



Mainz Institute for Theoretical Physics

SCIENTIFIC PROGRAMS

The Arithmetic of Calabi–Yau Manifolds

Philip Candelas **University of Oxford**, Xenia de la Ossa **University of Oxford** Hans Jockers **JGU Mainz**, Pyry Kuusela **JGU Mainz**, Joseph McGovern **University of Melbourne**

March 17 – 28, 2025

Neutrino-Nucleus Interactions in the Standard Model and Beyond

Vedran Brdar **Oklahoma State University**, Joachim Kopp **CERN & JGU Mainz**, Noemi Rocco **Fermilab**

May 12 – 23, 2025

Factorization and Evolution in Full Color

Philipp Böer **CERN**, Patrick Hager **JGU Mainz**, Simon Plätzer **University of Graz and University of Vienna**, Malin Sjö Dahl **Lund University**, Heribert Weigert **University of Cape Town**

June 2 – 13, 2025

Quantum Sensing Meets Ultra-high Frequency Gravitational Waves

Nancy Aggarwal **UC Davis**, Diego Blas **IFAE / ICREA, Barcelona**, Raffaele Tito D’Agnolo **IPhT CEA Saclay & ENS Paris**, Sebastian Ellis **University of Geneva**, Joachim Kopp **CERN & JGU Mainz**

June 30 – July 11, 2025

Windows into New Physics in the Sky

Kim Berghaus **Caltech**, Enrico Morgante **University of Trieste and INFN**, Clara Murgui **Universitat Autònoma de Barcelona / IFAE**, Davide Racco **ETH Zurich & University of Zurich**, Maura E. Ramirez-Quezada & Pedro Schwaller **JGU Mainz**

July 14 – August 1, 2025

New Ways to Discover Light New Physics

Martin Bauer **IPPP Durham University**, Sophie Renner **University of Glasgow**, Andrea Thamm **UMass Amherst**

August 4 – 15, 2025

From the Cosmos to the Lab: Novel Links and Strategies

Guillermo Ballesteros **IFT UAM-CSIC**, Torsten Bringmann **University of Oslo**, Julia Harz **JGU Mainz**, Jessica Tuner **IPPP Durham University**, Yong Xu **JGU Mainz**

September 8 – 19, 2025

Particle Physics Phenomenology after the Higgs Discovery

Gudrun Heinrich **KIT**, Michael Krämer **RWTH Aachen University**, Thomas Mannel **University of Siegen**, Malgorzata Worek **RWTH Aachen University**

October 6 – 17, 2025

TOPICAL WORKSHOPS

SMEFT – Tools

Jason Aebischer **CERN**, Matteo Fael **CERN**, Anders Eller Thomsen **University of Bern**, Javier Virto **University of Barcelona**

January 27 – 31, 2025

Flavour for New Physics at Present and Future Colliders

Lukas Allwicher **University of Zurich**, Javier M. Lizana **IFT Madrid**, Emanuelle Pinsard **University of Zurich**, Nudžeim Selimović **INFN Padova**

June 16 – 20, 2025

MathemAmplitudes: Co-homology and Combinatorics of GKZ systems, Euler-Mellin-Feynman Integrals, and Scattering Amplitudes

Claudia Fevola **Inria Saclay**, Federico Gasparotto **JGU Mainz**, Manoj Kumar Mandal **University of Padova**, Pierpaolo Mastrolia **University of Padova** Sebastian Mizera **Princeton University**

September 22 – 26, 2025

Precision Determinations of the Fine-Structure Constant

Klaus Blaum **Max Planck Institute for Nuclear Physics Heidelberg**, Martin Hoferichter **University of Bern**, Makiko Nio **RIKEN Nishina Center for Accelerator-Based Science**, Hartmut Wittig **JGU Mainz**

October 27 – 31, 2025

MITP SUMMER SCHOOL

Joint MITP / ICTP School

Sonia Bacca **JGU Mainz**, Carlos Bertulani **Texas A&M University**, Tobias Frederico **Aeronautics Institute of Technology**, Emiko Hiyama **Tohoku University and RIKEN**

May 26 – 31, 2025

Frontiers and Challenges in Lattice Gauge Theory

Harvey Meyer **JGU Mainz**, Sinéad Ryan **Trinity College Dublin**, Hartmut Wittig **JGU Mainz**, and Felix Yu **JGU Mainz**

July 21 – August 1, 2025

ACTIVITIES 2025

www.mitp.uni-mainz.de



Cluster of Excellence
PRISMA+
Precision Physics,
Fundamental Interactions
and Structure of Matter



Mainz Institute for Theoretical Physics
PRISMA+ Cluster of Excellence
Johannes Gutenberg-Universität Mainz, Germany