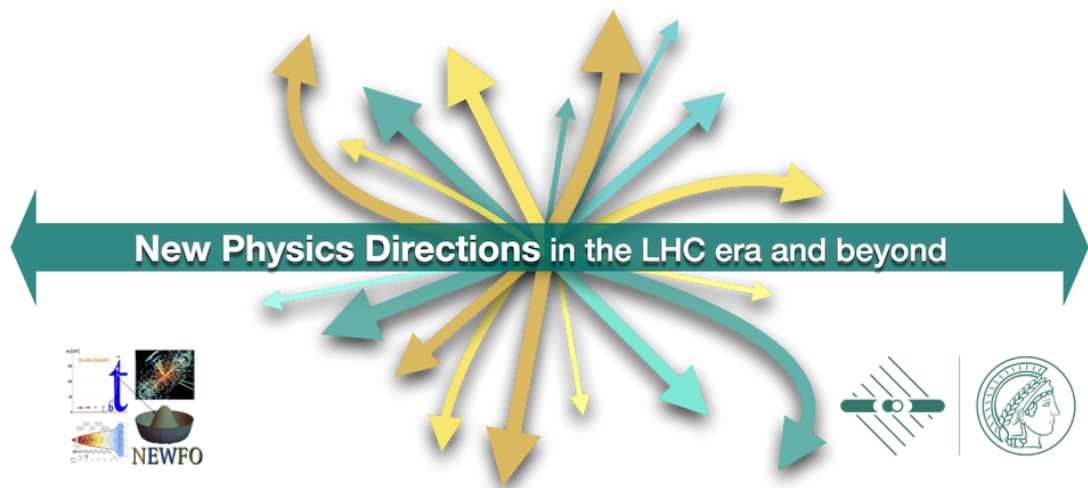


## Session Program

22-26 Apr 2024



# New Physics Directions in the LHC era and beyond

## *Morning*

Max Planck Institute for Nuclear Physics, Heidelberg, Germany  
Saupfercheckweg 1 69117 Heidelberg Germany

# Monday 22 April

09:45

## Morning: Session 1

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Dr Florian Goertz

09:45–10:00

### Opening Remarks

**Speaker**

Dr Florian Goertz

10:00–10:30

### Naturalness as a Method of Theoretical Particle Physics

**Speaker**

James Daniel Wells

10:30–11:00

### S-matrix and naturalness

**Speaker**

Georgi Dvali

11:00

11:30

## Morning: Session 2

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Prof. Manfred Lindner

11:30–12:00

### First order phase transitions with ultra fast bubble: dynamics and applications

**Speaker**

Aleksandr Azatov

12:00–12:30

### Applications of the Tunneling Potential Formalism

**Speaker**

Jose Espinosa

12:30–13:00

### Flavoured Dark Matter and its Phenomenology

**Speaker**

Monika Blanke

13:00

# Tuesday 23 April

09:30

## Morning: Session 1

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Georgi Dvali

09:30–10:00

### Directions in Composite Dynamics: From Composite Higgs to a Natural Dual Magnetic Standard Model.

**Speaker**

Francesco Sannino

10:00–10:30

### Phenomenology of Composite Higgs Models with a fermionic UV completion

**Speaker**

Werner Rudolf Porod

10:30–11:00

### Composite Higgs cosmology & the dilaton at the LHC

**Speaker**

Geraldine Servant

11:00

11:30

## Morning: Session 2

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Belen Gavela Legazpi

11:30–12:00

### Searching for charming ALPs

**Speaker**

Adrian Carmona Bermudez

12:00–12:30

### Semisymmetries in 2HDM

**Speaker**

Bohdan Grzadkowski

12:30–13:00

### BSMPT v3: A Tool for Phase Transitions and Primordial Gravitational Waves in Extended Higgs Sectors

**Speaker**

Milada Muhlleitner

13:00

# Wednesday 24 April

09:30

## Morning: Session 1

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Joerg Jaeckel

09:30–10:00

### Wormholes in the Axiverse

**Speaker**

Luca Vecchi

10:00–10:30

### Dark Matter Heating of Neutron Stars: Advantages and Challenges

**Speaker**

Koichi Hamaguchi

10:30–11:00

### The role of impurities in cosmological phase transitions

**Speaker**

Dr Simone Blasi

11:00

11:30

## Morning: Session 2

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Hooman Davoudiasl

11:30–11:45

### Partial compositeness at LHC and on the Lattice

**Speaker**

Gabriele Ferretti

11:45–12:00

### Vacuum Stability in the Standard Model and Beyond

**Speaker**

Tom Steudtner

12:00–12:15

### Exorcizing a Model of Fuzzy Electroweak Interactions

**Speaker**

Dr Florian NORTIER

12:15–12:30

### Phenomenology of the 2HDM+a

**Speaker**

Dr Giorgio Arcadi

12:30–12:45

### The principle of global relativity

**Speaker**

Jochum Johan Van Der Bij

12:45–13:00

### Tri-unification: a separate $SU(5)$ for each fermion family

**Speaker**

Avelino Vicente

13:00

# Thursday 25 April

09:30

## Morning: Session 1

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |

**Convener:** Milada Muhlleitner

09:30–10:00

### A Holographic View of the QCD Axion

**Speaker**

Tony Gherghetta

10:00–10:30

### BSM Physics with Charm

**Speaker**

Gudrun Hiller

10:30–11:00

### Phenomenology of parity solution to the strong CP problem

**Speaker**

Keisuke Harigaya

11:00

11:15

## Morning: Session 2

**Session** |

**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany

11:15–12:30

### Weakly-coupled light new physics (Teekolloquium)

**Speaker**

Matthias Neubert

12:30

Friday 26 April

09:30

Morning: Session 1

**Session** |  
**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |  
**Convener:** Alexei Smirnov

09:30–10:00

**Pushing the limits of dark matter -- from the Cosmos to the Lab**

**Speaker**  
Julia Harz

10:00–10:30

**Probing dark sectors with gravitational waves**

**Speaker**  
Pedro Schwaller

10:30–11:00

**Adagio for Thermal Relics**

**Speaker**  
Hooman Davoudiasl

11:00

11:30

Morning: Session 2

**Session** |  
**Location:** Max Planck Institute for Nuclear Physics, Heidelberg, Germany, Saupfercheckweg 1 69117 Heidelberg Germany |  
**Convener:** Tony Gherghetta

11:30–12:00

**Dark branes for PTA data and dark matter**

**Speaker**  
Mariano Quiros Carcelen

12:00–12:30

**SM and beyond: The lessons, the puzzles, and the way forward**

**Speaker**  
Tao Han

12:30–12:45

**Closing Remarks**

**Speaker**  
Dr Florian Goertz

13:00