

**GRK 2044 - Mass and symmetries after
the Discovery of the Higgs particle at the LHC**

2nd Annual Meeting of the GRK 2044



10. - 12. October 2016

Schwarzwaldhotel, Gengenbach (Black Forest)



DFG Deutsche
Forschungsgemeinschaft

Monday, October 10th

09.30 - 10.30	Arrival and Coffee
10.30 - 11.00	Manfredi Ronzani <i>Recent results from the search for supersymmetry in 0-Lepton final state with the ATLAS detector</i>
11.00 - 11.30	Peter Tornambé <i>Searches for supersymmetry in final states with two same-sign leptons, jets and E_T^{miss} with the ATLAS detector</i>
11.30 - 12.00	Christian Lüdtke <i>Search for heavy top squarks in hadronic final states with $\sqrt{s} = 13$ TeV at the ATLAS experiment</i>
12.00 - 12.30	Michele Boggia <i>Extending the SM by a Higgs Singlet</i>
12.30 - 14.00	Lunch break
14.00 - 15.00	Lecture: Steffen Schumann <i>Introductory talk and discussion</i>
15.00 - 16.00	Steffen Schumann <i>Sherpa-Tutorial I</i>
16.00 - 16.30	Coffee break
16.30 - 18.30	Steffen Schumann <i>Sherpa-Tutorial II</i>
18.30 - 20.30	Dinner
20.30 - open end	Meeting of the PhD-students /Meeting of the faculty members

Tuesday, October 11th

08.00 - 09.00	Breakfast
09.00 - 10.45	Lecture: Peter Uwer <i>QCD Renormalization - Part I</i>
10.45 - 11.15	Coffee break
11.15 - 11.45	Hannah Arnold <i>Search for a heavy, CP-odd Higgs boson A decaying to Zh in the $h \rightarrow b\bar{b}$ decay channel in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector</i>
11.45 - 12.15	Matthias Gorzelli <i>Messung exklusiver Reaktionen mit dem COMPASS Experiment</i>

12.15 - 14.00 Lunch break

14.00 - 15.45 **Lecture: Adam Falkowski**
Status of BSM physics after first LHC Run2 results - Part I

16.00 - open end Guided tour of Gengenbach with subsequent dinner at restaurant

Wednesday, October 12th

08.00 - 09.00 Breakfast

09.00 - 10.45 **Lecture: Peter Uwer**
QCD Renormalization - Part II

10.45 - 12.30 Poster Session with accompanying coffee break

12.30 - 14.00 Lunch

14.00 - 15.45 **Lecture: Adam Falkowski**
Status of BSM physics after first LHC Run2 results - Part II

15.45 -16.15 Coffee break

16.15 - 16.45 **Martin Rotzinger**
Effective field theory to describe Higgs physics beyond the Standard Model

16.45 - 17.15 **Carsten Burgard**
H->WW->lvlv: Couplings and beyond

17.15 - 17.45 **Discussion forum for Doctoral Researchers and Faculty members**

17.50 - 18.00 **Concluding Remarks**

18.00 Departure

Postersession Wednesday, October 12 from 10.45 - 12.15

1. Alena Lösle *Background estimation of events with misidentified or non-prompt leptons with the matrix method for investigations of the $H \rightarrow \tau\tau \rightarrow 2l4\nu$ decay mode with the ATLAS detector at $\sqrt{s} = 13\text{TeV}$*
2. Matthijs van der Wild *A non-perturbative analysis of quantum frame dependence*
3. Philip Mogg *Methods to improve Signal and Control Regions in the fully hadronic Stop Search at ATLAS*
4. Dirk Sammel *Measurement of the Higgs boson coupling to τ leptons in the $H \rightarrow \tau \text{ lep } \tau \text{ had}$ decay mode at $\sqrt{s} = 13\text{TeV}$ with the ATLAS experiment*
5. Fabio Cardillo *Searches for supersymmetry at $\sqrt{s} = 13\text{ TeV}$ with two same-sign leptons, jets and missing energy at the ATLAS detector*
6. Ralf Gugel *Investigation of the gluon-fusion $H \rightarrow WW \rightarrow \ell\nu\ell'\nu'$ channel with ATLAS at $\sqrt{s}=13\text{TeV}$*
7. Gernot Knippen *NLO corrections to WW production at proton-proton colliders*
8. Veronika Magerl *Exploiting boosted scenarios in searches for squarks and gluinos in final states with jets and missing transverse momentum at $\sqrt{s} = 13\text{ TeV}$ with the ATLAS detector*
9. Vasilij Sotnikov *Towards a unitarity based computation of NLO corrections in QCD with heavy quarks*
10. Evgenij Pascual *Numerical unitarity methods for the computation of two-loop amplitudes*
11. Tobias Szameitat *Monte Carlo Studies for Deeply Virtual Compton Scattering at COMPASS-III*

