

# Probing the TeV scale and beyond



**Monday, June 30, 2014 - Friday, July 25, 2014**

**JGU Campus, Mainz**

## Scientific Program

This scientific program will investigate the resolution of the two recent experimental discoveries, namely the discovery of the Higgs of 126 GeV and the lack of any new physics signal. The questions that participants will grapple with are many:

- \* Can new physics be hiding in the current data?
  
- \* How much deviation from the standard model can there be in Higgs boson couplings, and how might that be correlated to new scales of physics?
  
- \* Can flavor physics constraints/observables combined with Higgs results lead to new insights?
  
- \* How does collider data complement direct data in the search for dark matter?
  
- \* Were our concepts of naturalness wrong, and if so what implication do different concepts have for future experiment?
  
- \* How has our understanding of more fundamental theories, like Grand Unified Theories of String Theory, been impacted by the new results from the LHC?

All these questions and more will be addressed by our participants. Due to the diverse nature of this set of questions, the philosophy of the workshop structure is to minimize formal presentations, but encourage on informal and spontaneous discussions. We expect the impact of this scientific program is to set the tone for theoretical research in the years to come.

Executive summary: Probing the TeV scale and beyond