

# Tricky aspects of thermal phase transitions

**Maria Daghofer**

*Institut für Funktionelle Materie und Quantentechnologien,  
Universität Stuttgart, Germany*

In the second lecture, we will go over some more advanced aspects related in particular to symmetry-breaking phase transitions. For instance, we will discuss where mean-field theory can be trusted and will investigate typical excitations like Goldstone modes. A few more advanced examples like superconductivity will be presented.