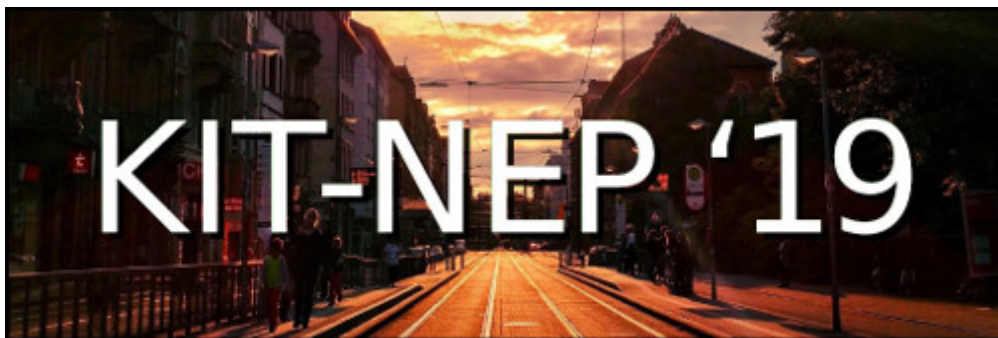


Session Program

Oct 7 - 9, 2019



KIT-NEP '19 - Theory Challenges in Higher-Order NEW Physics Calculations

Workshop session

Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI)
<https://www.kit.edu/campusplan>

Mon, October 7

10:00 AM

Workshop session: Renormalization of Extended Higgs Sectors

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Convener: Heidi Rzehak

10:00 – 10:10

Welcome

10:10 – 10:40

Renormalization of mixing angles in extended Higgs sectors

Speaker

Stefan Dittmaier

10:40 – 11:10

Renormalization of the 2HDM and the N2HDM

Speaker

Rui Santos

11:10 – 11:40

Renormalization of Extended Higgs Sectors

Speaker

Maximilian Löschner

11:40 – 12:00

Discussion time

12:00 PM

1:30 PM

Workshop session: Symmetries and Higher-Order Corrections

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Convener: Mark Goodsell

13:30 – 14:00

Custodial Symmetry Violation in the Georgi-Machacek Model

Speaker

Heather Logan

14:00 – 14:30

MSSM Higgs Boson Production via Gluon Fusion: The Large Gluino Mass Limit

Speaker

Heidi Rzehak

14:30 – 14:50

Revisiting the hMSSM

Speaker

Stefan Liebler

14:50 – 15:20

Parametrically enhanced corrections in supersymmetry, i.e. Δ_b corrections

Speaker

Michael Spira

15:20 – 15:40

Discussion time

3:40 PM

4:10 PM

Workshop session: Renormalization and Gauge Dependences in Higher-Order Corrections

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Convener: Dominik Stöckinger

16:10 – 16:40

On-Shell Renormalization of Higgs Boson Masses

Speaker

Sebastian Paßehr

16:40 – 17:10

Gauge Dependences of NMSSM Higgs Boson Decays including Higher-Order Corrections

Speaker

Florian Domingo

17:10 – 17:40

Gauge Dependences in Higher-Order Corrected NMSSM Higgs Boson Decays and Masses

Speaker

Lukas Fritz

17:40 – 18:00

Discussion time

6:00 PM

Tue, October 8

9:00 AM

Workshop session: Enhanced Higgs-to-Higgs Decays

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Convener: Stefan Dittmaier

09:00 – 09:30

Probing the Higgs sector using the synergy of future experiments

Speaker

Shinya Kanemura

09:30 – 10:00

On two-loop corrections to the Higgs trilinear coupling in models with extended scalar sectors

Speaker

Johannes Braathen

10:00 – 10:25

Enhanced corrections in Higgs-to-Higgs decays of the 2HDM and N2HDM

Speaker

Marcel Krause

10:25 – 10:50

NLO electroweak corrections to $H \rightarrow h h$ decays in the singlet extension

Speaker

Tania Robens

10:50 AM

11:20 AM

Workshop session: Stability of BSM Higgs Potentials

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Convener: Ansgar Denner

11:20 – 11:50

Impact of Vacuum Stability Constraints on the Phenomenology of Supersymmetric Model

Speaker

Wolfgang G. Hollik

11:50 – 12:20

Vacuum stability and supersymmetry at high scales with two Higgs doublets

Speaker

Emanuele Bagnaschi

12:20 – 12:50

Higher-Order Minima in the Inert Doublet Model and Vacuum Instabilities in the N2HDM

Speaker

Pedro Ferreira

1:00 PM

12:50 - 13:00 **Discussion time**

2:30 PM

Workshop session: Higher-Order Mass Corrections**Session** |**Location:** Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |**Convener:** Shinya Kanemura

14:30 - 15:00

Recent progress on higher-order corrections to Higgs boson masses in SUSY extensions**Speaker**

Dominik Stöckinger

15:00 - 15:30

The Goldstone boson catastrophe arising in higher-order corrections to Higgs boson masses, and its possible solutions**Speaker**

Mark Goodsell

15:30 - 16:00

Pole mass determination in the presence of heavy particles**Speaker**

Henning Bahl

4:15 PM

16:00 - 16:15

Discussion time

4:45 PM

Workshop session: Higgs Pair Production**Session** |**Location:** Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |**Convener:** Michael Spira

16:45 - 17:15

Higgs pair production in BSM models and EFT approaches including QCD corrections**Speaker**

Eleni Vryonidou

17:15 - 17:45

Higher order corrections in Higgs boson pair production within and beyond the SM**Speaker**

Gudrun Heinrich

17:45 - 18:15

Higgs Pair Production: top-mass uncertainties in NLO QCD corrections**Speaker**

Seraina Glaus

6:30 PM

18:15 - 18:30

Discussion time

Wed, October 9

9:00 AM

Workshop session: Young Scientist Forum

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Convener: Eleni Vryonidou

09:00 – 09:15

Precise calculations of Higgs decay rates in extended Higgs sectors

Speaker

Kodai Sakurai

09:15 – 09:30

Parton-shower Effects in Electroweak WZjj Production at the Next-to-Leading Order of QCD

Speaker

Johannes Scheller

09:30 – 09:45

Soft-gluon resummation for leptoquark pair-production at the LHC

Speaker

Christoph Borschensky

09:45 – 10:00

Dark matter pair production in the MSSM and in simplified dark matter models at the LHC

Speaker

Gabriele Coniglio

10:00 AM

10:30 AM

Workshop session: Composite Higgs and EFTs

Session |

Location: Karlsruhe Institute of Technology (KIT), 30.35 Hochspannungstechnik-Hörsaal (HSI), <https://www.kit.edu/campusplan> |

Conveners: Eleni Vryonidou, Gudrun Heinrich

10:30 – 11:00

EFTs with Two Higgs Doublets

Speaker

Margherita Ghezzi

11:00 – 11:30

A Concrete Composite 2-Higgs Doublet Model

Speaker

Stefania de Curtis

11:30 – 12:00

NLO Higgs effective field theory and Kappa framework

Speaker

Raquel Gomez Ambrosio

12:00 – 12:40

Outlook

Speaker

Christophe Grojean

1:15 PM

12:40 - 12:45

Farewell