP FALL MEETING AT ASILOMAR CONFERENCE CENTER IN PACIFIC GROVE, CA, 20-23 OCTOBER 1993

A well attended and highly successful DNP meeting was held at Asilomar, CA with over 600 registered attendees and many guests. The weather was sunny and mild for the entire week. The exciting science and the pleasant ambiance of Asilomar facilitated many informal discussions beneath the cypress trees, out on the sand dunes, and on the beach. On behalf of the membership, the DNP Executive Committee is pleased to acknowledge the hard work and careful planning of the Local Committee consisting of J. A. Becker (LLNL), V. R. Brown (LLNL), D. Cebra (U. C. Davis), K. Lesko (LBL), M. Nitschke (LBL), with special thanks to G. J. Wozniak (Chair) for his very important contributions to the success of this meeting. The DNP is also grateful for the invaluable contributions from the Local Conference Coordinator, Mollie Field and her assistant, Del Thomas, both from Lawrence Berkeley Laboratory, who worked for twelve months preparing for the meeting. At Asilomar, they were assisted at the registration desk by their colleagues, K. Balder-Froid, T. Kirksey, and B. Phillips from LBL and K. Pangelina from LLNL.

Meeting Program

The meeting consisted of six sessions of invited papers, one of which was a plenary session, and 351 contributed papers divided into 31 sessions. The main meeting opened on Thursday morning with the DNP Plenary Session on the *"Future of Nuclear Physics: Federal Support, Applications, and New Directions."* The Plenary Session is described below. The other invited sessions *"Hadron Structure at Intermediate and High Energy"*, *"Topics in Heavy-Ion Physics"*, *"Radioactive Nuclear Beams"*, *"Intermediate Energy Reactions, Spin and Symmetries in Nuclei"*, and "*Relativistic Heavy-Ion Physic*s" were all well attended as were the various contributed sessions.

Plenary Session

The Plenary Session, ***"Basic Nuclear Physics: Funding, Applications, Future Directions",*** took place Thursday morning before a full house. The theme was in tune with the presentations of previous years, focussing on basic nuclear physics, the future of the field, and its intersection with societal concerns.

Robert Eisenstein, Director of the Physics Division at the NSF, opened the

Session with a brief overview of the Foundation Budget and of the programmatic activities of the physics division. Expanding on the theme *"The Times, They Are a'Changin'"*, he discussed the radically different position of the U.S. in the world today, compared to the recent past, as well as many of the internal problems that our nation is facing. These include matters such as the faltering economy and our failing educational system. He reviewed the political scene in Washington in this context, and emphasized the necessity for establishing better links between the Academy, Business and Government, and for communicating in a much improved fashion with the public.

He also stressed the need for significantly increased contributions by the scientific community towards helping the nation solve its problems. Nuclear physicists are a creative group which has evolved with the times in the last 25 years, and it will continue to follow the most promising intellectual questions. We have produced excellent science and excellent training of young people, which is the essence of technology transfer. In Eisenstein's words, "The future is very promising, but it will not be handed over to us. **Each of us must invest in the future in order to share in it.**"

C. Alcock from Lawrence Livermore National Laboratory spoke on the question of *"Baryonic Dark Matter?"*. Alcock and his collaborators have been the focus of considerable excitement from the scientific community and the general public with their spectacular recent measurement of gravitational lensing, where the image of an object such as a star in a nearby galaxy might be distorted by the gravitational influence of unseen dark matter lying between us and the star. Alcock, in an exceptionally fine talk, described the measurement of one candidate star out of millions recorded in the Large Magellanic Cloud, whose apparent brightness increase could be attributed to the gravitational lensing effect as it passed behind a supposed "massive compact halo object" (MACHO) located in our Galaxy. The most probable lens mass inferred from the duration of the event is one tenth of a solar mass. The experiment produced a wealth of data on other questions of deep interest and may lead to the identification of thousands of new quasars. Recent accounts of this work have been published in the New York Times and Nature.

R. L. Brodzinski from Battelle, Pacific Northwest Laboratory, in his talk *"Applying High Energy Physics Instrumentation to Environmental Restoration"* described how instrumentation developed for nuclear and high energy physics experiments is today widely used in environmental restoration projects. As examples, he showed how track chambers designed for detection of very high energy events have been adapted to the clean up of uranium contaminated soils while instrumentation developed for neutrinoless double beta decay experiments were used to measure fallout from nuclear weapons testing.

D. F. Geesaman of Argonne National Laboratory closed the session with a discussion of the future of hadron physics in his talk *"Nuclear Physics at Multi-GeV Hadron Facilities."* He described the present understanding of the quark structure of nuclei and the applications of Quantum Chromodynamic to many-body systems. Geesaman presented arguments strongly in favor of the timely construction of a multi-GeV hadron facility.

Workshops

Three workshops were held prior to and in conjunction with the DNP meeting. Highlights of these workshops are described below.

Workshop A: "Physics Opportunities with Large Ge Detector Arrays; Present and Future", J. A. Becker

Approximately one hundred and ten scientists registered for this one-day workshop to discuss the first phases of large Ge detector arrays, which are operating and producing exciting physics results. The workshop emphasized results obtained with these arrays, provided a contrast with results obtained with earlier detector arrays, and suggested what the future might hold in terms of detector arrays. Topics discussed included experimental results and analyses of accelerator based experiments on superdeformation in the A = 135, 150, and 190 mass regions, newly discovered oblate bands in neutron-deficient Pb, and correlation and fluctuation analyses. The power of these arrays for the study of prompt gamma-rays from fission, producing information on neutron-rich nuclei, was illustrated. Auxiliary instruments coupled to arrays can eliminate backgrounds or emphasize reaction with small cross sections. Examples of work with the Fragment Mass Analyzer were presented. Microscopic Three-D mean field approaches to the collective states of the second minimum have been very successful. The next steps required in the mean-field approach was presented, together with a discussion of octupole mixing in the second well. Finally, capabilities of the array GAMMASPHERE (under construction) were contrasted with possible arrays of the future.

Workshop B: "Multifragmentation", D. Cebra

In the multifragmentation workshop, varying modes of nuclear disassembly were related to the liquid-gas phase transition and to the nuclear equation of state. Models utilizing statistical and dynamical techniques were compared to each other and to recent experimental data. The models were attacked in a critical effort to determine which effects came from the "physics" and which came from the way the physics was put into the codes. An example of this sort of effect came up in the comparison between QMD and VUU; Molecular dynamics was seen to have some advantages over one-body transport codes in modeling fragmentation because the transport codes contain no fluctuations. Experimental results from GANIL and MSU have indicated the need to include expansion in the modeling of nuclear disassembly. This argument was supported by the success of a new statistical model which explicitly includes the effects of expansion of the system through internal heating from the excitation energy and from the inertial recoil. The recent miniball results from MSU have also pointed towards the use of fragment-fragment correlations in order to determine the timescale of the breakup process - a key element in the identification of a simultaneous disassembly. New results from the 4π arrays at MSU and GSI have pointed towards a stiff equation of state. This goes against a recent trend of results which were suggestive of a soft compressibility. Results from the EOS TPC at Berkeley show strong evidence for a liquid-gas phase transition through an analysis of the critical exponents and a comparison to percolation models.

Workshop C: "Frontiers in Neutrino Physics", K. Lesko

Over one hundred physicists from a diversity of fields gathered in Asilomar's Chapel for this workshop. John Bahcall and Ken Lande reminded us that the ^{37}Cl and Kamioka experiments imply that there is a distortion of the solar ^{8}B neutrino spectrum and that simply lowering the sun central temperature can not solve the Solar Neutrino Problem. Maury Goodman presented evidence for another related neutrino problem, "the atmospheric neutrino problem". Felix Boehm showed that reactor experiments would soon overlap the same parameter space and confirm or exclude $\nu_e \Leftrightarrow \nu_m$ oscillations. Bill Louis presented details from the only currently operating accelerator-based neutrino oscillation experiment (at LAMPF)

that also promises to probe interesting neutrino oscillation parameter space. However, Lincoln Wolfenstein in reviewing the MSW oscillation mechanism reminded us that, given the broad range of possible parameter values, we would be very lucky to be able to observe neutrino oscillations in one experiment, not to speak of every one. Hamish Robertson (SNO and Super-Kamiokande) and Martin Deutsch (second generation experiments) convinced us that we should be able to confirm or reject the existence of MSW-oscillations in about three years and have an excellent resolution on the cause of any oscillation in a longer term. Finally, Wick Haxton, in slightly more time than an actual supernova event would use, reviewed supernova mechanisms and stressed the importance of neutrinos in supernova collapse and the hope that SNO will yield good insight into supernovae, if such an event occurs while the detector is on-line.

Town Meeting, Noemie Benczer-Koller

The "Town Meeting" was held on Friday afternoon, October 22, in Merrill Hall to a capacity crowd. The holding of "town meetings" is part of a continuing effort to provide timely information to the DNP membership and to provide a forum for public comment on issues that affect our field.

Noemie Koller, the DNP Chair, opened the meeting with an extension of thanks on behalf of the Division and its members to the Local Organizing Committee comprising Gordon Wozniak (Chair), John Becker, Dan Cebra, Kevin Lesko, Mike Nitschke, and Virginia R. Brown. In particular, the Conference Staff including K. Balder-Froid, T. Kirskey, K. Pangelina, B. Phillips, and D. Thomas and led by Mollie Field were commended for organizing a flawless meeting generally regarded by all attendants as among the best. The Corporate Sponsors, Bicron, Donal, LeCroy, Peterson, and Precision Plastics were thanked for their contributions to the reception on Wednesday evening. A wave of applause was heard in recognition of Virginia R. Brown's exceptional selfless dedication to the Division.

N. Koller reported that a High School Teacher's Day had been organized on the first day of the meeting by G. Wozniak and B. Schwartz, APS Associate Executive Secretary and Education Officer. Local area teachers played an active role in the planning of the activities which consisted of the Plenary Session in the morning and a special session in the afternoon featuring a mix of pedagogical and scientific talks (See below for more details). All reports from the event were very favorable.

The slate of candidates for DNP offices and the Executive Committee was presented (See Item 1 of this newsletter). The DNP members in the audience were encouraged to vote. The election of Peter Paul to the position of Division Councilor on the APS Council was announced. P. Paul replaces G. Garvey, whose term expires in December 1993.

Carl B. Dover, Chair of the DNP Program Committee, described the invited sessions being planned for the 1994 APS Spring Meeting to be held in Crystal City, VA (See Item 3). In addition, Dover described a Tutorial Session, entitled *"Vistas in Nuclear Physics"*, that will take place for the first time for our Division, in conjunction with the Crystal City meeting (See Item 4). Dover also outlined the plans for the 1994 DNP Fall Meeting to be held in Williamsburg, VA, hosted by CEBAF (See Item 5). Further, Dover described the three articles prepared by the DNP for "Physics News 1993" (See Item 10).

Gary Crawley discussed the status of the DNP Brochure (See Item 11).

Ernie Moniz, NSAC Chair, gave a report on the NSAC meeting held at

Asilomar two days before the "town meeting." A write-up of Moniz's report is presented as Item 13 of this newsletter.

Jack Lightbody, Program Director for Nuclear Physics at the NSF, started his presentation by announcing the confirmation of the new NSF Director, Neal Lane. B. Keister will be the new Program Director for Nuclear Theory. He then presented a brief summary of the NSF budget. The overall NSF budget is up by 11% with an 8% increase in research and related activities, a healthy change from last year, even though the overall appropriation only increased by 2%. He stressed the interest in Congress for "strategic" research, but reported that 55% of the NSF supported research is already in areas related to the nation's "strategic" interests. Nevertheless, he urged the community to actively participate in education, and to communicate to the public-at-large and to congressional members the nature and impact of our work (See Item 12 for a report on the budget process).

Lightbody announced that while the Physics Advisory Committee had been terminated due to budget reductions in Government Agencies, NSAC would remain active. In addition, a new "Mathematics and Physical Sciences Advisory Committee", co-chaired by P. Eisenberger and E. Knapp, had been created to advise the NSF on a variety of current issues such as developing means to maintain world leadership in Mathematics and Physical Sciences, to support Science Education, and to promote interactions at the interface of basic research and industry. Lightbody emphasized that basic science remains the key to the nation's future, but that the community must respond with concern over the nation's problems. Education and outreach are important activities.

Lightbody presented a soon to be announced new "Academic Research Infrastructure Program" of 110 million dollars with half the funds earmarked for infrastructure (bricks and mortar) and half for scientific apparatus. The program will be similar to the one that was in effect last year.

He also announced the "Presidential Faculty Fellows Program" with a deadline of 9 November, entailing $100K/year and a "New Young Investigators Program", with a deadline of 31 January, at $25K/year plus $75K, a good fraction of the latter consisting of matching funds from sources other than NSF.

Dave Hendrie, Director of the DOE Division of Nuclear Physics, presented the perspective of that agency. Hendrie began his presentation with some splendid photographs of major construction items at CEBAF, RHIC, Bates, SNO, GAMMASPHERE, APEX and RIB.

Hendrie announced that Martha Krebs was nominated for the office of Director of the Office of Energy Research. However, she has not yet been confirmed by Congress.

A new strategic planning committee was formed to plan the direction of Energy Research programs within DOE. Ernie Moniz is a member of this committee. Some desired outcomes from the work of this committee are to identify products and business lines, agree on the customers and on strategic goals, identify obstacles and issues, develop strategies and higher level implementation plans.

Hendrie mentioned that there are many new program managers in the Office of Energy Research at DOE and that given the present budgetary and economic realities, a review of nuclear physics research programs across all sub-disciplines, and across Universities and Laboratories would be undertaken. The review committee will be chaired by P. Paul.

Hendrie reported on current budget; the FY94 DOE budget for nuclear physics, which had been drastically reduced for a variety of reasons, was substantially restored by Congress after much work by representatives of the nuclear physics community. The budget situation is summarized in Item 12 of this newsletter.

Hendrie also announced that a revitalized evaluation of the KAON facility (with supporters led by Erich Vogt) was being undertaken by the Canadian government. A new "KAON Participation Panel" (KP2) under the direction of C. Richardson, R. A. Eisenstein, C. Leemann, and P. Barnes was assembled to determine the impact and benefits that can accrue from U.S. participation in KAON.

Bonner Prize Funding

N. Koller reported on the current status of the financing of the Bonner Prize. For the Prize to remain self-sustaining, an endowment of at least $100,000 is required. R. A. Eisenstein, a couple of years ago, saved the fund from almost total depletion with an energetic fundraising campaign that reached DNP members, corporations and large laboratories. Meanwhile, the APS has determined that in order to be self-sustaining, a $5000 prize, which is given every year, must be funded at the $100,000 level. At present the fund stands at about $85,000 and needs to be supplemented. N. Koller made a plea to the audience to help with whatever contributions, large or small, they would be able to make. We wish to extend this plea to the whole community, individuals, user's groups, and laboratory directors. See Item 9 of this newsletter to see how you can contribute. **Every contribution helps!**

Erich Vogt, Director of TRIUMF, in a generous act of support for this prize honoring the best contributions in Nuclear Physics, and in the spirit of international cooperation, challenged Laboratory Directors to a new round of donations by offering $3000 subject to matching in a three to one ratio. The Division thanks him for his generosity, and we hope we will rise to the challenge.

Brian Schwartz described a variety of programs developed at the APS to promote educational goals of the physics community, particularly at the pre-college level. Programs exist at various national laboratories which can be emulated elsewhere. In addition, a variety of helpful educational materials can be obtained from the APS office. The DNP Executive Committee is planning to name an ad-hoc Education Committee whose charge will be to explore different opportunities in this field, plan instructional activities at Divisional Meetings, assist in concert with the APS individuals and laboratories seeking to initiate educational programs for teachers, pre-college students or the public-at-large. We welcome suggestions for this activity.

Finally, Schwartz announced that the APS is planning very elaborate celebrations of the 1999 Centenary, at which the Nuclear Physics Division could play an important role.

Reception, Sponsors, Banquet and Aquarium

On Wednesday evening, a welcoming reception was held that was sponsored by Bicron, Donal Machine Inc, LeCroy, Precision Plastics, and Peterson Metal Fabricating Inc. The well-attended reception featured the tasting of a variety of wines from several local wineries. Interspersed between the wine table were several exhibits from the local corporate sponsors who were involved with the Sudbury Neutrino Observatory. Thursday evening featured a banquet in the Crocker Dining Hall that was both preceded and followed by numerous User Group Meetings. During the day on Thursday and

Friday, representatives of Bicron and LeCroy set up in the back of Merrill Hall to show their recent products. In addition, the APS had a poster display featuring the centennial of the Physical Review. After dinner on Friday evening, a dessert was held at the acclaimed Monterey Bay Aquarium. The many striking exhibits held the visiting physicists and their guests spellbound. Particularly fascinating was the large and very plump seven gill shark that had recently eaten its companion. Also, noteworthy were the delicate and graceful moon jellyfish.

High-School Teacher's Day

In conjunction with the DNP meeting a High-School Teacher's Day was held for local physics teachers on Thursday. Twelve teachers attended from the Bay Area. In the morning the teachers attended the Plenary Session. After lunch they attended a special program. Carl Pennypacker (LBL) spoke about a new program for high-school students *"The Hands-On Universe Program -- Students Using Professional Grade Telescopes to Conduct Real Research"*. Eric Norman (LBL) described how a recent scientific controversy was resolved in "The 17 keV Neutrino Story: A Case History of Contemporary Science". Rollie Otto (LBL), the Director of the LBL Center for Science and Engineering Education spoke about LBL's Outreach Programs for High-School students and teachers. Brian Schwartz, the Education Officer of the APS, ended the meeting with a presentation on "Local Physics Alliances". The high school teachers were delighted to have been invited to a professional meeting, where new scientific results were presented and welcomed the opportunity to network with active researchers.

3. SPRING APS MEETING, CRYSTAL CITY, VA, 18-22 APRIL 1994

The Division of Nuclear Physics will organize six sessions of invited papers for the Spring meeting. Speakers for two or three of these sessions will be selected by vote of the Program Committee from nominations which were submitted to Carl B. Dover by the 27 October deadline. Included in the voted sessions will be the Bonner Prize and Dissertation Award winners' talks.

Speakers for the three "topical" sessions are being arranged by subcommittees on topics selected at the Asilomar Program Committee meeting. One session on *"Advances in Nucleon and Nuclear Few Body Systems"* is being organized by D. M. Skopik. A second session on *"New Physics From the New Generation of Detector Arrays"* is being organized by G. J. Wozniak. The third session on *"Weak Interactions in Nuclei"* is being organized by W. C. Haxton.

In addition to the usual six invited sessions, the DNP Program Committee is participating in four or five cooperative or joint sessions with other APS subunits participating in the spring meeting. The subcommittee for organizing the joint session with the DPF, Division of Particles and Fields, is made up of B. E. Bonner and David Cassel. The joint session with the DBP, Division of Beam Physics, is being organized by B. E. Bonner, M. Month, and B. M. Sherrill. The joint session with the DAP, Division of Astrophysics, is being organized by F. T. Avignone, A. Harding, W. C. Haxton, and G. J. Mathews. The joint session with the Precision Measurements and Fundamental Constants Topical Group, TGPMFC, is being organized by E. Adelberger, W. C. Haxton, B. Heckel, and L. Hunter. The subcommittee for organizing the joint session with the Division of Computational Physics, DCP is being organized by J. A. Carlson, M. Strayer, D. Barnes, and M. Creutz. These sessions are all being coordinated by the DNP Program Chair, C. B. Dover.

4. TUTORIAL PRESENTED BY THE DNP AT THE APS CRYSTAL CITY MEETING, C. B. DOVER

Title of tutorial: VISTAS IN NUCLEAR PHYSICS

Who should attend: This course is intended to acquaint scientists with recent key developments and frontier research areas in nuclear physics.

Course Description: This course consists of three parts. The first part will provide an overview of recent advances in our understanding of nuclear structure, as well as physics motivations and prospects for future research. The second part will focus on the study of nuclear matter at high densities and temperatures, emphasizing the knowledge gained from experiments with heavy ion beams at Brookhaven and CERN, and the possible signatures for a transition from hadronic matter to a plasma of quarks and gluons. In the third part, the uses of the nucleus as a laboratory for the study of fundamental processes will be elucidated, with emphasis on weak interactions and tests of the standard model.

TOPICS

- Advances in Understanding Nuclear Structure and Reactions in Extreme Environments; New Symmetries in Nuclear Spectra; Using New Detectors and Facilities to Test the Limits of Nuclear Stability with respect to Rotation, Temperature and Neutron/Proton Ratio.

- Dynamics of Hadronic Matter at High Density and Temperature, Chiral Symmetry Restoration and Deconfinement; Relativistic Heavy-Ion Collisions and the Transition to the Quark--Gluon Plasma Phase; Signatures of Plasma Formation; Interpretation of Measurements at Brookhaven and CERN Energies; Future Prospects for the Study of Hot, Dense Matter at the Relativistic Heavy-Ion Collider (RHIC).

- The Nucleus as a Laboratory for the Study of Fundamental Interactions; Weak Interaction Tests of the Standard Model; Symmetry Tests in Nuclei (Parity, Time--Reversal, Charge Symmetry); Neutrino Masses, Mixing, and Charge Conjugation Properties (Double Beta Decay, Solar Neutrinos).

INSTRUCTORS

- **Kim Lister** is an Associate Professor of Physics at Yale University. His research interests are in nuclear spectroscopy, especially of nuclei far from stability and at high angular momentum, and in the development of techniques for these studies, such as particle and gamma detector arrays and recoil separators.

- **Carl Dover** is a Senior Scientist in the Nuclear Theory Group at Brookhaven National Laboratory. His research interests include relativistic heavy-ion physics, strange particle nuclear physics, and antimatter interactions with matter.

- **Wick Haxton** is a Professor of Physics at the University of Washington and Director of the Institute for Nuclear Theory. His principal research interests include the use of many-body systems to test symmetries, solar neutrinos and other nuclear astrophysics, weak interactions, and numerical techniques for nuclear and other many-body problems.

5. DNP FALL MEETING AT WILLIAMSBURG, VA, 26-29 OCTOBER 1994

The Annual Fall Meeting of the Division of Nuclear Physics, including workshops, will be held 26-29 October 1994 at the Fort Magruder Inn & Conference Center in Williamsburg, Virginia. Historic Colonial Williamsburg is located a short walk from the Conference Center. The Williamsburg area includes numerous additional popular attractions such as colonial plantations, James Town, York Town, Bush Gardens and a variety of museums. Shopping ranges from the quaint shops to the 'famous' Pottery. The Continuous Electron Beam Accelerator Facility (CEBAF) is 15 minutes travel from the meeting location.

The Local Committee is planning an invited session on *"Strangeness in Nucleons and Nuclei"*. Topics include Parity Violating Electron Scattering, Photo and Electroproduction of Strange Particles, Hypernuclei, Hidden Strange ϕ Production, H particle (if found), and Strangeness in Neutron Stars.

The Local Committee is planning two workshops at Williamsburg. One is on *"Spin Degrees of Freedom in Electromagnetic Nuclear Physics"*, with the following topics: Polarimeters, Targets: H, D, HD, ^{3}He, $\vec{e}$ Sources, G^E_n, Electroweak Form Factors, and the Spin 'Crisis'. The second workshop is on *"Data Acquisition and Reduction Issues in Nuclear Physics"*. The planned topics for this workshop are Acquisition Systems, Simulations, Databases, Parameter Sets/Calibrations, Farms/Parallel Processing, and Code Development.

On October 26 and 27 there will be Reception Tours of CEBAF. The buses will depart at 4:30 p.m. from Williamsburg. Each Tour can accommodate 250 - 300 people.

The Local Committee consists of Roy Whitney, Chair (CEBAF), Keith Baker (HU), Warren Buck (HU), Larry Cardman (CEBAF), Roger Carlini (CEBAF), Carl Carlson (W&M), Dave Doughty (CNU), Dave Heddle (CNU), Nathan Isgur (CEBAF), Andi Klein (ODU), Bernhard Mecking (CEBAF), Sirish Nanda (CEBAF), Charles Perdrisat (W&M), Vina Punjabi (Norfolk), and Wally Van Orden (ODU).

6. FUTURE DNP FALL MEETINGS

The present schedule for fall meetings is as follows:

1994	October 26-29 Williamsburg, VA
1995	October 25-28 Bloomington, IN
1996	October 16-19 Cambridge, MA

The dates include the Wednesday "workshops", which are held in conjunction with the DNP fall meetings. Holding "workshops" at the DNP fall meetings is a tradition that began with the 1986 Vancouver meeting. All meeting attendees are welcome and encouraged to come. It has been the intention of the DNP Executive Committees that these "workshops" should have broad appeal, with introductory pedagogical talks for the benefit of those who have come primarily for the DNP meeting but want to take the opportunity to learn about a field of specialty of the local community.

7. NOMINATIONS FOR APS FELLOWSHIP

The procedure for the election of a Member to Fellowship is outlined in the Membership Directory of the APS under "Constitution and Bylaws." A nomination form, which cites the principal contributions of the candidates to physics, should be prepared and signed by two members of the society. The total number of members who could be elected to Fellowship in a given year is one half of one percent of the total APS membership.

The DNP deadline is normally **1 April.** Nomination forms are available from The American Physical Society, One Physics Ellipse, College Park, MD 20740-3844. Completed forms should be returned to Dr. H. Lustig at the same address.

The 1994 DNP Fellowship Committee is comprised of W. C. Haxton (Chair), J. Matthews, and V. E. Viola. The Fellowship Committee reviews the nominations for APS fellowship referred to the DNP and recommends a slate of candidates which is forwarded to the DNP Executive Committee and then to APS Council for approval.

It is particularly important for nominators to ensure that the cases which they prepare for the Fellowship Committee are well documented. In addition to that requested on the nomination form, information such as lists of invited talks, awards, professional activities, committee services, and participation in organization of conferences is very helpful. Inclusion of a complete publication list is highly recommended.

The DNP has adopted the following Fellowship Criteria Guidelines. To be chosen as a Fellow, an APS member should have a record of excellence in research that has been sustained over several years, and have done at least one major, original work that has influenced his/her specialty in a significant way.

The list of APS Fellows (by APS subunit) elected in a given year is published in the March issue of APS News. The names of newly elected DNP Fellows are published in the February newsletter and the awards are presented at the DNP Business meeting of the Spring APS meeting.

8. NOMINATIONS FOR 1995 TOM W. BONNER PRIZE IN NUCLEAR PHYSICS

This annual prize was established in 1964 as a memorial to Tom W. Bonner by his friends, students and associates.

Previous winners are: H. H. Barschall, R. J. Van de Graaff, C. C. Lauritsen, R. G. Herb, G. Breit, W. A. Fowler, M. Goldhaber, J. D. Anderson and D. Robson, H. Feshbach, D. H. Wilkinson, C. S. Wu, J. P. Schiffer, S. T. Butler and G. R. Satchler, S. Polikanov and V. M. Strutinsky, Roy Middelton and W. Haeberli, R. M. Diamond and F. S. Stephens, B. L. Cohen, G. E. Brown, C. D. Goodman, H. A. Enge, E. G. Adelberger, L. M. Bollinger, B. Frois and I Sick, R. H. Davis, E. M. Henley, V. W. Hughes, P. Twin, H. G. Blosser and R. E. Pollock, and A. Arima and F. Iachello.

The purpose of this prize, which currently consists of $5,000 and a certificate citing the recipient's contributions, is, *"To recognize and encourage outstanding experimental research in nuclear physics, including the development of a method, technique, or device that significantly contributes in a general way to nuclear physics research"*.

Nominations are open to physicists whose work in nuclear physics is primarily experimental, but a particularly outstanding piece of theoretical work will take precedence over experimental work. There are no time limitations on when the work was performed. The prize shall ordinarily be awarded to one person but a prize may be shared among recipients when all the recipients have contributed to the same accomplishment(s).

Nominations remain active for three years. It is extremely helpful for the committee to receive additional letters of support that detail the contributions of the nominee and the impact these contributions have had on the field. It is also appropriate to submit material such as significant articles that might help us evaluate the nominee's contribution. While general statements concerning the value of the nominee's work are important, we must have specific information that allows us to determine what the nominee has contributed and how this contribution has impacted the field.

Send name of proposed candidate and supporting material before ***1 September 1994*** to: F. P. Calaprice, Department of Physics, Jadwin Hall, Princeton University, P. O. Box 708, Princeton, NJ 08544.

9. BONNER-PRIZE FUNDING DEFICIT

The Tom W. Bonner Prize, which consists of $5000 and a certificate citing the contributions made by the recipient, is awarded annually. On June 30, 1989, the fund balance stood at $8,142, enough for one more prize in 1990. The prize was replenished in 1990 under the direction of R. A. Eisenstein. The contributors included private corporations, universities and laboratories, and individuals. A list of contributors was published in the May 1990 Newsletter. The fund is currently $15,000 short of what is recommended by the APS to keep the fund self sustaining. If you missed the opportunity to contribute during the 1990 fund raising drive, now is an opportune time to make that contribution. A form that can be used for this purpose is included with this newsletter. Please make out your check to the DNP Bonner Prize Fund and send it to V. R. Brown, DNP Secretary-Treasurer, LLNL, L-288, Livermore, CA 94550.

10. PHYSICS NEWS IN 93, C. B. DOVER

Three nuclear physics topics of very high current interest were selected for inclusion in Physics News in 1993. These will appear in a future issue of APS News. One topic was *"Making Oxygen in Stars"*, dealing with studies of the $^{12}C + {}^{4}He \rightarrow {}^{16}O + \gamma$ reaction, a key process in the chain leading to heavy elements. Here key new experiments involving the beta decay of

^{16}N to ^{16}O were performed by a group at Yale University and a TRIUMF-CalTech-Toronto-Simon Fraser-Alberta collaboration. A second topic was *"Hot and Dense Nuclear Matter"*, where some of the exciting results from recent relativistic heavy-ion experiments with Au beams at the Brookhaven AGS were described. A third topic was *"Short-Range Meson Exchange Currents"*, involving the interpretation of precise measurements of π^0 production in proton-proton collisions performed at the Indiana University Cyclotron Facility. Decisive evidence was found in this process for short-range exchange currents, correlated with currents seen in first-forbidden beta decay.

11. DNP NUCLEAR SCIENCE BROCHURE, G. M. CRAWLEY

Unfortunately the DNP Brochure is not yet complete. A 32 page draft was circulated to about 15 people for comments in May. Most of the people who replied found only minor corrections, but there were two major criticisms which we have decided to address. The first was that the booklet was too long and that the intended audience (Congress and staff) would not have the patience to read it all. Therefore we are making a new draft with a greatly reduced list of topics, only 16 pages long and with more "white" space. The second criticism was that the draft had too much on applications and not enough science and that no matter what was said in the introduction, the brochure would appear to justify nuclear science on the basis of its applications. Therefore we have now made a more even split of the science and applications sections. Again there will be only a few topics covered, mainly the areas receiving major funding at present. Since the new draft consists largely of shortening and selecting parts of the old version, we hope that the brochure can be completed before the end of the calendar year in time for the beginning of the 1995 budget cycle. When the brochure is complete, we will be looking for DNP members to carry it to Federal and State legislators. We hope many of you will be willing to do so.

12. BUDGET UPDATE FROM THE NUCLEAR SCIENCE RESOURCES COMMITTEE, G. CRAWLEY AND L. L. RIEDINGER, CO-CHAIRS

The appropriations bills for the funding of Nuclear Physics have been passed for both agencies. The FY94 DOE request for Nuclear Physics was $322.3M, which is down from the FY93 request of $363M and which included the abrupt termination of LAMPF in FY94. In response to this loss of $41M, representatives of the nuclear physics community (Hermann Grunder, Director of CEBAF; Ernest Moniz, Chairman of the Nuclear Science Advisory Committee; Siegfried Hecker, Director of Los Alamos National Laboratory; and Nicholas Samios, Director of the Brookhaven National Laboratory) led an initiative to ask Congress to add this $41M back into the FY94 budget. The House added $15M to the Nuclear Physics budget, the Senate $31M, and in conference the Senate number was chosen, giving a total budget of $353.3M. This additional sum was distributed as follows: $19M for LAMPF (raising the total to $34M, down significantly from last year, as part of a two year phase out of operations), $8M for RHIC (bringing the total to $78M for FY94, down still compared to the $90M plan of a few years ago), $3M for CEBAF (for Hall B), and $1M for enhanced operations of the Bates facility at MIT. As usual, there is a "general reduction" imposed on the budget of $15M for General Science this year. One guess of the Nuclear Physics share of this is $3M.

After two passes of the appropriations bill on VA, HUD and Independent Agencies through the conference committee, the final number for the National Science Foundation is $3027.8M, 11% over the FY93 enacted level. Research and Related Activities receives $1998.5M, an 8% increase over the FY93 level. The Education and

Human Resources program total is $569.6M, up 17%. The Academic Facilities and Instrumentation Program is funded at $110M, up greatly from the $50M level last year. The Senate report language mandating that the NSF allocate 60% of its research budget to "strategic" research was not included in the conference report, but could be thought to stand since the issue was left silent. However, the NSF estimates that it already spends 55% on research in currently defined strategic areas (high-performance computing, biotechnology, advanced materials, global change, etc.), so the Senate language would not represent much of a change.

The big fireworks accompanied the debate on the SSC in the DOE Energy and Water Appropriations Bill (which also includes Nuclear and High Energy Physics). The administration request for SSC construction was $640M, the House voted to kill it, the Senate voted the full amount, the first conference bill also included the full amount, but the House returned the bill to conference with the demand to terminate the SSC. On October 21 the conference committee voted to end construction and use the $640M to begin shutdown of the project. While there is some hopeful language in the conference report (asking DOE to make a plan that would utilize SSC assets in pursuit of an international high-energy physics endeavor), the SSC appears to be dead. Senator Bennett Johnston, the biggest SSC supporter, is very upset about this shutdown, and has made dire statements about the difficulty of proceeding with other large science projects in the current political and fiscal atmosphere. The ripple effects of the SSC termination have only begun to be felt. The impact on Nuclear Physics is not possible to gauge at this early date.

13. NSAC REPORT, E. MONIZ, NSAC CHAIR

NSAC met on Wednesday, 20 October at Asilomar. Nuclear physics program officers from the Department of Energy and from the National Science Foundation discussed recent developments and FY94 funding for their programs (see discussion of *"Town Meeting"* under Item 2 of this newsletter).

A major new item was the announcement of the likelihood that a new Long Range Plan (LRP) will be carried out next year. The last LRP was produced by the community in 1989 and, with occasional updates by NSAC, has provided significant guidance to the funding agencies. Both the DOE and the NSF have begun strategic planning processes which will update their missions and goals in basic research during this period of significant change. These exercises provide the context within which a new LRP is likely to be requested early next year.

The basic mechanisms employed will most probably be very similar to those used in 1989. At that time, the DNP was asked to assist NSAC in organizing a series of workshops and town meetings which generated input to a Long Range Plan Working Group. The full LRPWG, consisting of approximately fifty scientists, then met to discuss and establish priorities. If NSAC is charged with creating a new LRP early in 1994, the timing for the next LRPWG meeting will likely be in January 1995.

14. ENRICHED ISOTOPE REPORT, G. CRAWLEY AND L. L. RIEDINGER, NSRC, CO-CHAIRS

The Institute of Medicine (IOM), which is affiliated with the National Academy of Sciences, has received a grant from the Department of Energy to commission a sixteen month study of biomedical isotopes. The purpose is to address the issue of the supply of enriched isotopes, both stable and radioactive, of importance to the biomedical community. Currently a number of radioactive isotopes used for nuclear medicine purposes are produced at LAMPF

or at BLIP, the Brookhaven Linac Isotope Producer. However, the long-term future of the former is in question, and even the conditions for the latter are up in the air. BLIP is used currently in parasitic mode connected with an injector for the AGS. The Department of Energy has requested $6 million in FY94 for upgrade of BLIP to produce more beam current and thus enable more radioactive isotope production for nuclear medicine. In addition, there is a move to build a dedicated facility for the production of these radioisotopes, e.g., the National Biomedical Tracer Facility (NBTF). One purpose of this IOM committee is to address the need for the NBTF and to help write the specifications and the procedures that DOE should follow in making that final decision.

There have been many problems connected with the supply of isotopes in the past five years. It is the availability of enriched stable isotopes that most worries the nuclear physics community. While the problems of stable isotope supply are not a central part of this IOM study, still there is a component of this that must be considered, as stable isotopes are needed to make some of the radioactive isotopes. Therefore, some of the same questions that we have been asking in recent years will be addressed by this committee. The concerns of the nuclear science community will be represented by four of the fourteen committee members: Jerry Nolen (ANL), Lee Riedinger (Univ. of Tenn.), Lee Schroeder (LBL), and Steve Yates (Univ. of Ky.). The committee first met on September 10-11 and will meet next on November 19-20.

15. ANNUAL REVIEWS OF NUCLEAR AND PARTICLE SCIENCE

The Division has continued the agreement with Annual Reviews, Inc., which will enable DNP members to obtain copies of the *"Annual Review of Nuclear and Particle Science"* at a 30% discount when purchased through the DNP Secretary-Treasurer, Virginia R. Brown, Lawrence Livermore National Laboratory, P. O. Box 808, L-288, Livermore, CA 94550.

1993-94 Prices: The dual prices (separated by a slash) listed below correspond to USA/other countries including Canada. Volumes 12–42 are $55/$60 retail and $39/$42 for DNP members. Volume 43 (available Dec. 1993) will be $59/$64 retail and $42/$45 for DNP members.

Other Annual Reviews are also available. Payment (Payable to the Division of Nuclear Physics–APS) must accompany your order and must be in U.S. funds. California orders must add applicable sales tax. *Since 1 January 1991, all orders shipped to Canada require the addition of a 7% General Sales Tax.*

16. FEW BODY SYSTEMS

APS members are invited to enter an individual subscription at a 50% reduced rate to the journal *"Few-Body Systems"* published by Springer Verlag. The Associated Editor, W. Plessas, has requested that DNP members be made aware of this offer. You can order directly from Springer-Verlag, 175 Fifth Avenue, New York, N. Y. 10010. Please be sure to mention that you are an APS member.

17. FUTURE CONFERENCES

Organizers of future conferences should contact the DNP Secretary-Treasurer if they wish their conferences listed in DNP newsletters.

"1994 Symposium on Radiation Measurements and Applications 8th in a Series", to be held 16-19 May 1994, at the University of Michigan, Ann Arbor, Michigan. [For further information contact: Helen Lum, Symposium Secretary, 3034 Phoenix Memorial Laboratory, The University of Michigan, Ann Arbor, Michigan 48109-2100

*"**The Fifth Conference on the Intersections of Particle and Nuclear Physics**"* to be held May 31 to June 6, 1994 at the Stouffer Vinoy Resort, St. Petersburg, FL. The Conference will focus on the common areas of interest of current Particle and Nuclear Physics including Theory and Experiment, Facilities and Technology, and will emphasize the Physics in the Energy Region of 1 to 200 GeV. [For further information contact Elly Driessen, Conf. Secretary, TRIUMF, 4004 Westbrook Mall, Vancouver, B.C., V6T 2A3, Canada, phone: (604) 222-1047, fax: (604) 222-1074, telex: (0)-4508503, bitnet: *"driessen@triumfcl", internet: "driessen@reg.triumf.ca", decnet: "45397::driessen"*].

*"**International Conference on Perspectives for the Interacting Boson Model on the Occasion of its 20th Anniversary**"*, to be held 13-17 June 1994. [For further information contact: J. Mooney, Physics Department, Brookhaven National Laboratory, Upton, NY 11973, fax: (516) 282-5568, e-mail: *"mooney@bnldag"*].

*"**1994 Gordon Research Conference on Nuclear Chemistry**"* to be held June 19-24, 1994, at the Colby-Sawyer College, New London, New Hampshire. The focus of this conference will be on nuclear reaction studies. [For further information contact: G. J. Wozniak, M/S 88, Lawrence Berkeley Laboratory, Berkeley, CA 944720, e-mail: *"wozniak@lbl.gov"*, phone: (510) 486-7852, fax: (510) 486-7983].

*"**International Symposia on High Energy Spin Physics and Polarization Phenomena in Nuclear Physics**"*, to be held 15-22 September 1994, in Bloomington, Indiana. The conferences will discuss the effects of spin and polarization in various areas of high energy and nuclear physics research, as well as the technical aspects of polarized beams and targets. [For further information contact: Ms. Janet Meadows, Conference Secretary, Indiana University Cyclotron Facility, 2401 Milo B. Sampson Lane, Bloomington, IN 47408, phone: (812) 855-9365, fax: (812) 855-66645, internet: *"spin94@venus.iucf.indiana.edu"*, bitnet: *"spin94@iucf"*].

*"**Thirteenth International Conference on the Application of Accelerators in Research and Industry**"*, November 7-10, 1994, to be held at the University of North Texas, Denton, TX USA. [For further information contact: J. L. Duggan, Univ. of North Texas, Dept. of Physics, P.O. Box 5368, Denton, TX 76203, phone: (817) 565-3252 or 3250, fax: (817) 565-2227, e-mail: *"fc66@untvax.bitnet"*].

ANNOUNCEMENT

The Steering Committee of the Annual Nuclear Physics Summer School would like input from the community on future topics, sites, and potential chairpersons. Please communicate your suggestions to: Phil Siemens, Physics Dept., Oregon State University, 301 Weniger Hall, Corvallis, OR 97331-6507, phone (503) 737-1697, fax (503) 737-1683, e-mail: *"siemens@physics.orst.edu."*

1993 DNP BIOGRAPHIES

Chair-Elect

WALTER F. HENNING - Director, Physics Division, Argonne National Laboratory, 1992-present; Vice-Chair Directorate GSI, 1991; Member of the Directorate of the GSI, 1989-1991; Professor, University of Mainz and Section Leader, GSI, 1987-1990; Professor, Enrico Fermi Inst. and Dept. of Physics, University of Chicago, 1983-1986; Senior Scientist, Argonne National Laboratory, 1980-1986; Staff Physicist, Argonne National Laboratory, 1976-1980; Associate Professor, Technical University of Munich, 1975-1976; Visiting Scientist, Argonne National

Laboratory, 1973-1975; Research Associate, Technical University of Munich, 1968-1973; Habilitation, Technical University of Munich, 1976; Ph.D. Physics, Technical University of Munich, 1968; Diploma (Physics), Technical University of Darmstadt, 1966. Visiting Appointments: University of Jerusalem, Spring 1982; Technical University of Munich, 1982. Committees, etc.: Chair, NSF Special Emphasis Panel on Low Energy Nuclear Physics, 1992-1993; Member NSAC, 1992-1994; Member of the Executive Committee of the DNP/APS, 1992-1995; Founding Committee for National Laboratory Rossendorf (Germany), 1991-1992; Nuclear Science Advisory Committee to the German Federal Ministry of Science and Technology (Gutachter Ausschuss BMFT), 1991-1993; Program Advisory Committee, MSU Cyclotron Facility, 1991-1994; Scientific Council, KVI Groningen, 1991-1994; Program Advisory Committee, SIS/ESR GSI Darmstadt, 1989-present; Program Advisory Committee, SATURNE Saclay, 1989-1992; Program Advisory Committee, XTU-Tandem Padova, 1988-1991; Program Advisory Committee, VICKSI HMI Berlin, 1988-1991; Program Advisory Committee, BEVELAC LBL Berkeley, 1987-1993; Program Advisory Committee, UNILAC-GSI Darmstadt, 1987-1989; Bonner Prize Committee 1985-1986 (Chair, 1986); Program Advisory Committee, ATLAS-Argonne, 1984-1986; Program Advisory Committee, SUPERHILAC LBL Berkeley, 1983-1986; Program Advisory Committee, MP Tandem Brookhaven, 1977-1982; Program Committee, American Physical Society, 1976-1977. Other Professional Activities, Memberships, etc.: Editor Zeitschrift fuer Physik, 1987-1992; Associate Divisional Editor Physical Review Letters, 1991-1994; Member, German Physical Society; Fellow, American Physical Society. Research Interests: nuclear structure, low energy heavy-ion reactions, meson and photon production in relativistic heavy-ion reactions; nuclear reactions with radioactive beams and astrophysics; accelerator mass spectrometry; cryogenic low-temperature detectors.

JOHN DIRK WALECKA - Governer's Distinguished CEBAF Professor, College of William and Mary, and Senior Fellow, CEBAF (1992-present); Scientific Director, CEBAF (1986-92); Professor of Physics, Stanford University (1966-87); Associate Professor (1962-66); Assistant Professor (1960-62); Sloan Foundation Fellow (1962-66); NSF Postdoctoral Fellow, Stanford (1959-60) and CERN (1958-59); Ph.D. in Nuclear Theory, MIT (1958); B.A. Harvard (1954); Chairman, Department of Physics, Stanford (1977-82); Nordita Guest Professor, Copenhagen and Trondheim (1973); Argonne Fellow (1982-83); Friedlander Panel on Future of Nuclear Science NAS/NRC (1975-77); Initial NSAC (1977-79); Panel on Nuclear Physics, Physics Survey Committee NAS/NRC (1983-84); NSAC Long-Range Planning Group, Boulder (1989); Program Advisory Committees: Nevis (1971-77), LAMPF (1974-76), Bates (1971-77, 1983-87), NIKEF (1985-87), BNL (1991-present); Visiting Committees: LNS-MIT (1980-85), IUCF (1987-91), TUNL (1989-present), and Depts. of Physics, U. Maryland (1984), U. Minnesota (1985), Hampton U. (1990-present), Brown U. (1992-present); National Advisory Committee, INT, Seattle (1990-93); Advisory Board, ITP, Santa Barbara (1990-93); Chairman, Nuclear Theory Review Panel, DOE (1987); Executive Committee DNP (1976-78, 1984-86); Fellow American Physical Society; Research Interests: Theoretical nuclear and subnuclear physics - nuclear structure, the relativistic nuclear many-body problem, strong-coupling QCD, electroweak interactions with nuclei.

Vice-Chair

ROBERT D. MCKEOWN - Professor of Physics, California Institute of Technology, 1992-present; Associate Professor of Physics, California Institute of Technology, 1986-1992; Assistant Professor of Physics, California Institute of Technology, 1981-1986; Assistant Physicist, Argonne National Lab., 1979-1980; Research Associate, Argonne National Lab., 1978-1979; Ph.D.--Physics, Princeton University, 1979; NSAC Long Range Plan working group, 1983; LAMPF Program

Advisory Committee, 1986-1989; CEBAF Program Advisory Committee, 1986; CEBAF Hall B Co-program manager 1986-1989; APS Division of Nuclear Physics Program Committee, 1989; NSAC Subcommittee on Instrumentation, 1988-1989; LAMPF Users Group Board of Directors, 1989-1991 (Chairman 1990); CEBAF Users Group Board of Directors, 1989-1991 (Chairman 1990); Program Review, Bates Linear Accelerator Center, 1989; Committee on Future Directions at LAMPF, 1989-90; NSAC Long Range Plan working group, 1989; National Science Foundation Presidential Young Investigator, 1984-1989; EPRI Review on Anomalous Nuclear Measurements in Deuterium/Metal Systems, 1991; NSAC Subcommittee on Implementation of the Long Range Plan, 1992; APS Division of Nuclear Physics Executive Committee, 1992-present; NSAC member, 1992-present; Chairman of Gordon Research Conference on QCD in Nuclear Physics, 1993; National Advisory Committee of the Institute for Nuclear Theory, 1993-present; Research Interests: Electromagnetic and weak interactions with nuclei and nucleons, optically pumped polarized targets.

LEE L. RIEDINGER - Professor of Physics, The University of Tennessee, 1980-present; Acting Associate Vice Chancellor for Research, UT, 1991-present; Assistant Professor, UT, 1971- 1975; Associate Professor, UT, 1975-1980; A.B. Thomas More College, 1964; Ph.D. Vanderbilt University, 1968; NSF Postdoctoral Fellowship, 1968-69; Honorary Professor, Lanzhou University, China, since 1985; Honorary Professor, Institute of Modern Physics, Lanzhou, China, since 1986; Member, APS and Sigma Xi; Visiting Scientist, Niels Bohr Institute, Copenhagen, Denmark, 1968-1969, 1978-1979, and 1988; Science Advisor to Senator Howard Baker, 1983-1984; Chairman, Gordon Conference on Nuclear Chemistry, 1985; Member of Program Advisory Committee for the High Flux Beam Reactor at Brookhaven National Laboratory, 1985-1988; Chairman, Nuclear Science Resources Committee, APS, Division of Nuclear Physics, 1985-93; Member, Program Advisory Committee for Berkeley 88-inch Cyclotron, 1987-90, chairman in 1989, 1990; Editorial Board, Modern Physics Letters A, World Scientific Publishing Co., 1987-90; Editorial Board, Journal of Physics G, England, 1987-1991; Member, Nuclear Science Advisory Committee to the Department of Energy and the National Science Foundation, 1990-93; Elected Fellow of APS, 1991; APS-DNP Executive Committee, 1991-1993; Consulting Editor in Atomic, Molecular, and Nuclear Physics, McGraw-Hill Professional Book Group, 1991-; Member, SURA Executive Committee and ORAU Board of Councilors, 1992-; Chairman, State of Tennessee Science and Technology Advisory Council, 1993-95. Research Interests: Experimental Nuclear Physics: Studies of high-spin properties of nuclei produced in heavy-ion induced reactions, using large arrays of gamma-ray detectors. Experiments performed at heavy-ion accelerators such as those at Oak Ridge, Argonne, Berkeley, and Copenhagen.

Secretary-Treasurer

VIRGINIA R. BROWN - Senior Staff Scientist, Lawrence Livermore National Laboratory, 1964-present; B.S. Northeastern University 1957; Ph.D. McGill University, 1964; Post Doctoral Research Appointment, Yale University, 1963-64; Post Doctoral Fellowship LLNL, 1965-67; Guest Research Position, IKP Jülich, West Germany, approximately two months per year, 1980-present; Adjunct Prof., Univ. of California at Davis; Fellow APS; Executive Committee, Division of Nuclear Physics, 1980-82; Economic Concerns Committee, APS DNP 1973-77; Asilomar DNP Meeting Organizing Committee, 1988-89, 1992-93; DNP Fall Meeting Plenary Session Committee, 1990-present; DNP Bylaws Committee, 1991-92; APS Committee on Constitution and Bylaws, 1992-93; Nuclear Physics Summer School Steering Committee, 1992-93; Secretary-Treasurer, DNP 1986-present. Research-theoretical nuclear physics: Neutron and proton (isospin) nuclear structure contributions to various transitions; comparison to hadronic, weak and EM

probes. Coupled-channels effects in inelastic scattering and charge exchange. The NN system in the presence of weak and electromagnetic fields.

Executive Committee

A. BAHA BALANTEKIN - Professor of Physics, University of Wisconsin-Madison, 1992-present; Associate Professor of Physics, UW-Madison, 1989-1992; Assistant Professor of Physics, UW-Madison, 1986-1989; Eugene P. Wigner Fellow, Oak Ridge National Laboratory, 1984-1986; Research Associate, Center for Theoretical Physics, Massachusetts Institute of Technology, 1982-1984; Ph.D. in Physics, Yale University, 1982. Member, Program Committee, Topical Group on Few-Body Systems and Multiparticle Dynamics, 1987-1988; Founding Organizer, Midwest Nuclear Theory meeting series, 1989; Organizer, Fourth National Nuclear Physics Annual Summer School, 1991; Member, Steering Committee of the Nuclear Physics Summer School series, 1992 - present; Vice-Chairperson, Bonner Prize Selection Committee, Division of Nuclear Physics, 1992; Chairperson, Bonner Prize Selection Committee, Division of Nuclear Physics, 1993; Vice-Chairperson, Gordon Conference on QCD in Nuclear Physics, 1993 (Chairperson-elect for 1995); Organizer, Institute for Nuclear Theory-Seattle, program on Neutrino Astrophysics, 1994. NSF Presidential Young Investigator, 1987-1992. Japan Society for the Promotion of Science Fellow, 1993-1994. Visiting Scientist/Professor : Tohoku University, 1988, 1992; University of Washington, 1989; Argonne National Laboratory, 1990, 1991; Institute for Nuclear Theory, U. Washington, 1990, 1992; Queen's University, 1992. Research interests include: Nuclear structure and heavy-ion physics; nuclear and neutrino astrophysics, solar neutrinos; physics of strong fields; quantum chromodynamics and quark degrees of freedom in nuclei; the use of symmetry principles in nuclear physics; new areas at the interface of nuclear physics, particle physics and astrophysics.

ELIZABETH J. BEISE - Assistant Professor of Physics, University of Maryland at College Park (1993-present); Senior Research Fellow, Kellogg Radiation Lab, Calif. Inst. of Tech. (1990-1993), Research Fellow (1988-1990); Ph.D., Mass. Inst. of Tech. (1988); B.A., Carleton College (1981); Member, APS (1982); CEBAF User's Group Board of Directors (1993); Bates User's group nominating committee (1990); Phi Beta Kappa (1981); Recipient, Peter T. Demos Award for Ph.D. research, MIT-Bates Laboratory (1988). Current Research Interests: electromagnetic and electro-weak probes of nucleon structure, few-body systems, polarization degrees of freedom.

R. RUSSELL BETTS - Senior Physicist, Argonne National Laboratory, (1988-present); Adjunct Professor of Physics, University of Illinois at Chicago, (1993-present); B.A. Oxford University 1968; M.S. University of Pennsylvania 1969; Ph.D. University of Pennsylvania 1972; M.A. Oxford University 1984; Postdoctoral Fellow, University of Pennsylvania (1972-73); Visiting Scientist, Niels Bohr Institute (1973-75); Assistant Professor of Physics, Yale University (1975-79); Physicist, Argonne National Laboratory (1979-88); University Lecturer in Nuclear Physics, Oxford University (1984-86); Fellow and Tutor in Physics, Lady Margaret Hall, Oxford University (1984-86); Program Advisory Committee, Tandem Facility, Brookhaven National Laboratory (1982-84); Program Advisory Committee, ATLAS Facility, Argonne National Laboratory (1983-85); APS-DNP Publications Committee (1984-85); Program Advisory Committee, Nuclear Structure Facility, Daresbury Laboratory (1984-86); SERC Nuclear Physics Committee (1984-86); Consulting Editor for Nuclear Physics, Institute of Physics (1988-present); NSF-DOE Long Range Planning Group for Nuclear Science 1989; APS-DNP Program Committee (1991-present); US Correspondent - NuPECC News (1992-present). Research Interests: Strong field effects in heavy-ion collisions, positron production, heavy-ion reactions at near and sub-barrier energies,

nuclear structure at large deformations, clustering in nuclei.

BERNDT MUELLER - Professor of Physics, Duke University (1990 - present); Associate Professor, Frankfurt University (1976-89); Research Associate, University of Washington (1974-75); Post-Doctoral Fellow, Yale University (1974); Dr. phil. nat. in Theoretical Physics, Frankfurt (1973). Visiting Appointments: Vanderbilt University (1980); California Institute of Technology (1980); University of Tokyo (1985); University of Arizona (1988). Committees, etc: GSI Program Advisory Committee (1982-85); APS/DNP Program Committee (1990-92); BNL, Physics Dept. Visiting Committee (1992 - present); NSAC (1992 - present); NSAC Subcommittee on IUCF and MSU (1992); Associate Editor, Physical Review Letters (1992 - present). Research Interests: Quantum Chromodynamics; relativistic heavy ion collisions; QED in strong fields.

JOHANNA STACHEL - Associate Professor of Physics, State University of New York at Stony Brook, 1989-present; Assistant Professor, SUNY Stony Brook, 1985-1989; Visiting Assistant Professor, SUNY Stony Brook, 1984-1985; Research Associate, Nuclear Structure Laboratory, SUNY Stony Brook, 1983-1984; Research Associate, Institut fuer Kernchemie, Johannes-Gutenberg Universitaet Mainz, Germany, 1979-1983; Ph.D. (summa cum laude), University Mainz, 1982; Diploma, University Mainz, 1978; Committees: Board on Physics and Astronomy, National Research Council, since 1993; NSAC 1992-present; Program Initiation Group for Nuclear and Particle Physics, National Research Council, 1991-present; Program Committee APS Division of Nuclear Physics, 1991-1992; Fellowships and Awards: Presidential Young Investigator, 1988; Alfred P. Sloan Fellowship, 1986; Feodor-Lynen Fellowship A. v. Humboldt Stiftung, 1983-1985; Prize of the Johannes-Gutenberg Universitaet, Mainz, best Ph.D. Thesis 1982; Fellowship Studienstiftung des Deutschen Volkes, 1975-1982; Present Research Interests: Collisions between relativisitic heavy ions, nuclear matter at high density and high temperature, restoration of chiral symmetry and formation of the quark-gluon plasma.

GLENN R. YOUNG - Senior Staff Scientist, Oak Ridge National Laboratory (1990-present); Group Leader, Physics Division (1986-present); Staff Scientist, ORNL (1980-1986); Eugene P. Wigner Fellow, ORNL (1978-1980); Chaim Weizmann Fellow, MIT (1977-1978); Ph.D. in Physics, MIT (1977); NSF Predoctoral Fellow, MIT (1973-1976); B.A. Physics and Mathematics, U.Tennessee (1973). Fellow, APS. Member, Sigma Xi. DNP Program Committee 1985-1986. Member NSAC 1986-1989. BEVALAC Program Advisory Committee 1986-1988, MSU NSCL Program Advisory Committee 1986-1992, NSAC Instrumentation Subcommittee 1988, Organizing Committees for Quark Matter 1988 and 1991, NSAC Long Range Plan (Boulder, 1989), Physical Review C Editorial Board (1988-1990), AGS Users Executive Committee (1991-1993), DNP Physics News subcommittee (1992), NSAC Subcommittee on Implementation of the Long Range Plan (1992), NSAC Subcommittee on Large NSF Facilities (1993), CEBAF Program Advisory Committee (1993-). Research interests: nuclear reactions and scattering at intermediate and relativistic energies, heavy-ion synchrotron design, quark-matter searches, high-pT probes of nuclei.