

February 2021 DPF Newsletter

Dear DPF members,

Please find below the monthly DPF newsletter for February 2021. This newsletter will be archived on the DPF website. If you would like an announcement included in the March 2021 newsletter, to be sent out around March 15th, please contact the DPF Secretary/Treasurer. Please keep requests to 300 words and submit them by the **10th of the month** for consideration.

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APS 2021 April Meeting

17—20 April, 2021

Early Registration Deadline: 26 February, 2021

Final Registration Deadline: 26 March, 2021

Grad Slam Registration Deadline: 26 February, 2021

APS 2021 April Meeting will take place during **April 17-20, 2021**, and be virtual, see <https://april.aps.org>. The early bird registration deadline will be **February 26, 2021**, and the final registration deadline **March 26, 2021**.

During the April meeting, there will be a DPF Town Hall Meeting and a DPF business meeting, both open to the general public. For those who register for the April meeting, if you wish to discuss certain issues relevant to our DPF mission, you are encouraged to submit the topics to APSDPF@pitt.edu by **March 26, 2021**. You will be contacted for further arrangement.

We will organize a meeting between our early career scientists and the funding agencies DOE/NSF. There will also be a [Grad Slam](#), a presentation contest for our graduate students on their research work. Registration for the Grad Slam is at [here](#) and the deadline for registration is **February 26, 2021**.

All our DPF members are encouraged to register and participate in the events in the APS April meeting.

Monthly Snowmass Newsletter

January 2021

Because of the COVID-19 pandemic, the Snowmass Report and the Community Summer Study meeting (CSS) will be delayed by one year until 2022. The overall schedule for the Snowmass process will be adjusted accordingly. After extensive consultation with our community and the frontier conveners/advisors, the Snowmass Steering Group recommends the following general guidelines for the implementation of the Snowmass delay:

- High-level activities will be on hold until the end of June, 2021. These activities include Frontier-level and Topical Group-level workshops, All-conveners meetings, Advisory Group meetings and Newsletters.
- Other Topical Group and cross-frontier activities should be either paused or reduced to a significantly lower level, proceeding only as necessary to ensure scientific continuity, meet essential programmatic needs, or maintain collaborative work with other units and communities.
 - No critical decisions will be made during the hiatus.
 - No individuals should feel obligated to participate in these activities.
- Individual, collaborative and self-organized work can continue at the discretion of the individuals involved.

All paused individual or group activities will continue to receive full consideration once the Snowmass process formally resumes.

With respect to the timelines:

- White Paper submission to arXiv: no later than March 15, 2022. Late submissions and updates are likely not to be incorporated in the working group reports, but will be included in the Snowmass on-line archive documents.
- Preliminary reports by the Topical Groups due: no later than May 31, 2022.
- Preliminary reports by the Frontiers due: no later than June 30, 2022.
- Snowmass Community Summer Study (CSS): July, 2022 at UW-Seattle.
- All final reports by TGs and Frontiers due: no later than September 30, 2022.
- Snowmass Book and the on-line archive documents due: October 31, 2022.

Additional remarks on the plans of the individual frontiers can be found in the following and in the Snowmass Newsletter of January 2021 on the [Snowmass wiki page](#).

The Snowmass Steering Group will continue to monitor the process.

Snowmass Early Career

Snowmass Early Career (SEC) plans to slow down activities and hold less frequent meetings. This non-zero activity level will be solely to give sufficient support to the EC community, namely to ensure success for early career members who need to finish their white papers before 2022. These meetings will therefore focus on collecting information about the status of EC work and liaising as needed with the frontiers, accounting for their modified activity levels. Efforts to develop a long-term early career HEP organization through SEC core initiatives (inreach, diversity, surveys, and long-term organization) are separate from the Snowmass process and will continue throughout the pause. If you'd like to get in touch regarding resources for EC members during this interim period, please contact Snowmass Inreach on the *#welcome-to-snowmass* Slack channel.

Accelerator Frontier

The Accelerator Frontier plans to slow down most of the topical group activities. Still, we anticipate to continue joint discussions with EF, TF and IF on issues related to future colliders (from major machine parameters to physics signatures, from Higgs factories to energy frontier pp , $\mu\mu$, and ee colliders, including plasma-based), to take part in organization and initial activities of the Muon Collider Forum, to hold the third in series Workshop on Physics Limits of Ultimate Beams (AF1, et al, Jan 22, 2021) and to proceed (at reduced rate) future collider parameter collection as part of the Implementation Task Force work.

Community Engagement Frontier

The Community Engagement Frontier will take a hybrid slowdown approach. Our challenges are somewhat different from other frontiers, in that the work has a significant altruistic aspect, and involves significant participation from individuals outside the core HEP community. Once we have a sufficient active participation to work on important issues, we want to maintain and benefit from the assembled teams such as those within the CEF01: Applications and Industry topical group, which plans to continue work to retain the momentum. Other topical groups would benefit from the delay by re-organizing the work at a reduced but continuous pace. For example, CEF06: Public Policy & Government Engagement plans to delay a significant portion of their work, but to not pause activities on topics which have substantial synergy with ongoing HEP advocacy efforts. This hybrid approach within CEF will require some coordination at the topical group and frontier levels during the pause or slowdown time. Please visit the CEF Frontier and Topical Group wiki pages for more details on plans for each specific group.

Computational Frontier

The Computational Frontier plans to pause until August 2021. This means that there will be no frontier-level activities during this period. Some of the topical groups will continue work already started on existing defined directions, but with meetings at a lower frequency. Other topical groups will pause their work. Any topical group activities will be advertised in advance via email and Slack. The Small Experiments Software and Computing Workshop we had started planning will be rescheduled for after the restart of frontier activities. To allow topical group conveners sufficient time to consider white papers, we ask all who wish to contribute to submit their white papers by the end of January, 2022. Papers submitted later are not guaranteed full consideration. Those who cannot meet the January deadline are encouraged to coordinate with the appropriate topical group conveners and submit a draft by the January 2022 deadline.

Cosmic Frontier

The Cosmic Frontier plans to pause most of its activities until no earlier than June 2021 so that everyone who plans to participate in our activities will be able to do so without additional burdens due to the ongoing pandemic. A few topical groups may continue to work with a very slowed down time frame.

Energy Frontier

The EF plans to slow down its activities. We will not hold any Frontier- and Topical Group-level workshops. We plan to implement our slowdown by arranging occasional Topical Group-level conversation to assure scientific continuity. The Topical Group conversations will provide a forum for informal discussions and support for members of our community as needed. EF will pause cross-frontier discussions with those frontiers which decided to pause their activities. We will work with AF to provide input parameters for their Implementation Task Force work. We expect that members of our community will continue to work collaboratively as they choose.

We will ensure that progress of the Monte Carlo generation continues as needed to support the needs of EF. If tutorials are needed we will arrange them via our partner collaborations (ILC, FCCxx, CepC, Muon Collider, etc.). As an exception, due to scheduling constraints driven by the EIC Yellow Report and the Nuclear Physics long-range planning process, the contribution of Nuclear-Physics related activities will continue at the current pace.

Instrumentation Frontier

The Instrumentation Frontier plans to pause activities until August 2021. Before taking the pause, we will assign each LOI to a topical group or place it at the IF level for White Papers or Snowmass Summaries, and communicate this to the LOI writers so they know where to expect their inputs to be in the process. This final placement will be held centrally in an IF document viewable by all. We are also planning to produce the preliminary list of White Papers from our topics, and to have all IF LOIs "assigned" to one of these documents to provide clarity to the proponents, as well to have a primary set of editors for these documents for clear points of contact. We will make clear that more White Papers could be added if additional ideas are brought up after the restart, and additional editors could be added to planned White Papers.

Neutrino Physics Frontier

The neutrino physics frontier plans to pause activities until no earlier than June 2021. The NF meeting will be rescheduled to March 2022 and no new workshops and meetings will be scheduled during the pause. Conversations and collaborative activities can still take place on Slack, as community members wish, and community work on Snowmass contributions can of course still proceed as desired. During the pause we will continue to update the NF wiki page with information about planned Snowmass contributions submitted via the form linked there.

Rare Processes & Precision Measurements Frontier

The rare processes and precision measurements frontier plans to pause activities until the end of August. There will be about three "heartbeat" status meetings among the topical group conveners in that time but no workshops or similar activities. Community members should of course pursue their individual physics interests as they wish. At the end of August, we will resume activities again with a schedule to be determined. We plan to postpone our Frontier meeting by one year to ~ May 2022.

Theory Frontier

The Theory Frontier plans to pause the majority of its activities until August 2021, and will not hold frontier or topical group level meetings in the intervening period. We anticipate re-starting activities with a frontier-wide Town Hall in Fall 2021 (date TBD), while the Theory Frontier workshop at KITP will be postponed until early 2022. We will maintain, via liaisons, cross-cutting activities with frontiers that opt for a slowdown rather than a pause. White Paper authors are encouraged to exercise their own discretion in determining the pacing of work pertaining to the Theory Frontier.

Underground Facility and Infrastructure Frontier

The Underground Facility and Infrastructure Frontier (UF) plans to follow the lead of the cosmic and neutrino frontiers, in particular, in pausing major workshop and community interactions. UF would like to advance questionnaires and information collection from underground facilities which should be able to continue without negative impacts on the general physics community impacted by COVID. This will permit the Frontier to gather information about underground facilities and infrastructure *supply*. We look forward to the restart of Snowmass activities to understand the community *demands*.

DPF and APS Awards

2020 DPF Early Career Instrumentation Award

Lindley Winslow (MIT)

Citation: *For the development of the ABRACADABRA detector: a powerful new search tool for axions, a broad class of well-motivated dark matter (DM) candidates.*

2020 DPF Senior Instrumentation Award

Juan Estrada (Fermilab)

Citation: *For his creation and development of novel applications for CCD technology that probe wide-ranging areas of particle physics including cosmology, dark matter, neutrino detection and quantum imaging.*

2021 Tanaka HEP Experiment Dissertation Award

Cristina Mantilla Suarez (Johns Hopkins)

Thesis topic: *“Probing New Physics Using Initial State Radiation Jets at the Large Hadron Collider.”*

2021 J.J. and Noriko Sakurai Theory Dissertation Award

Samuel Homiller (Stony Brook)

Citation: *For the discovery of novel methods to elucidate the property of the Higgs, and qualitatively new possibilities for Higgs physics overlooked for many years.*

We extend congratulations to the awardees and our thanks to the selection committees.

Unveiling Hidden Physics Beyond the Standard Model at the LHC

1-3 March, 2021

You are cordially invited to attend the workshop “Unveiling Hidden Physics Beyond the Standard Model at the LHC.” The workshop will take place March 1—3, 2021 and will comprise three sessions from 1:30pm to 5:00pm Geneva time. The workshop will be virtual and will include sessions with talks and discussions. A panel discussion will conclude the workshop.

Please proceed to register at <https://indico.tlabs.ac.za/event/100>

The International Organising Committee is looking forward to your participation.

Request for Information Related to High Energy Physics and Space-Based Astrophysics

Deadline: 8 March, 2021

On behalf of the Department of Energy's (DOE) Office of Science and the National Aeronautics and Space Administration's (NASA) Science Mission Directorate, we invite interested parties to respond to this Request for Information (RFI) on collaborative activities that further scientific advances in high energy physics and space-based astrophysics, in support of our shared scientific goals.

This RFI is focused on three major areas, including scientific and technology benefits and obstacles and how each agency's capabilities, infrastructure, and resources may be leveraged: (1) potential lunar surface missions on the far side of the Moon; (2) space-based probes of fundamental physics on the International Space Station; and (3) synergies in the use of data from the Vera C. Rubin Observatory, the Nancy Grace Roman Space Telescope, and the Euclid mission.

Please note this RFI is *not* a Funding Opportunity Announcement, a Request for Proposals, or any other form of solicitation or bid for DOE or NASA to fund potential research and development work. The information received in response to this RFI will inform and be considered by the DOE and NASA program offices to identify potential partnerships and collaborative opportunities.

More information about the scope of the RFI can be found at:

<https://www.federalregister.gov/documents/2021/01/21/2021-01236/request-for-information-related-to-high-energy-physics-and-space-based-astrophysics>.

To submit a response, please use the "Submit a Formal Comment" button at the top right corner of the Federal Register announcement at the link above. This opens an embedded form to fill out, where you can attach a formal response.

Questions may be directed to Dr. Kathy Turner, whose contact information is given in the [Federal Register notice](#) for this RFI.

CPAD Workshop

18—22 March, 2021

CPAD, the Coordinating Panel for Advanced Detectors by the DPF, is the leading organization in the US for the advancement and promotion of HEP detector instrumentation. Since its inception in 2012, CPAD has organized annual workshops, that bring together the detector community in the country. It has guided the field with its Grand Challenges documented in its annual reports. CPAD has launched the DOE's Graduate Instrumentation Research Award (GIRA), the DPF Instrumentation Award, a pilot quantum sensing workshop, and many more.

Registration is now open for the next CPAD Workshop, organized by Stony Brook University and held virtually on March 18, 19, 22: <https://www.stonybrook.edu/cfns/cpad2021/index.html>.

The focus of the workshop will be a discussion of the outcome of the recent BRN (Basic Research Needs) for Detectors with the aim to sharpen some of the technical requirements and to formulate a roadmap for the needed R&D. Therefore, the work in the parallel sessions will be organized along the same technical groups as in the BRN: Quantum Sensors, Noble Elements, Calorimetry, Solid State Vertexing and Tracking, Photodetectors, TDAQ, Readout and ASIC, Micropattern Gas Detectors. In addition, special attention will be paid to cross cutting, interdisciplinary topics, in particular with the NP/EIC community.

Early Career: In light of the ongoing pandemic and thus added complications especially for people in instrumentation and a lack of networking opportunities for early career members of our community, we are organizing a plenary session with short contributions drawn from that community. Please indicate your career status under 'Position' during the registration process if you want to be considered for this session.

With best regards,
Petra Merkel and Karsten Heeger (CPAD Chairs)
For the organizing committee