SUMMER STUDENT LECTURE PROGRAMME 2022

Lecture Title	What is string theory?
Lecturer's name	Timo Weigand
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Short CV	Past experience: PhD from Cambridge University (2006) Postdocs in Pennsylvania University and SLAC Senior at Heidelberg University Professor at Mainz University Currently professor at Hamburg University/DESY
Lecture Content	In this lecture, we will give a very brief outline of some key ideas underlying string theory. After motivating the need for a unified fundamental theory of particle physics and gravity, we will sketch how the idea that all fundamental objects in nature are excitations of a one-dimensional string inevitably leads to the main players of modern particle physics such as gauge bosons and the graviton in a theory free of perturbative divergences at high energies.
Pre-requisites: earlier series of lectures that the students should follow	Quantum Mechanics, Electrodynamics, basics of particle physics, Ideally: Basics Quantum Field Theory (not required)
Other pre-requisites:	