

Winter term 2025/26

Lecture course with tutorials

Introduction to Lattice Field Theory

Dr. Oliver Witzel

The first part of the lecture course gives an introduction to concepts of lattice field theory as they are used to study in particular non-perturbative aspects of QCD, whereas the second part will focus on simple phenomenological application. Topics include:

- Discretizing space and time
- Gauge and fermion fields on the lattice
- Generating gauge field configurations
- Gradient flow and scale setting
- Calculation of 2- and 3-point functions

Dates:

Lecture

Thursday 10:15 – 11:45, ENC-B 127 (starting 23.10.2025)

Lecture/Tutorial

Friday 10:15 – 11:45, ENC-B 127 (starting 24.10.2025)

Video link

<https://uni-siegen.webex.com/uni-siegen/j.php?MTID=mfc9a12cc4831f6e1b1bfc9795e68faa9>

Kennnummer: 2742 966 9750 Passwort: IntroLattice

Excursion

Jülich Supercomputing Centre

Contact

Oliver Witzel, ENC-B118, oliver.witzel@uni-siegen.de

The lecture course is intended for students at the Master level and will be organized in a setup with 3 SWS lectures and 1 SWS tutorials i.e. lectures always take place on Tuesday, whereas lectures and tutorials alternate on Friday. Language of instruction is English.

