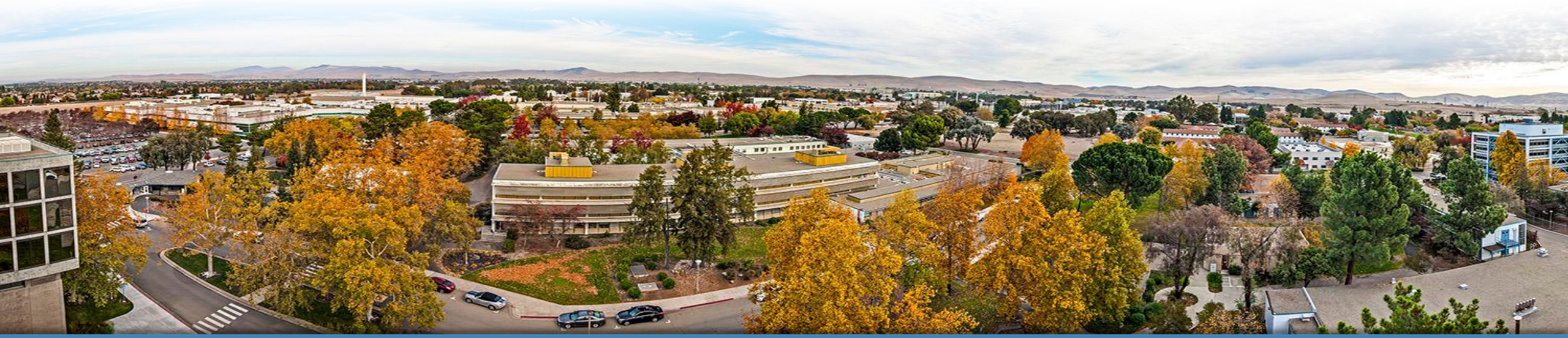
Nuclear Data NSAC Subcommittee

Ramona Vogt (LLNL/UC Davis)



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NSAC Nuclear Data Charge delivered April 2023

- To answer this charge, a NSAC subcommittee was formed with Lee Bernstein as chair and members:

Friederike Bostelmann ORNL)

Mike Carpenter (ANL)

Mark Chadwick (LANL)

Max Fratoni (UCB)

Ayman Hawari (NC State)

Lawrence Heilbronn (UTK)

Calvin Howell (TUNL)

Cynthia Keppel (JLab)

Arjan Koning (IAEA/Petten)

Ken LaBel & Tom Turflinger (NASA & Aerospace)

Caroline Nesaraja (ORNL)

Syed Qaim (Jülich)

Jo Ressler (LLNL)

Catherine Romano (Aerospace)

Sunniva Siem (Oslo)

Artemis Spyrou (MSU)

Etienne Vermeulen (LANL)

Ramona Vogt (LLNL/UC Davis)

Two Parts to the Charge

- Part I: Assess USNDP Status (reported to NSAC September 2022)
  - Assess and document recent achievements in nuclear data and their impact.
  - Survey current and future federal and non-federal needs for reliable, accurate, secure, accessible nuclear data.
  - Assess the role, competitiveness, and importance of the USNDP in an international context.

- Part II: Provide recommendations for maintaining effective stewardship of nuclear data (due 1/30/23)
  - Identify challenges for nuclear data stewardship in the future, including identifying and prioritizing the most compelling opportunities to enhance and advance NP stewardship of nuclear data and the impact if those opportunities can be realized.
  - Describe possible ways the Nuclear Data (ND) community can work to train and retain a diverse, equitable, and inclusive workforce capable of sustaining the U.S. ND enterprise.
  - Identify access needs for facilities and instrumentation, crosscutting opportunities with other federal programs, and potentially mutually beneficial interactions with other domestic and international stakeholders.

Addressing the charge and moving forward

- A comprehensive and detailed first report was submitted to NSAC at the end of September – still a work in progress to address some more incomplete areas
- For a status report, see Lee's talk at Nuclear Data week, https://indico.bnl.gov/event/15497/timetable/#20221103.detailed
- Work is in progress on the second part of the charge

The Nuclear Data Community has a unique opportunity here

- Timing is such that these reports, while valuable as standalone reports of nuclear data needs and priorities, can feed into the NSAC Long Range Plan
- Inclusion in the LRP is important – it paves the way for the importance of nuclear data to be realized by the broader NP community and grow into new areas
- Several talks on nuclear data were presented at the Hot and Cold QCD town hall and a nuclear data initiative included in a survey to determine the general support for recommendations and initiatives proposed by the community
- See https://indico.mit.edu/event/538/timetable/#all.detailed for the ND talks and all survey results
- The initiative was overwhelmingly supported by the Hot and Cold QCD community, asking for support of the initiative by all of NP so that it will be included in the LRP
- Lee Bernstein and RV are on the LRP writing committee and welcome suggestions

Nuclear data initiative for the Long Range Plan (Hot & Cold QCD Town Hall) Seeking community buy in!

Nuclear data play an essential role in all facets of nuclear physics. Access to accurate, reliable nuclear data is crucial to the success of important missions such as nonproliferation and defense, nuclear forensics, homeland security, space exploration, and clean energy generation, in addition to the basic scientific research underpinning the enterprise. These data are also key to innovations leading to new medicines, automated industrial controls, energy exploration, energy security, nuclear reactor design, and isotope production. It is thus crucial to maintain effective US stewardship of nuclear data.

- We recommend identifying and prioritizing opportunities to enhance and advance stewardship of nuclear data and maximize the impact of these opportunities.

- We recommend building and sustaining the nuclear data community by recruiting, training, and retaining a diverse, equitable and inclusive workforce.

- We recommend identifying crosscutting opportunities for nuclear data with other programs, both domestically and internationally, in particular with regard to facilities and instrumentation.

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Nuclear Data Initiative

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Final Town Hall survey results: Strong community support