

Fundamental Symmetries, Neutrons, and Neutrinos Town Meeting



Division of Nuclear Physics

- Sponsors

- APS Division of Nuclear Physics
- Duke University
- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory
- NC Central University
- NC State University
- Oak Ridge National Laboratory
- Triangle Universities Nuclear Laboratory
- University of North Carolina, Chapel Hill

- Local Organizing Committee
 - M. Ahmed, NCCU/TUNL
 - C. Howell, Duke/TUNL
 - R. Janssens, UNC/TUNL
 - P. Huffman, NCSU/TUNL
 - V. Guiseppe, ORNL
 - S. Van Heusen, UNC/TUNL
 - J. Wilkerson



FSNN Town Meeting participants are expected to conduct themselves in accordance with the core principles of the APS code of conduct for scientific meetings, which reads:

All participants will conduct themselves in a professional manner that is welcoming to all and free from any form of discrimination, harassment, or retaliation. Participants will treat each other with respect and consideration to create a collegial, inclusive, and professional environment. Creating a supportive environment to enable scientific discourse is the responsibility of all participants.

Participants will avoid any inappropriate actions or statements based on individual characteristics such as age, race, ethnicity, sexual orientation, gender identity, gender expression, marital status, nationality, political affiliation, ability status, educational background, or any other characteristic protected by law. Disruptive or harassing behavior of any kind will not be tolerated. Harassment includes but is not limited to inappropriate or intimidating behavior and language, unwelcome jokes or comments, unwanted touching or attention, offensive images, photography without permission, and stalking.

Violations of this code of conduct policy should be reported to FSNN Town Hall Conveners [Leah Broussard](#), [Vincenzo Cirigliano](#), [Jon Engel](#), [Lindley Winslow](#) or [Local Organizers](#). Sanctions may range from verbal warning, to ejection from the meeting without refund, to notifying appropriate authorities. Retaliation for complaints of inappropriate conduct will not be tolerated. If a participant observes inappropriate comments or actions and personal intervention seems appropriate and safe, they should be considerate of all parties before intervening.

<https://indico.phy.ornl.gov/event/209/page/100-code-of-conduct>

- Hybrid meeting
 - In-person — please use microphones for asking questions
 - Remote (Zoom) — use the ‘Raise Hand’ tool to ask questions, unmute yourself, and turn on your video when called upon by the session chair.
- Accessibility
 - <https://indico.phy.ornl.gov/event/209/page/101-accessibility>
- There is a gender-neutral restroom available on the 2nd floor of the Friday Center and a lactation room on the 1st floor. Someone at the front desk can provide directions to those rooms.
- Lunch will be provided all three days of the conference.
- See the Indico meeting web page for info on restaurants, public transit, ...
 - <https://indico.phy.ornl.gov/event/209/page/79-lodging-travel-local-information>
- Please check with Sarah Van Heusen at the registration desk if you need any additional assistance.

- We encourage you to wear masks in the main conference room and common areas, except when eating and drinking.
 - Mask are available at the registration desk
- A limited number of COVID test kits will be available at the registration desk.
- Most importantly, please attend remotely over zoom if you develop any cold or flu-like symptoms.

FSNN Town Meeting Conveners:

- Leah Broussard (Oak Ridge National Laboratory)
- Vincenzo Cirigliano (University of Washington)
- Jon Engel (University of North Carolina)
- Lindley Winslow (Massachusetts Institute of Technology)

FSNN Scientific Advisory Committee:

- Alvaro Chavarria (University of Washington)
- Zohreh Davoudi (University of Maryland)
- Michelle Dolinski (Drexel University)
- Julieta Gruszko (University of North Carolina)
- David Hertzog (University of Washington)
- Krishna Kumar (University of Massachusetts)
- Reina Maruyama (Yale University)
- Emanuele Mereghetti (Los Alamos National Laboratory)
- Hans Pieter Mumm (National Institute of Standards and Technology)
- Amy Nicholson (University of North Carolina)
- Diana Parno (Carnegie Mellon University)
- Saori Pastore (Washington University in Saint Louis)
- Brad Plaster (University of Kentucky)
- Michael Ramsey-Musolf (University of Massachusetts and Shanghai Jiao Tong University)
- Guy Savard (Argonne National Laboratory)
- Jaideep Singh (Michigan State University)
- Albert Young (North Carolina State University)

Tuesday

- Welcome and Introduction

Break

- Violations of Fundamental Symmetries I: Lepton Number Violation

Lunch and Breakout Discussion

- Violations of Fundamental Symmetries II: Charge-Parity, Time-Reversal, and Baryon Number Violation
- DEI, Outreach, Workforce Development

Break

- Needs for FS: Facilities and Connections
- Community Input

Wednesday

- Precision Tests of the Standard Model and Searches for New Physics

Break

- Properties of Neutrinos and Hypothetical Light Particles

Lunch and Breakout Discussion

- Needs for FS & Cross-cutting: Theory, Computing, Quantum, AI/ML
- Intersections and Applications

Break

- Community Discussion

Homework: Survey on Recommendations

(See QCD Town Hall for example: <https://indico.mit.edu/event/538>)

Thursday

Summary Discussion and Closeout Break

Summary Discussion and Closeout

- Please work with us to ensure a successful hybrid meeting.
- Participants:
 - State your name and affiliation before asking your question
 - Thanks Frank Gonzalez and David Mathews for note-taking
 - In-person participants: Line up at the microphones so that remote participants can hear you, or if needed, raise your hand so a microphone can be brought to you
 - Remote participants: Use the Zoom Raise Hand feature or enter questions in chat
 - We recognize time is tight and we may not get to all questions – please try again in the discussion slot or during breakout discussions after the sessions
- Speakers:
 - Ensure talks are uploaded before the break preceding your session (or 30 minutes before start of Meeting)
 - Allow chairs to manage questions from in-person and remote participants

- Our responsibility is to weigh the science case and identify the most compelling opportunities for our field.
- Recommendations
 - Thank you for your input from the Topical White Papers
 - Draft recommendations will be introduced and discussed during Community Discussion Wednesday evening. An overnight survey will be emailed to registered participants as homework
 - Survey results will be presented Thursday morning, with ~final discussions and conclusions before end of meeting
- Whitepaper
 - Structure will be defined and writing assignments will be made during Community Discussion Wednesday evening
 - Rough outline following schedule of meeting (+ additional identified topics)
 - Final topical white-papers are due December 23 for consideration in the Town Meeting white paper

We have a lot of work to do! Thank you for participating in this very important exercise.