

# Mainz Institute for Theoretical Physics

## ACTIVITIES 2021

[www.mitp.uni-mainz.de](http://www.mitp.uni-mainz.de)

### SCIENTIFIC PROGRAMS

Power Expansions on the Lightcone:  
From Theory to Phenomenology

**CANCELLED DUE TO COVID-19** February 16-26, 2021

Gravity and Emergent Gauge Fields in Condensed  
and Synthetic Matter

**CONVERTED TO VIRTUAL WORKSHOP** April 12-23, 2021

Flavour of BSM Physics in the LHC Era

**CANCELLED DUE TO COVID-19** April 26-May 7, 2021

Towards the Next Fundamental Scale of Nature:  
New Approaches in Particle Physics and Cosmology

**CANCELLED DUE TO COVID-19** May 10-21, 2021

Mega Dark Matter: Theory and Detection

**CANCELLED DUE TO COVID-19** May 25-June 4, 2021

Neutrinos, Flavour and Beyond

**POSTPONED TO 2022** June 7-18, 2021, Capri, Italy

Machine Learning for Particle Physics

**CONVERTED TO VIRTUAL WORKSHOP** June 21-July 2, 2021

Positive Geometries in Scattering  
Amplitudes and Beyond

July 5-16, 2021

Probing new Physics with Gravitational Waves

July 26-August 13, 2021

Dark Sector Theory Confronts Reality

August 30-September 10, 2021

Mathematical Foundations of the Swampland Program

September 13-24, 2021

### TOPICAL WORKSHOPS

Quantum Methods for Lattice Gauge Theories

**CANCELLED DUE TO COVID-19** February 2-4, 2021

Evaluation of the Leading Hadronic Contribution  
to the Muon  $g-2$ : Toward the MUonE Experiment

**CANCELLED DUE TO COVID-19** March 30-April 3, 2021

Machine Learning Techniques in Lattice QCD

**CONVERTED TO VIRTUAL WORKSHOP** April 6-10, 2021

Precision Tests with Neutral-Current  
Coherent Interactions with Nuclei

**CANCELLED DUE TO COVID-19** June 7-11, 2021

Elliptic Integrals in Fundamental Physics

**CANCELLED DUE TO COVID-19** June 14-18, 2021

### MITP SUMMER SCHOOL

The Amplitude Games

**CONVERTED TO VIRTUAL SCHOOL** July 12-30, 2021

Summer School on Particle Physics in São Paulo

**POSTPONED TO 2022** September 13-24, 2021

### VIRTUAL WORKSHOPS

Gravity and Emergent Gauge Fields in Condensed  
and Synthetic Matter

April 12-23, 2021

Machine Learning Techniques in Lattice QCD

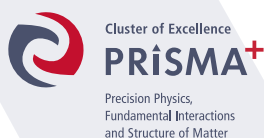
May 24-28, 2021

Machine Learning for Particle Physics

June 21-July 2, 2021

The Amplitude Games

July 12-30, 2021



Mainz Institute for Theoretical Physics  
PRISMA+ Cluster of Excellence  
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