# October 2024 DPF Newsletter

Dear DPF members,

Please find below the monthly DPF newsletter for October 2024. This newsletter will be archived on the DPF website. If you would like an announcement included in the November 2024 newsletter, to be sent out around mid-November, please contact the DPF Secretary/Treasurer. Please keep requests to 300 words and submit them by the **10th of the month** for consideration.

Please note that the DPF election is currently ongoing. Please vote now if you have not voted already!

Tulika Bose, DPF Secretary/Treasurer, tulika@hep.wisc.edu

# DPF election closing on November 7

Dear DPF Members,

The election for the DPF Executive Committee has been initiated.. You should have received an email message that contains instructions for voting, and has a personalized link that you should follow to find your ballot. The message was sent from the domain “directvote.net”. Reminder emails are scheduled for October 22 and November 5. Please ensure that your spam filters are set to allow mail from directvote.net to avoid the message being sent to your spam folder.

When you receive the election notice from “directvote.net”, please click on the link provided or cut and paste the link into your browser to log onto the election website.

Voting in the DPF election is an important activity! Your participation in the election is very much appreciated, and we thank you very much for your support.

Sincerely,

Tulika Bose

DPF Secretary/Treasurer

# New APS/DPF Award Recipients

We congratulate the following APS/DPF members who were sponsored by DPF for the following awards:

**Eckhard E. Elsen**: W.K.H. Panofsky Prize in Experimental Particle Physics
*"For pioneering work in establishing the HERA physics program and detectors, leadership in HERA physics exploitation resulting in the measurement of the proton's structure in new kinematic regions of vital importance in confronting new aspects of quantum chromodynamics, and enabling discoveries at the Large Hadron Collider."*

**Robert Klanner**: W.K.H. Panofsky Prize in Experimental Particle Physics
*"For pioneering work in establishing the HERA physics program and detectors, leadership in HERA physics exploitation resulting in the measurement of the proton's structure in new kinematic regions of vital importance in confronting new aspects of quantum chromodynamics, and enabling discoveries at the Large Hadron Collider."*

**Aneesh V. Manohar**: J.J. Sakurai Prize for Theoretical Particle Physics
*"For outstanding contributions to the physics of baryons, including deriving many physical properties of nucleons and hyperons in the large number of colors limit of quantum chromodynamics and deriving the renormalization group evolution of the standard model effective field theory at one loop."*

**Elizabeth E. Jenkins**: J.J. Sakurai Prize for Theoretical Particle Physics
*"For outstanding contributions to the physics of baryons, including deriving many physical properties of nucleons and hyperons in the large number of colors limit of quantum chromodynamics and deriving the renormalization group evolution of the standard model effective field theory at one loop."*

**Tao Han**: Meenakshi Narain Mentoring Award
*"For outstanding mentoring, sustained and caring early-career advising, and a quarter century cultivating the welcoming and supportive Phenomenology symposium."*

**Kevin J. Kelly**: Henry Primakoff Award for Early-Career Particle Physics
*"For significant contributions to our understanding of the neutrino sector and proposing novel directions and search strategies, bolstering the physics output of current and future neutrino experiments."*

**Alexander Zholents**: Robert Wilson Prize for Achievement in the Physics of Particle Accelerators (joint with the Division of Physics of Beams)
*"For many important contributions to particle accelerators and light sources, including ultra-fast X-ray techniques for electron beams and beam cooling methods."*

# New APS/DPF Fellowship Recipients

We congratulate the following APS/DPF members who were sponsored by DPF for the following fellowships:

**Brendan Casey**: Division of Particles and Fields Fellowship
*"For the determination of the muon anomalous magnetic moment to 0.2 ppm, design and construction of the tracking detectors for the Muon g-2 experiment that were essential for controlling systematics for the measurement, and for overall leadership of the global charged lepton physics program."*

**Douglas Cowen**: Division of Particles and Fields Fellowship
"*For pioneering contributions to the study of the tau neutrino, including its mass limit using tau decays to five pions, its appearance from oscillations in the atmospheric neutrino flux, and its first high-significance detection in the astrophysical neutrino flux."*

**Eric Torrence**: Division of Particles and Fields Fellowship
*"For significant contributions with the ATLAS and FASER Collaborations, particularly in the searches for new physics, measurement of the LHC luminosity, and for leadership in the operations of both experiments."*

**Jaroslav Trnka**: Division of Particles and Fields Fellowship
*"For deep contributions to exposing hidden mathematical structures in particle scattering amplitudes."*

**Martin Schmaltz:** Division of Particles and Fields Fellowship
*"For contributions to theories for particle physics beyond the standard model, and their implications for cosmology, flavor physics, and electroweak symmetry breaking."*

**Patrick Meade**: Division of Particles and Fields Fellowship
*"For pioneering research and leadership in particle theory and phenomenology, including signatures of gauge-mediated supersymmetry, top partners, long-lived particles, Higgs sectors, phase transitions of the early universe, and the science capabilities of proposed facilities."*

**Vaia Papadimitriou**: Division of Particles and Fields Fellowship
*"For exceptional leadership in advancing our understanding of nature and international high energy physics programs, pioneering and continuing leadership of QCD studies with B particles*

*and quarkonia, high-impact leadership in the LBNF and CMS projects, and key contributions to the success of the Tevatron Collider."*

**Yuval Grossman**: Division of Particles and Fields Fellowship
*"For seminal contributions in flavor physics, especially physics of the D mesons, CP violation in the B system, and novel flavor physics from extra dimensions."*

**Zackaria Chacko**: Division of Particles and Fields Fellowship
*"For discovering two of the major theoretical scenarios for particle physics beyond the Standard Model — neutral naturalness and gaugino mediated supersymmetry breaking — and for inspiring experimental programs to test them."*

Congratulations also to DPF members nominated as APS Fellows by other APS units! To view the complete list of the 2024 APS Fellows and their citations, or to search all APS Fellows to date, visit the APS Fellow Archive.

## In memoriam*

We are saddened to announce the passing of the following members of our community:

Ian Affleck: https://phas.ubc.ca/memoriam-ian-affleck-1952-2024

Hung (PQ) Pham: https://www.andersonfuneralservice.com/obituary/hung-pq-pham

Ian Shipsey: https://www.ox.ac.uk/news/2024-10-08-professor-ian-shipsey-frs

We express our sincere condolences to their family and colleagues.

* Memorial notices of persons who have been members of the DPF are provided as a service to the community. They may be requested by the family or appropriate institutional representative, and should include a link to an appropriate public death notice.

# 2025 APS Global Physics Summit [Abstract submission deadline: Oct 25, 2024]

**Abstract submission for the APS Global Physics Summit is now open:**
https://summit.aps.org/attend/abstracts
**The deadline is 25 October.** (Members of large collaborations: please consult with your speakers committee on how you should submit abstracts.) This is a great opportunity for young people of all ages to give a talk and also expand their horizons beyond their own area and even beyond the DPF topics. It is a great opportunity to network with people in the March meeting on new materials, new tools, etc. The nuclear, accelerator, gravity, astrophysics, computational physics communities are there as well. The meeting is 16-20 March (21 March is just for the "March" part) in Anaheim California.

In addition to the contributed 15' talks, the program also has an exciting program that includes 8 invited sessions with 3 long talks, 1 invited virtual session, and 2 joint invited sessions with the Division of Physics of Beams. From DPF, this invited speaker program includes:

| talk | speaker name | speaker institution |
|---|---|---|
| The physics of 10 TeV parton center of mass colliders. | Patrick Meade | Stony Brook |
| Detectors for Higgs factories | Junjie Zhu | U. MIchigan |
| Physics of HIggs factories | Gavin Salarm | Oxford |
| Implications of T2K/NOvA Joint Fit | Zoya Vallari | Caltech |
| Neutrino flux and cross section highlights | Laura Fields | Notre Dame |
| Beyond 3 neutrinos | Mark Ross-Lonergan | Los Alamos |
| Precision measurements of EWK parameters at colliders | Julia Gonski | SLAC |
| Recent Higgs results | Chris Palmer | U. Maryland |
| Improving the precision of SM calculations | Robert Szafron | Brookhaven |
| Expanding discovery potential at colliders | Simon Knapen | Lawrence Berkeley |
| Searches in multi-jet final | Tairan Xu | U. Michigan |

| | | |
|---|---|---|
| states | | |
| Hidden valley/dark sector searches | Tamas Almos Vami | U.C. Santa Barbara |
| Quark flavor and muon g–2 from lattice QCD | Aida El-Khadra | Urbana-Champaign |
| Charm CP violation | Angelo Di Canto | Brookhaven |
| Tensions with the standard model in B decays | Phoebe Hamiton | U. Maryland |
| Light dark matter | Danielle Speller | Johns Hopkins |
| Theory overview of dark matter | Masha Baryakhtar | U. Washington |
| Next generation direct detection/ future of heavy direct detection | Hugh Lippincott | U. California, Santa Barbara |
| Theoretical insights into neutrino masses | Bhupal Dev | Washington U. St. Louis |
| Neutrinos in astrophysics and cosmology | Abigail Vieregg | U. Chicago |
| Neutrino physics at accelerator experiments | Elizabeth Worcester | Brookhaven |
| Interface between cosmology and particle physics | Tim Tait | U.C. Irvine |
| Probes of particle physics from the early universe | Anze Slozar | Brookhaven National lab |
| Ice Cube probes of particle physics | Mehr Nisa | Michigan State |
| Quantum field theories with quantum computers and quantum simulations | Henry Lamm | Fermi National Accelerator Laboratory |
| AI/ML in hardware at colliders | Jennifer Ngadiuba | Fermi National Accelerator Laboratory |
| AI/ML for neutrinos | Taritree Wongjirad | Tufts |

| | | |
|---|---|---|
| Future of particle physics in China | YiFang Wang | IHEP China |
| Future of particle physics in Japan | Hirosi Ooguri | Caltech |
| Future of particle physics in S. Korea | Youngjoon Kwon | Yonsei University |

In addition, we have 6 “mini-symposia” that start with a long talk by an invited speaker and also contain 6 contributed short talks, as well as 2 joint mini-symposia with the Division of Nuclear Physics and one with computational physics. The invited speakers are:

| session name | speaker name | speaker institution |
|---|---|---|
| Noble liquids | Hucheng Chen | Brookhaven National Laboratory |
| Lattice QCD | Maarten Golterman | San Francisco State U. |
| BSM Probes through Neutrino Measurements | Xiao Luo | U. California Santa Barbara |
| Top | Andreas Jung | Purdue |
| Formal Theory | John McGreevy | U. California San Diego |
| Advances in Computing in HEP | Kyle Cranmer | U. Wisconsin |

The other divisions, topical groups, and forums, as well as the Kalvi lectures, have their own plenary sessions as well.

More details can be found at: https://www.aps.org/events/2025/joint-meeting

# 2026 Meeting of the Division of Particles and Fields of the American Physical Society (DPF26) - Call for Proposals

Dear Colleagues,

The APS Division of Particles & Fields (DPF) is accepting proposals to host the 2026 DPF Meeting. This is the main biennial meeting of the U.S. particle physics community, and it includes substantial international participation.

The DPF Meeting brings the particle physics community together to review results and discuss plans and directions for the field. It is an opportunity for attendees, including early-career scientists, to present their research and their latest findings. Participants also have the opportunity to interact with DOE and NSF representatives and discuss funding opportunities.

The 2024 DPF meeting was organized by the University of Pittsburgh and Carnegie Mellon University (https://indico.cern.ch/event/1358339/), with 596 registered participants. It was held jointly with the annual Phenomenology Symposium.

Before that, the 2021 DPF meeting was held remotely and was organized by Florida State University (https://indico.cern.ch/event/1034469/), with 944 registered participants. The 2019 meeting was organized by Northeastern University (https://indico.cern.ch/event/782953/), with 504 registered participants, and the 2017 meeting was organized by and held at Fermilab (https://conferences.fnal.gov/dpf2017/), with 687 registered participants.

The next DPF meeting will take place in 2026, preferentially between late Spring and early Summer. The meeting is expected to be 4.5 days long, including plenary and parallel sessions and a poster session. The preferred format is an in-person meeting with a remote option that allows access to at least the plenary sessions.

Proposals should include (some items do not apply in case of proposals for a remote-only meeting):

a) The proposed meeting dates.
b) A description of the meeting format. Are you planning an in-person-only meeting, a hybrid in-person/remote meeting, or a remote-only meeting? If you are proposing a hybrid meeting, please provide information on the possibility of streaming plenary and/or parallel sessions. Are remote plenary/parallel speakers allowed/possible/encouraged? How do you plan to support the logistics associated with remote sessions?
c) Meeting rooms, including their capacity. These should include a big lecture hall for plenary sessions as well as the ability to accommodate at least 10 parallel sessions at any given time.
d) A budget and proposed registration fee.
e) The extent to which your institution will help international attendees obtain visas.

f) The capability of your Institution to send formal invitations to those attendees who need them.

g) What is the procedure for a visitor to obtain permission to enter the site? How long does it take for US and for non-US visitors? Are any categories of people excluded, and if so, which?

h) Food service availability for lunch and breaks at a convenient distance from the meeting venue.

i) Please provide a list of lodging facilities near the venue, together with the current cost per night. The ability to provide low-cost lodging for early-career members of the community (taking advantage of, for example, university dorms) is especially desirable.

j) Cost and modes of transportation from nearby airports to the meeting venue, from lodging to the meeting venue, and from lodging to food service.

k) The availability of staff to help with registration, breaks, logistical problems, etc.

l) The availability of a Local Organizing Committee of appropriate size to address the logistics of a meeting of several hundred participants.

m) The ADA compliance and accessibility of the conference venues.

n)Your institution's experience and connections with services that provide closed-captioning. The DPF and funding agencies will work to provide funding for those services, but local connections are invaluable in planning.

o) The availability of wireless networking capable of handling at least 700 scientists and their multiple devices.

p) A description of previous experiences supporting conferences.

q) The logistics of day care provisions in the local area for those bringing children.

r) Any other information you find pertinent and would like to share with the DPF executive committee.

The deadline for proposals is **January 31, 2025**. Interested parties are encouraged to initiate informal discussions with the DPF Executive Committee and submit an expression of interest at any point before the deadline.

We are looking forward to your participation in this call for proposals and are happy to respond to any questions or concerns.

Best regards,

André de Gouvêa, DPF Chair

# Input to the European Strategy for Particle Physics

CERN has launched the process for an update of the European Strategy for Particle Physics

They have called for input to this process, with white papers due in March of 2025.

The European Strategy call for input is here:
https://ecfa.web.cern.ch/ecfa-guidelines-inputs-national-hep-communities-european-strategy-particle-physics-0

And the overall process is described at: https://europeanstrategyupdate.web.cern.ch

THe DPF executive committee  has traditionally submitted a summary document as part of this process and will be organizing input over the next month but we encourage all contributors to US HEP efforts to also submit their own white-papers directly to the European Strategy. If you have questions about the process, please contact dpfstrategy@fnal.gov.

2018 contributions from DPF
https://indico.cern.ch/event/765096/contributions/3295984/
https://indico.cern.ch/event/765096/contributions/3295985/