



JLUO meeting on NSAC long range plan

September 8, 2022

Long Range Plan Charge to NSAC



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

July 11, 2022



Professor Gail Dodge
Chair, DOE/NSF Nuclear Science Advisory Committee
College of Sciences
Old Dominion University
4600 Elkhorn Avenue
Norfolk, Virginia 23529

Dear Professor Dodge:

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 (LRP) that will provide a framework for coordinated advancement of the Nation's nuclear science research programs over the next decade.

The new NSAC 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 the field. It should identify and prioritize the most compelling scientific opportunities for the U.S. nuclear physics program to pursue over the next decade (fiscal year (FY) 2023-2032) and articulate its potential scientific impact. Further, a nationally 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 LRP should indicate what resources and funding levels would be required, including construction of new facilities, mid-scale instrumentation, and Major Items of Equipment, to maintain a world-leadership position in nuclear physics research. The LRP should also describe the potential impacts and priorities under constant level of effort budgets, 2 percent growth per year using the FY 2022 enacted funding level as a reference.

The extent, benefits, impacts, and opportunities of international coordination and collaborations afforded by current and planned major facilities and experiments in the United States (U.S.) and other countries, and of interagency coordination and collaboration in crosscutting scientific opportunities identified in studies involving different scientific disciplines should be specifically addressed and articulated in the report. Further, the scientific impacts of synergies with neighboring research disciplines and further opportunities for mutually beneficial interactions with outside disciplines should be discussed. The document should also articulate how efforts to promote and sustain a diverse, equitable, and inclusive nuclear science workforce will be fully integrated into every aspect of the vision for the future of U.S. nuclear science.

In the development of previous LRPs, 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 (NUCL/ACS) was also involved. We encourage NSAC to exploit this method of obtaining widespread input again and to further engage the DNP/APS and NUCL/ACS in laying out the broader issues of contributions of nuclear science research to society.

Please submit your initial report to DOE and NSF by October 2023. The agencies very much appreciate NSAC's willingness to undertake this task. NSAC's previous LRPs have played a critical role in shaping the Nation's nuclear science research efforts. 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,

Asmeret Asefaw Berhe
Director
Office of Science

Sean L. Jones
Assistant Director
Directorate for Mathematical
and Physical Sciences
National Science Foundation

Town Hall meetings organized by the APS DNP

- Hot and Cold QCD: September 23-25, 2022 (Massachusetts Institute of Technology, MA)
- Nuclear Structure, Reactions and Astrophysics: November 14-16 (Argonne National Laboratory, IL)
- Fundamental Symmetries, Neutrons, and Neutrinos: December 13-15 (Triangle Universities Nuclear Laboratory, NC)

Goals of this meeting:

- Review different future directions of our user community
- Organize our input to the upcoming Town Hall meeting.

Meeting agenda

Thursday, 8 September 2022

08:00	Introduction - Carlos Munoz Camacho (IJCLab,
08:05	12 GeV program - Cynthia Keppel (Jefferson Lab)
08:20	Discussion
08:35	SOLID - Jian-ping Chen (Jefferson Lab)
08:45	Discussion
09:00	Positron program - Douglas Higinbotham (Jefferson Lab)
09:10	Discussion
09:25	CEBAF energy upgrade - Patrizia Rossi (Jefferson Lab)
09:35	Discussion
09:50	EIC - Rolf Ent (Jefferson Lab)
10:00	Discussion
10:15	Break
10:35	Theory - Jianwei Qiu (Jefferson Lab)
10:45	Discussion
10:50	Data science - Amber Boehnlein (Jefferson Lab) Malachi
11:00	Discussion
11:05	Open mic session
11:35	Discussion
12:05	JLab strategy going into the LRP - David Dean (Jefferson
12:15	Discussion

- Short intro talks on several topics
- Ample time for discussion after each presentation
- Open mic session
- Discussion on the agenda of the Town Hall meeting

Possible outcome of this meeting:

- Resolution formulated in writing that expresses the community's desires going into the LRP resolution meeting
- Can include a prioritized list of recommendations
- Can be supported by the JLUO (or an individual list of JLab users)