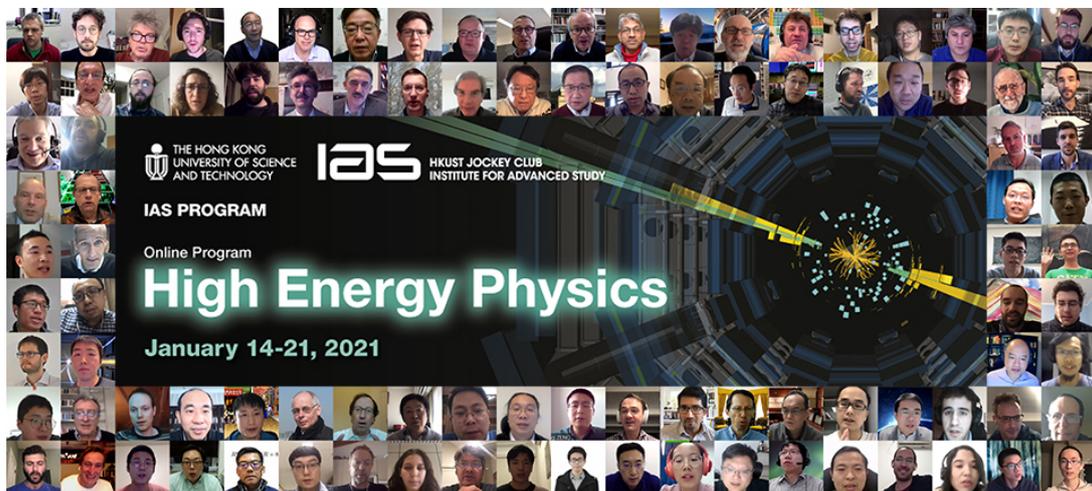


Session Program

14-21 Jan 2021



IAS Program on High Energy Physics (HEP 2021)

Mini-workshop: Theory

Online via Zoom

Thursday 14 January

12:58

Mini-workshop: Theory: Day 1 - Session 1: Machine Learning and Open Data (MW-TH-D1-S1)

Session | Location: Online via Zoom | Convener: Tao LIU

12:58-13:00 **Opening Remarks**

Speaker

Tao LIU

13:00-13:30 **#1: Learning the Geometry of Collider Events**

Speaker

Jack COLLINS

13:30-14:00 **#2: Morphology for Jet Classification**

Speaker

Mihoko NOJIRI

14:00-14:30 **#3: Searching for Top Super Partner in the CMS Open Data**

Speaker

Haipeng AN

14:30

14:40

Mini-workshop: Theory: Day 1 - Session 2: Physics at Future Colliders (MW-TH-D1-S2)

Session | Location: Online via Zoom | Convener: Jiayin GU

14:40-15:10 **#1:Higgs and Top Precision with EFT**

Speaker

Sunghoon JUNG

15:10-15:40 **#2: Testing Electroweak Phase Transition at Muon Colliders**

Speaker

Ke-Pan XIE

15:40-16:10

#3: Two Paths Towards Precision at a Very High Energy Lepton Collider

Speaker

Roberto FRANCESCHINI

16:10

21:00

Mini-workshop: Theory: Day 1 - Session 3: Quantum Sensing for New Physics (MW-TH-D1-S3)

Session | Location: Online via Zoom | Convener: Zhen LIU

21:00-21:30 **#1: Direct Deflection of Dark Matter**

Speaker

Asher BERLIN

21:30-22:00 **#2: Probing New Physics at the Precision Frontier**

Speaker
Yotam SOREQ

22:00–22:30 **#3: Searching for Dark Particles with Nonlinear Optics**

Speaker
Roni HARNIK

22:30

22:40

Mini-workshop: Theory: Day 1 - Session 4: EFT and Amplitudes (MW-TH-D1-S4)

Session | **Location:** Online via Zoom | **Convener:** Zhen LIU

22:40–23:10 **#1: On-shell Formulation of Chiral Perturbation Theory**

Speaker
Ian LOW

23:10–23:40 **#2: Microscopic Bounds on Macroscopic Theories**

Speaker
Francesco RIVA

23:40–00:10 **#3: The Geometric SMEFT**

Speaker
Adam MARTIN

00:40

Friday 15 January

00:10

Mini-workshop: Theory: Day 1 - Session 4: EFT and Amplitudes (MW-TH-D1-S4)

Session | Location: Online via Zoom | Convener: Zhen LIU

00:10-00:40

#4: Partial Wave Amplitude Basis and Selection Rules in Effective Field Theories

Speaker

Jing SHU

00:40

13:00

Mini-workshop: Theory: Day 2 - Session 1: Quantum Sensing for New Physics (MW-TH-D2-S1)

Session | Location: Online via Zoom | Convener: Jia LIU

13:00-13:30

#1: Detecting Light Dark Matter with Phonons and Magnons

Speaker

Zhengkang ZHANG

13:30-14:00

#2: Mechanical Quantum Sensors in the Search for Dark Matter

Speaker

Daniel CARNEY

14:00-14:30

#3: Resonant and Broadband Detection of Ultralight Axion Dark Matter

Speaker

Raffaele Tito D'AGNOLO

14:30

14:40

Mini-workshop: Theory: Day 2 - Session 2: EFT and Amplitudes (MW-TH-D2-S2)

Session | Location: Online via Zoom | Convener: Hao ZHANG

14:40-15:10

#1: Positivity in Multi-field EFTs

Speaker

Cen ZHANG

15:10-15:40

#2: An Unambiguous Test of Positivity at Lepton Colliders

Speaker

Jiayin GU

15:40-16:10

#3: On-shell Massive Effective Field Theory

Speaker

Teng MA

16:10

21:00

Mini-workshop: Theory: Day 2 - Session 3: Machine Learning and Open Data (MW-TH-D2-S3)

Session | Location: Online via Zoom | Convener: Zhen LIU

21:00-21:30

#1: Jet Topology

Speaker
Lingfeng LI

21:30–22:00 **#2: New Paradigms for New Physics Searches with Machine Learning**

Speaker
David SHIH

22:00–22:30 **#3: Discovering Unanticipated New Physics with Machine Learning**

Speaker
Benjamin Philip NACHMAN

22:30

22:40

Mini-workshop: Theory: Day 2 - Session 4: Physics at Future Colliders (MW-TH-D2-S4)

Session | **Location:** Online via Zoom | **Convener:** Zhen LIU

22:40–23:10 **#1: The Muon-Smasher's Guide**

Speaker
Nathaniel CRAIG

23:10–23:40 **#2: Search for WIMP Dark Matter at High Energy Muon Colliders**

Speaker
Liantao WANG

23:40–00:10 **#3: Composite Higgs Models at the High-Energy Muon Collider**

Speaker
Da LIU

00:10