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**TO:** Members of the Division of Nuclear Physics, APS  
**FROM:** Benjamin F. Gibson, LANL – Secretary-Treasurer, DNP

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**EXTRA, EXTRA  
Long Range Planning  
EXERCISE**

**Town Meeting Dates**

- **26-27 October 2000** — Nashville
- **12-14 January 2007** — New Brunswick
- **19-21 January 2007** — Chicago

The home page for the Division of Nuclear Physics is now available at "<http://dnp.aps.org>." Information of interest to DNP members -- current research topics, deadlines for meetings, prize nominations, forms, and useful links are provided. Each DNP Newsletter is posted, in advance of the copy sent via post. Comments and suggestions are solicited. Please send them to  
Thomas Glasmacher at <dnpweb@nscl.msu.edu>

**1. THE LONG RANGE PLAN FOR 2007,  
S.J. Seestrom**

At the July 21 meeting of NSAC the agencies presented a charge to deliver a long range plan. As part of that exercise, the NSAC Chair Bob Tribble has requested that the DNP organize and provide input to NSAC from the nuclear physics community. The input will be in the form of white papers resulting from town meetings. To be most useful, the white papers will address the following questions:

\* What scientific question(s) is this sub-field trying to answer?

\* What major scientific accomplishments and discoveries have occurred since the last long-range plan?

\* What are the challenges being addressed in the near future (<3 years) and over the duration of the next long-range plan (10 years)?

\* What research capabilities, in order of priority, will be needed throughout the duration of the next long range plan to address the scientific questions?

\* How does the U.S. effort in this sub-field fit into the global picture?

\* What will be the impact of the future program on other fields of science and on society?

In addition to addressing the Charge, NSAC has specifically requested that the DNP work with the Nuclear Chemistry & Technology Division of the ACS to provide information on the issues surrounding education and the impact of nuclear science on society.

The DNP Executive Committee has formulated a plan encompassing four Town Meetings to address the science questions laid out in the NSAC Charge. We took into account input received at the Town Meeting held during the Dallas APS meeting, as well as various communications from community members.

We will have four town meetings:

- 1) Nuclear Structure & Astrophysics
- 2) Neutrinos, Neutrons, Fundamental Symmetries
- 3) QCD and Hadronic Physics
- 4) Phases of QCD Matter

Detailed information regarding each of the Town Meetings can be found in the items below as well as on the web sites set up by the individual organizing committees. Each of you is encouraged to participate in the Town Meeting process and to have your views heard in this important long range planning process. In addition to these traditional town meetings there will be workshops devoted to both education and our contributions to society.

## MEETINGS RELATED TO THE LONG-RANGE PLAN

|          |                 |           |            |                                       |
|----------|-----------------|-----------|------------|---------------------------------------|
| DNP06    | Fall Meeting    | Nashville | Oct. 26-27 | DNP                                   |
| Pre-Town | Neutrinos       | Santa Fe  | Nov. 18-19 | S. Elliot / H. Robertson              |
| Pre-Town | Symm/Neutrons   | Caltech   | Dec. 7-8   | B. Filippone / M. Ramsey-Musolf       |
| Workshop | Education       | BNL       | Dec. 1-2   | J. Cizewski / P. McMahon / T. Hallman |
| Workshop | Competitiveness | Chicago   | Jan. 19-21 | E. Hartouni / C. Howell               |

### 2. TOWN MEETING ORGANIZING COMMITTEES S.J. Seestrom

The Town Meetings themselves will be organized by the four Organizing Committees as listed here. Your participation is warmly invited.

#### **Nuclear Astrophysics, Study of Nuclei**

*Organizers:* Hendrik Schatz (MSU) and Robert Janssens (ANL)

#### *Organizing Committee:*

Ani Aprahamian (Notre Dame)  
 Larry Cardman (JLAB)  
 Art Champagne (UNC Chapel Hill)  
 David Dean (ORNL)  
 George Fuller (UCSD)  
 Robert Grzywacz (ORNL)  
 I. Yang Lee (LBNL)  
 Erich Ormand (LLNL)  
 Jorge Piekarewicz (Florida State)  
 Michael Thoennessen (MSU)  
 Robert Wiringa (ANL)  
 Sherry Yennello (Texas A&M)

#### **Neutrinos, Neutrons, Fundamental Symmetries**

*Organizers:* Hamish Robertson (Washington) and Michael Ramsey-Musolf (Cal Tech)

#### *Organizing committee:*

Baha Balantekin (Wisconsin-Madison)  
 Guido Drexlin (Karlsruhe)  
 Steve Elliott (LANL)  
 Wick Haxton (Washington)  
 Dave Herzog (Illinois)  
 Dave Holstein (Massachusetts)  
 Paul Huffman (NCSSU)  
 Josh Klein (Texas)  
 Krishna Kumar (U Massachusetts)  
 Bill Marciano (BNL)  
 Gail McLaughlin (NCSSU)  
 Jeff Nico (NIST)  
 Allena Opper (Ohio U)  
 Alan Poon (LBNL)  
 Guy Savard (ANL)  
 Bruce Vogelaar (Virginia Tech)  
 Scott Wilburn (LANL)

### **QCD Workshops:**

#### **QCD and Hadronic Physics**

*Organizers:* Xiangdong Ji (Maryland) and Zein-Eddine Meziani (Temple)

#### *Organizing Committee:*

Lawrence Cardman (JLab)  
 Simon Capstick (Florida State)  
 Abhay Deshpande (Stony-Brook)  
 Cynthia Keppel (Hampton)  
 Curtis Meyer (CMU)  
 John Negele (MIT)  
 Jen-Chieh Peng (Illinois)

#### **Phases of QCD Matter:**

*Organizers:* Peter Jacobs (LBNL) and Berndt Mueller (Duke)

#### *Organizing Committee*

Jamie Nagle (U. of Colorado)  
 Dima Kharzeev (BNL)  
 Krishna Rajagopal (MIT)  
 Steve Vigdor (Indiana U)

### 3. PARALLEL TOWN MEETINGS: NEUTRINOS, NEUTRONS, FUNDAMENTAL SYMMETRIES AND NUCLEAR ASTROPHYSICS, STUDY OF NUCLEI

#### **Neutrinos, Neutrons, Fundamental Symmetries**

This town meeting will be held in parallel with the Nuclear Astrophysics, Study of Nuclei town meeting. The dates for the meeting are January 19-21 (Friday - Sunday); The meeting location is the Hyatt Regency Chicago, (where the 2004 DNP Fall Meeting was held). Hotel information can be obtained at the Hyatt Regency website:

<http://chicagoregency.hyatt.com/hyatt/hotels/>

The meeting is being arranged by local chairs Zheng-Tian Lu (Argonne) and Steve Elliott (LANL). A website has been set-up with detailed information about plans for this town meeting:  
<http://www-mep.phy.anl.gov/atta/dnp/>

The main town meeting is being organized under the auspices of the DNP. Various members of the community have indicated an

interest in organizing pre-meetings to prepare for the DNP town meetings. As a service to the community we are listing here information that we have on various pre-meetings:

There will be a Neutrinos Pre-Town Meeting to be held in Santa Fe on the weekend of November 18 and 19. The organizers are Steve Elliott and Hamish Robertson. The objective of the pre-town meeting, as it was in 2000, is to put together a framework for neutrino physics and an outline or draft for the white paper that will be fleshed out at the Fundamental Symmetries and Neutrinos Town Meeting at Argonne. The meeting will be held in Santa Fe at the Hotel Santa Fe; you can make reservations for your hotel room by calling 800-825-9876. (<http://www.hotelsantafe.com/>). Registration for the meeting at: <http://ewiserver.npl.washington.edu/NuPreMeeting>

There will be a Symmetries and Neutrons pre-town meeting Dec 7-8 at Caltech co-organized by Brad Filippone and Michael Ramsey-Musolf.

#### **Nuclear Astrophysics, Study of Nuclei**

This town meeting will be held in parallel with the Neutrinos, Neutrons, and Fundamental Symmetries town meeting. The dates for the meeting are January 19-21 (Friday - Sunday); The meeting location is the Hyatt Regency Chicago, (where the 2004 DNP Fall Meeting was held). Hotel information can be obtained at the Hyatt Regency website: <http://chicagoregency.hyatt.com/hyatt/hotels/>.

The meeting is being arranged by local chairs Zheng-Tian Lu (Argonne) and Steve Elliott (LANL). A website has been set-up with detailed information about plans for this town meeting: <http://www-mep.phy.anl.gov/atta/dnp/>

#### **4. PARALLEL TOWN MEETING: QCD AND HADRONIC PHYSICS AND PHASES OF QCD MATTER**

##### **QCD and Hadronic Physics**

This town meeting will be held in parallel with the Phases of QCD Matter town meeting. The meeting will be held January 12-14 on the campus of Rutgers University. The meeting hotel is the Hyatt Regency (2 Albany Street) in downtown New Brunswick, NJ. To reserve a room at the meeting rate, call the Hyatt at 732 873 1234 and tell the reservation desk that you are with the APS-DNP Town Meeting.

The meeting is being arranged by local chair Ron Ransome & Ron Gilman (Rutgers). A website has been set-up with detailed information about plans for this town meeting: <http://www.physics.rutgers.edu/np/2007lrp-home.html>.

##### **Phases of QCD Matter:**

This town meeting will be held in parallel with the QCD and Hadronic Physics town meeting. The meeting will be held January 12-14 on the campus of Rutgers University. The meeting hotel is the Hyatt Regency (2 Albany Street) in downtown New Brunswick, NJ. To reserve a room at the

meeting rate, call the Hyatt at 732 873 1234 and tell the reservation desk that you are with the APS-DNP Town Meeting.

The meeting is being arranged by local chair Ron Ransome & Ron Gilman (Rutgers). A website has been set-up with detailed information about plans for this town meeting: <http://www.physics.rutgers.edu/np/2007lrp-home.html>.

#### **5. EDUCATION WORKSHOP**

An education workshop is being organized by Jolie Cizewski (Rutgers), Peggy McMahon (LBNL), and Tim Hallman (BNL).

The Long Range Plan charge is explicit in identifying that education and public outreach are integral to the entire field and should be part of the discussion at each of the Town Meetings. To prepare for this, a pre-LRP workshop is being organized. Its purpose is to mobilize members of the community active in this area to develop a consensus concerning the goals for education and public outreach in the Long Range Plan, and an effective strategy to achieve those goals. Ultimately, this effort will culminate in a whitepaper containing a vision for a national strategy for education and public outreach in nuclear science as well as an action plan for supporting this vision in the Town Meeting discussions.

The workshop will take place at Brookhaven National Laboratory on Friday afternoon, December 1st, and all day Saturday, December 2nd. The format will consist of panel discussions (in the broad areas of K-12 and public outreach, attracting undergraduates to nuclear science, and fostering diversity) combined with smaller breakout groups to discuss and generate recommendations in these and other areas of interest. Upon registration, you will receive a short questionnaire to determine which discussion group(s) you would like to participate in. Volunteers are welcomed to constitute a writing group that would stay until Sunday to draft a white paper reflecting the recommendations developed at the meeting.

Thanks to support from the BNL Physics Department and Brookhaven Science Associates, no registration fee will be required for the workshop. We will however collect money from interested participants for a dinner on Friday and lunch on Saturday. Even though there is no registration fee, it is essential, in order to insure access to the BNL site, for participants to register in advance by filling out the form at <https://www.bnl.gov/epo/>.

Please note, that if you are not a U.S. citizen, BNL requires three weeks in order to process your guest paperwork. If you are a U.S. citizen, one week is required.

#### **6. AMERICAN COMPETITIVENESS**

A workshop addressing the American Competitiveness Initiative is being organized by Ed Hartouni (LLNL) and Calvin Howell (Duke). The workshop is in early planning stages, tentatively planned to overlap the town meetings in Chicago January 19-21.

The goal of this workshop is to develop a white paper as input to the long range plan that has two goals. One of the goals is to present information to demonstrate the long-term benefits of investing in nuclear physics research through explicit examples of broader contributions made by our community. A second goal is to present the nuclear physics community response to the nation's immediate needs in the areas of national security, global nuclear weapons proliferation and treaty verification, nuclear stockpile stewardship, energy and the environment.

## 7. DOE/NSF NUCLEAR SCIENCE ADVISORY COMMITTEE MEMBERSHIP

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Office of the Director

July 28, 2006

Dr. Susan J. Seestrom  
Associate Director for Experimental Physical Sciences  
Los Alamos National Laboratory  
Mail Stop A106  
Los Alamos, NM 87545

Dear Susan:

Thank you for the update during the July NSAC meeting from the Division of Nuclear Physics (DNP) on plans for Town Meetings, which will precede the development of a new Long Range Plan (LRP) for nuclear science. The involvement of the DNP in the planning process is very important to its ultimate success.

As in the past, NSAC asks that the groups who organize Town Meetings prepare a White Paper documenting the efforts in their subfield(s). The charge to NSAC requesting a new LRP outlines the information ultimately needed in the plan and the context to be used in formulating it. To be most effective, the LRP charge should be considered in preparing White Papers. In particular, we ask that White Papers provide answers to the following questions for their subfields.

- What scientific question(s) is this sub-field trying to answer?
- What *major* scientific accomplishments and discoveries have occurred since the last long-range plan?
- What are the challenges being addressed in the near future (<3 years) and over the duration of the next long-range plan (10 years)?
- What research capabilities, in order of priority, will be needed throughout the duration of the next long range plan to address the scientific questions?
- How does the U.S. effort in this sub-field fit into the global picture?
- What will be the impact of the future program on other fields of science and on society?

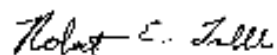
Please note that a concise summary of the science and a clear set of priorities for the subfield will be most useful as input to those drafting the next LRP.

In addition to the White Papers, NSAC requests that the DNP work with the Nuclear Chemistry & Technology Division of the American Chemical Society to provide us information on issues surrounding

education and the impact of nuclear science on society. Both of these will be important topics for the LRP.

The schedule of LRP activities is not finalized, but I expect that a LRP working group will meet during May, 2007, to consider future options for our field. This means that White Papers should be completed by the first of April, 2007, so that they can be distributed to the working group membership prior to the meeting. I appreciate the burden that this places on many members of our community. I ask that you convey to them my thanks for their willingness to participate in this important process.

Sincerely,

A handwritten signature in cursive script that reads "Robert E. Tribble".

Robert E. Tribble  
Chair, Nuclear Science Advisory Committee



*U.S. Department of Energy  
and the  
National Science Foundation*



July 17, 2006

Professor Robert E. Tribble  
Chair, DOE/NSF Nuclear Science Advisory Committee  
Cyclotron Institute  
Texas A&M University  
College Station, TX 77843

Dear Professor Tribble:

This letter requests that the Department of Energy (DOE)/National Science Foundation (NSF) Nuclear Science Advisory Committee (NSAC) conduct a new study of the opportunities and priorities for United States nuclear physics research and recommend a long range plan that will provide a framework for coordinated advancement of the Nation's nuclear science research programs over the next decade.

The new NSAC Long Range Plan (LRP) should articulate the scope and the scientific challenges of nuclear physics today, what progress has been made since the last LRP and the impacts of these accomplishments both within and outside of the field. It should identify and prioritize the most compelling scientific opportunities for the U.S. program to pursue over the next decade and articulate their scientific impact. A national coordinated strategy for the use of existing and planned capabilities, both domestic and international, and the rationale for new investments should be articulated. To be most helpful, the plan should indicate what resources and funding levels would be required (including construction of new facilities) to maintain a world-leadership position in nuclear physics research, and what the impacts are and priorities should be, if the funding available provides constant level of effort (FY 2007 President's Budget Request) into the out-years (FY 2008-2017).

The recommendations and guidance in the NSAC 2002 LRP and subsequent reports have been utilized by the agencies as important input to their planning and programmatic decisions. Resources have been made available to the programs' major facilities and experiments that have allowed the U.S. program to be successful in delivering significant discoveries and advancements in nuclear physics over the last five years. This has occurred in the context of constrained funding that has resulted in a reduction in the number of DOE National User Facilities and limited the ability to pursue identified scientific opportunities. However, projected funding levels in the out-years would allow the agencies to begin to address the major project recommendations in the NSAC 2002 LRP. The projected funding for DOE is compatible with implementing the 12 GeV Upgrade of the Continuous Electron Beam Accelerator Facility, and starting construction of a rare isotope beam facility that is less costly than the proposed Rare

Isotope Accelerator (RIA) facility early in the next decade. At NSF the process has been put in place for developing a deep underground laboratory project and bringing this project forward for a funding decision.

Since the submission of the NSAC 2002 I.R.P., increased emphasis has been placed within the federal government on international and interagency coordination of efforts in the fundamental sciences. The extent, benefits, impacts and opportunities of international coordination and collaborations afforded by current and planned major facilities and experiments in the U.S. and other countries, and of interagency coordination and collaboration in cross-cutting scientific opportunities identified in studies involving different scientific disciplines should be specifically addressed and articulated in the report. The scientific impacts of synergies with neighboring research disciplines and further opportunities for mutually beneficial interactions with outside disciplines, such as astrophysics, should be discussed.

An important dimension of your plan should be the role of nuclear physics in advancing the broad interests of society and ensuring the Nation's competitiveness in the physical sciences and technology. Education of young scientists is central to the mission of both agencies and integral to any vision of the future of the field. We ask NSAC to discuss the contribution of education in nuclear science to academia, medicine, security, industry, and government, and strategies to strengthen and improve the education process and to build a more diverse research community. Basic research plays a very important role in the economic competitiveness and security of our Nation. We ask that NSAC identify areas where nuclear physics is playing a role in meeting society's needs and how the program might enhance its contributions in maintaining the Nation's competitiveness in science and technology.


Activities across the federal government are being evaluated against established performance goals. In FY 2003, utilizing input from NSAC, the long-term goals for the DOE SC Nuclear Physics program and the metrics for evaluations of the program activities were established. It is timely during this long range planning exercise to gauge the progress towards these goals, and to recommend revised long-term goals and metrics for the DOE SC Nuclear Physics program, in the context of the new I.R.P., if appropriate. The findings and recommendations of this evaluation should be a separate report.

In the development of previous I.R.P.'s, the Division of Nuclear Physics of the American Physical Society (DNP/APS) was instrumental in obtaining broad community input by organizing town meetings of different nuclear physics sub-disciplines. The Division of Nuclear Chemistry and Technology of the American Chemical Society (DNC&T/ACS) was also involved. We encourage NSAC to exploit this method of obtaining widespread input again, and to further engage both the DNP/APS and DNC&T/ACS in laying out the broader issues of contributions of nuclear science research to society.

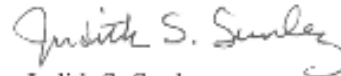


Please submit an interim report containing the essential components of NSAC's recommendations to the DOE and the NSF by October 2007, and the final report by the end of calendar year 2007. The agencies very much appreciate NSAC's willingness to undertake this task. NSAC's previous long range plans have played a critical role in shaping the Nation's nuclear science research effort. Based on NSAC's laudable efforts in the past, we look forward to a new plan that can be used to chart a vital and forefront scientific program into the next decade.

Sincerely,



Dennis Kovar  
Associate Director of the Office of Science  
for Nuclear Physics  
Department of Energy



Judith S. Sunley  
Acting Assistant Director  
Mathematical and Physical Sciences  
National Science Foundation