



**Lecture Course in the Integrated Research Training Group (IRTG)
of the SFB 676 “Particles, Strings and the Early Universe”**

Winter Term 15/16

Introduction to Supersymmetry and Supergravity

J. Louis

Course Description:

Supersymmetry is a symmetry between bosonic and fermionic degrees of freedom which today is one of the central topics in High Energy Physics. It also has growing applications in Mathematics and other branches of Physics.

The lecture course offers an introduction to supersymmetry and supergravity and some of its applications. Specifically the following topics are covered:

- the supersymmetry algebra and its representation theory,
- supersymmetric Yang-Mills theories,
- extended supersymmetry,
- supergravity and its coupling to matter,
- extended supergravities and their geometrical properties,
- supersymmetry and supergravity in arbitrary dimensions.

Prerequisites:

Basic knowledge in General Relativity and Quantum Field Theory

Date and Place: Tue, 9:15 – 10:45, SR 2/2a, Campus Bahrenfeld
Fri, 11:15 – 12:45, SR 2/2a, Campus Bahrenfeld

Starting on: 13 Oct 2015
