



Universität Regensburg

Dr. Sara Collins

Theoretische Physik, Lst. Schäfer/Bali/Pleiter

Vorlesungsankündigung

Sommersemester 2014

Lattice QCD II

Veranstaltungs-Nr. 52320(Vorlesung), 52321 (Übung), 52322 (Computer lab)

Lectures: Mo, 14-16 c.t., Do, 15-17 c.t., H33

Exercise Class: Do 8-10, PHY 4.1.12

Computer Lab: Fr 10-12, PHY 1.0.02 (unix CIP pool)

Start: **Monday 7.4., 14:15 Uhr, H33**

In particle physics one encounters strongly interacting non-linear systems that cannot be solved analytically. Prominent examples of this are the bound state properties of Quantum Chromo Dynamics (QCD), the theory of quarks and gluons. This lecture course is a continuation of Lattice QCD I and some basic knowledge of QCD and Lattice Field Theory is assumed. Topics covered will include renormalisation, nucleon structure, weak matrix elements, heavy quark physics and finite temperature.

This course is aimed at M.Sc. and PhD students with an interest in particle physics and/or Monte Carlo simulations. The exercise classes will involve reading relevant research papers and calculating some typical observables. For the numerical work programming experience in, e.g., C/C++ or Fortran, is necessary.