

September 2019 DPF Newsletter

Dear DPF members,

Please find below the monthly DPF newsletter for September 2019. This newsletter will be archived on the DPF website.

If you would like an announcement included in the October newsletter, to be sent out around October 15th, please contact the DPF Secretary/Treasurer. Please keep requests to 300 words and submit them by the **10th of the month** for consideration.

Mirjam Cvetič, Secretary/Treasurer, cvetic@physics.upenn.edu

Rick Van Kooten, Member-at-Large, rvankoot@indiana.edu

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2019 APS Fellows

We are pleased to announce the following 2019 APS Fellows nominated by the DPF. We extend our warmest congratulations to the new Fellows.

Vijay Balasubramanian

University of Pennsylvania

Citation: For fundamental contributions clarifying the black hole information puzzle and black hole thermodynamics through work on the duality of quantum gravity and quantum field theory, and on black hole microscopics in theories of quantum gravity.

Tulika Bose

University of Wisconsin–Madison

Citation: For leadership coordinating the CMS physics program and trigger system, and for contributions to the development of high level triggers and searches for heavy vector bosons and vector-like quarks.

Yuri Gershtein

Rutgers University

Citation: For important contributions to searches for physics beyond the Standard Model at both the Tevatron and the Large Hadron Collider, and for developing innovative techniques for precision photon measurement that directly contributed to the Higgs boson discovery.

Andrei Gritsan

Johns Hopkins University

Citation: For significant contributions to the discovery and to the characterization of the Higgs Boson at the CERN Large Hadron Collider, and for significant contributions to the measurement of $\sin^2\alpha$ at the SLAC PEP II collider.

George Wei-Shu Hou

National Taiwan University

Citation: For novel contributions to the theory of flavor and charge-parity violation, and for his role in initiating Taiwan's experimental collaboration with Belle and CMS.

Patrick Huber

Virginia Tech

Citation: For helping shape the U.S. and global experimental neutrino oscillation program through contributions to the phenomenology of long-baseline neutrino oscillations and the development of the GLOBES software package, and for seminal work on reactor neutrino science and its use in nuclear security.

Markus Klute

Massachusetts Institute of Technology

Citation: For work establishing the coupling of the Higgs boson to tau leptons, and for establishing the physics case for colliders beyond the Large Hadron Collider, including the High Luminosity LHC.

Harry Norman Nelson

University of California, Santa Barbara

Citation: For contributions to the experimental campaign to discover weakly interacting massive particles.

Dong Su

SLAC National Accelerator Laboratory

Citation: For leading contributions to state-of-the-art vertex detector and trigger systems at SLD, BaBar, and ATLAS, thus advancing knowledge of weak interaction physics within the Standard Model and providing a foundation for novel physics searches based on b- and c-quark tagging.

Richard G. Van de Water

Los Alamos National Laboratory

Citation: For outstanding contributions to solar-neutrino and short-baseline accelerator-neutrino physics experiments that have shed new light on neutrino properties and have provided evidence for physics beyond the Standard Model.

Anastasia Volovich

Brown University

Citation: For introducing original perspectives on quantum field theory calculations and uncovering deep mathematical structures in supersymmetric gauge theories, leading to novel and powerful methods of scattering amplitudes evaluation.

Neal Weiner

New York University

Citation: For contributions to new models of dark matter and the understanding of their implications for dark forces and multi-state dark sectors, and for connecting new models to dark matter detection strategies.

2020 APS Awards

We would also like to recognize the recipients of the following APS Awards for 2020. Again, we extend our congratulations to the recipients.

W.K.H. Panofsky Prize in Experimental Particle Physics

Wesley Smith

University of Wisconsin – Madison

For the development of sophisticated trigger systems for particle physics experiments, which enabled measuring the detailed partonic structure of the proton using the ZEUS experiment at the Hadron-Electron Ring Accelerator and lead to the discovery of the Higgs Boson and the completion of the Standard Model with the Compact Muon Solenoid experiment at the Large Hadron Collider.

Henry Primakoff Award for Early-Career Particle Physics

Matt Pyle

University of California – Berkeley

For developing high-resolution ultra-low threshold cryogenic detectors which has defined new directions for research and development and opened possibilities for probing dark matter particle masses previously considered inaccessible.

J. J. Sakurai Prize for Theoretical Particle Physics

Pierre Sikivie

University of Florida – Gainesville

For seminal work recognizing the potential visibility of the invisible axion, devising novel methods to detect it, and for theoretical investigations of its cosmological implications.

Robert R. Wilson Prize for Achievement in the Physics of Particle Accelerators

Bruce Carlsten

Los Alamos National Laboratory

For the discovery and subsequent implementation of emittance compensation in photoinjectors that has enabled the development of high brightness, X-ray free electron lasers such as the Linac Coherent Light Source.

Snowmass Planning

The Snowmass process is in the planning stages. The DPF sponsored town hall meetings last April at the APS meeting and again this August at Northeastern for its divisional meeting. A plenary talk was prepared by Prisca Cushman and Young-Kee Kim (DPF chair and chair-elect) which defined the agenda for the next couple years of preparation, geared toward a 10-day summer study in 2021 and final report by end of 2021. The Thursday morning talk and lunch town hall can be found on the indico page

<https://indico.cern.ch/event/782953/sessions/302473/#20190801>

In the next month you will receive further information on how to participate in the nomination of conveners for the working groups and site selection. This process is still under construction; however, it is clear that our primary tool for communication will be through DPF (and these newsletters), so we urge you to make sure you and your colleagues are DPF members (including graduate students and postdocs). We will also be setting up a Slack account, although it is not yet ready.

Topics in Cosmic Neutrino Physics

9—11 October, 2019



Dear colleagues,

We announce a workshop on “Topics in Cosmic Neutrino Physics” 9—11 October 2019 at Fermilab.

<https://indico.fnal.gov/event/20434/>

Topics in Cosmic Neutrino Physics is the inaugural workshop of the Cosmic Physics Center at Fermilab. The goal of the workshop is to bring members of the neutrino physics, neutrino astrophysics, and cosmology communities together to exchange information and better understand what each is doing and what they do (and don't yet) know. The structure of the workshop will be designed to survey the core questions in each area and stimulate intense discussion/collaboration among the participants. In addition to the invited talks, there also will be discussion sessions organized around the main themes of the workshop.

We encourage you to register and to share this email with your colleagues.

We look forward to seeing you there!

Best regards,

Gordan Krnjaic, Dan Hooper, Josh Frieman, Marilena Loverde, John Beacom, Ornella Palamara, Pedro Machado, and Matthew Toups

International Workshop on Future Linear Colliders (LCWS-2019)

October 28 – November 1, 2019

Registration is now open for LCWS2019.

The 2019 International Workshop on Future Linear Colliders (LCWS 2019) will be held in Sendai, Japan, from October 28 (Monday) to November 1 (Friday) at the Sendai International Center. It follows the successful recent workshops in Strasbourg, France (LCWS 2017) and Arlington, Texas (LCWS 2018).

Registration is now open at the workshop home page:

<http://epx.phys.tohoku.ac.jp/LCWS2019/>

As with previous workshops in the series, it will cover the physics, detector, and accelerator issues of CLIC and the ILC. It comes as the European Particle Physics Strategy Update is in its final phase, and as the Japanese government approaches a decision on hosting the ILC.

There will be exhibitions and a special session on relevant industries.

The meeting coincides with the peak of autumn foliage with many popular spots in the surrounding area. Autumn is also the season for the harvest.

We're looking forward to seeing you in Sendai!

Jim Brau, Shin Michizono, Steinar Stapnes Co-chairs, LCWS 2019 Program Committee

Hitoshi Yamamoto
Chair, Local Organization Committee

DPF Instrumentation Award and DPF Instrumentation Early Career Award

Deadline: November 6, 2019

The [DPF Instrumentation Award](#) and [DPF Instrumentation Early Career Award](#) are bestowed annually to honor exceptional contributions to instrumentation advancing the field of particle physics through the invention, refinement, or application of instrumentation and detectors. The awards recognize accomplishments in one or more of the following areas:

- Conceptualization and development of unique instrumentation that has made a significant impact on the field.
- Demonstration of the innovative use of instrumentation.
- Stimulation of other researchers to use new techniques and methods.
- Authorship of research papers or books that have had an influential role in the use of instrumentation.

The **DPF Instrumentation Award** recognizes outstanding achievements in particle physics instrumentation that have had a major impact on the field through the awardee's dedication over a substantial portion of an entire career, while the **DPF Instrumentation Early Career Award** recognizes achievements having a significant impact at an early career stage. For the purpose of this award, the early career stage is taken to be approximately 15 years from a Ph.D. or other terminal degree, with due account for interruptions and other factors in nominees' careers.

Award recipients will present award lectures at the 2019 CPAD December meeting.

Nominations need the following components:

- A nominating letter of not more than 5,000 characters (about two pages) evaluating the qualifications of the nominee(s)
- A biographical sketch or CV
- At least two, but not more than three, seconding letters

Nominations will be active for three years.

Nominations for the 2019 award will be accepted through [Academic Jobs Online \(AJO\)](#) from now through November 6, 2019. Click the "Nominate" link on the 7th line under "Description."

Nominators should submit all of the material listed above, except the supporting letters. The names and email addresses of the supporting letter-writers should also be included in the nomination packet. If you encounter difficulty with the site, contact Bob Bernstein (rhbob@fnal.gov).

It is important to remember the membership of APS is diverse and global, so the Prize and Award winners as well as Fellows of the APS should reflect that diversity. Nominations of women, members of underrepresented minority groups, and scientists from outside the United States are especially encouraged. Nominations of qualified junior scientists are especially welcome this year and in subsequent odd-numbered years.

If you have any questions about the award, please contact the award committee:

Committee:

- Rick Van Berg (Chair) (rick@hep.upenn.edu)
- Roger Rusack (Vice-Chair) (rusack@umn.edu)
- Hong Ma (hma@bnl.gov)
- Sunil Golwala (golwala@caltech.edu) and the 2018 recipients:
- Rinaldo Santonico (rinaldo.santonico@roma2.infn.it)
- Javier Tiffenberg (javiert@fnal.gov)

20th International Workshop on Next Generation Nucleon Decay and Neutrino Detectors – NNN2019

7—9 November, 2019

Dear Colleagues,

The NNN19 workshop will be held for the first time in Latin America at the University of Medellin, Colombia, on November 7-9, 2019. These series of workshops bring together experts from across the particle physics community to discuss future large-scale detectors for research on nucleon decay and neutrino physics. This year NNN will complete 20 years since its first version on 1999 at Stony Brook University, New York, USA. The workshop will consist of invited plenary talks, contributed talks in parallel sessions and a poster session addressing the following topics:

- Proton decay
- CP violation in the leptonic sector
- High intensity neutrino beams
- Supernova neutrinos
- Solar neutrinos
- Atmospheric neutrinos
- Reactor neutrinos
- Large detectors R&D

Detailed information of registration, abstract submission, accommodation and travel is provided at the workshop webpage: <http://www.nnn19medellin.com>

Important dates:

Abstract submission deadline: 6th of September 2019

Registration deadline: 15th of October 2019

If you have any questions, please feel free to reach us anytime at:

nnn19medellin@udem.edu.co

We look forward to meeting you in Colombia.

Sincerely,

Alex Tapia (Co-chair), David Martinez Caicedo (Co-chair), Richard Benavides, Diego Restrepo, Jaime Betancourt, Eduardo Rojas, David Vanegas Forero.

Instrumentation for Colliding Beam Physics (INSTR20)

24-28 February, 2020

Dear colleague,

We are pleased to inform you that the Conference "Instrumentation for Colliding Beam Physics" (INSTR20) will be jointly organized by the Budker Institute of Nuclear Physics and Novosibirsk State University and held in the Budker Institute, Novosibirsk, Russia in the period from 24 to 28 February, 2020.

Registration is already opened on the website: <http://instr20.inp.nsk.su>

You are kindly invited to participate and register at your earliest convenience. Please also inform all potentially interested colleagues and encourage them to register.

Looking forward to meeting you in Novosibirsk in February 2020.

Organizing Committee