Community Session I: DPF 21 Award Session & APS Activities

July 12, 2021
Tao Han
University of Pittsburgh
On behalf of the DPF Executive Committee

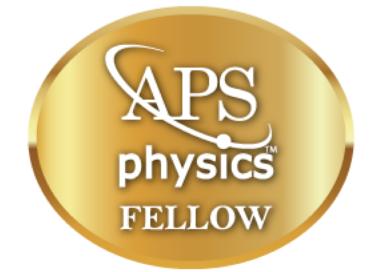# Agenda

DPF Award Session:

- 2019, 2020 APS Fellows: Congratulations!
- DPF/CPAD Instrumentation Awards
- ➢ Juan Estrade (FNAL)
- ➢ Lindley Winslow (MIT)
- 2019 DPF Mentor Award: Tim Tait (UC-Irvine)
- 2020 DPF Mentor Award: Tesla Jeltema (UC-Santa Cruz)

From APS

- Jim Gates (APS President): The DELTA-PHY Initiative
- Mark Elsesser (APS Director of Government Affaires): APS Advocacy for Research Security

Congratulations
to 2019 & 2020 APS Fellows

Fellowship is a distinct honor signifying recognition by one's professional peers. Each year, no more than one half of one percent of the Society's membership (excluding student members) is recognized by their peers for election to the status of Fellow of the American Physical Society.

APS Fellowship pins will be shipped to their home institutions

2019 APS Fellows:

Vijay Balasubramanian
University of Pennsylvania

"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

"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"

Cristiano Galbiati
Princeton University

"the measurement of Berillium-7 and pep solar neutrinos and for the development of the liquid argon technology for the background-free exploration of dark matter at the Gran Sasso underground laboratory."

Yuri Gershtein
Rutgers University

"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

"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 sin2alpha at the SLAC PEP II collider."

George Wei-Shu Hou
National Taiwan University

"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"
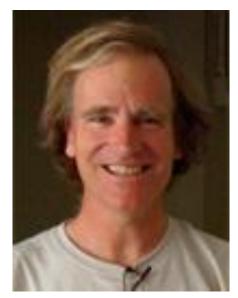
Patrick Huber
Virginia Tech

"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

"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 Nelson
UC Santa Barbara

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

Dong Su
SLAC National Accelerator Laboratory

"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 Van de Water
Los Alamos Nat. Laboratory

"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

"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

"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 Fellows:

Emanuela Barberis
Northeastern University

For work on precision measurements of the top quark, studies of the strong force, and searches for new particles using events produced in hadronic collisions containing a lepton and a jet at the FNAL Tevatron and CERN's Large Hadron Collider.

Kevin Burkett
Fermilab

For critical work on tracking devices and track reconstruction in hadron collider detectors, and for major contributions in Higgs and Beyond the Standard Model physics at the Collider Detector at Fermilab and Compact Muon Solenoid.

Bhaskar Dutta
Texas A&M University

For outstanding and original contributions to the understanding of particle physics phenomenology, in particular dark matter, neutrinos, models and collider physics.

Karl M. Ecklund
Rice University

For leadership in high-precision particle-tracking detectors using pixel technology, and in the measurement of top- and bottom-quark properties in both e+e- and hadron collider experiments.

Rouven Essig
Stony Brook University

For broad and innovative contributions to the search for hidden sectors and low mass dark matter, and for developing and realizing new detection concepts both for fixed target and for sub-GeV dark matter direct detection experiments.

Richard Gran
University of Minnesota, Duluth

For the development of novel techniques to quantify multinucleon effects in neutrino-nucleus scattering and their impacts on neutrino oscillation experiments.

Gregory W. Moore
Rutgers University

For wide-ranging and influential contributions to many areas of mathematical physics including string theory, supersymmetric gauge theory, and conformal field theory, all of which have impacted condensed matter theory, quantum computation, and pure mathematics.

Stefano Profumo
University of California, Santa Cruz

For incisive contributions to the development of astroparticle physics. In particular, for work addressing many aspects of dark matter theory and detection, including direct and indirect detection, as well as collider searches.

Mayly Sanchez
Iowa State University

For significant contributions to experimental neutrino physics, in particular for conducting measurements of long-baseline neutrino oscillations, and for leadership in advancing novel neutrino detection techniques with the ANNIE experiment.

Patricia Vahle
William & Mary College

For leading contributions to the measurements of neutrino oscillations using the MINOS and NOvA experiments.

Eric D. Zimmerman
University of Colorado

For significant contributions to the T2K experiment in the neutrino beamline focusing magnet construction, for physics analysis of neutrino oscillations, and for leadership in the NA61/SHINE experiment.

DPF / CPAD Instrumentation Award
DPF Instrumentation Early Career Award

CPAD: Coordinating Panel for Advanced Detectors
Co-chairs: Karsten Heeger and Petra Merkel

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.

2020 DPF (CPAD) Instrumentation Awards

Award:

Juan Estrada, FNAL

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.

Early Career Award:

Lindley Winslow, MIT

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

DPF Mentoring Award

This APS Unit Award is intended to recognize DPF members who have had an exceptional impact as mentors of particle physics scientists and students. This mentoring could be through teaching or research or science-related activities and is meant to recognize current achievements as well as those spanning a career.

2019 Mentorship Award

Tim M.P. Tait
UC Irvine

"his successful and inclusive mentoring of many young particle physicists, including undergraduate students, graduate students, postdoctoral researchers and junior faculty"
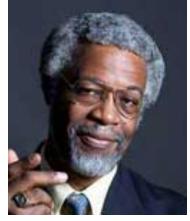
2020 Mentorship Award

Tesla Jeltema

University of California - Santa Cruz

"for her dedication to mentoring young physicists through hands-on, heartfelt, and effective engagement with diverse students at all levels, demonstrating how particle physics can be an inclusive and productive environment."

What Is the DELTA-PHY Initiative?
Prof. Jim Gates
APS President

Sylvester James "Jim" Gates, Jr., a theoretical physicist, is currently the Ford Foundation Physics Professor, Affiliate Mathematics Professor at Brown University, and Watson Institute for International and Public Affairs Faculty Fellow.

Prof. Jim Gates is a recipient of many prestigious awards, including the 2011 National Medal of Science.

APS Advocacy on Research Security
Dr. Mark Elsesser
APS Director of Government Affairs