

Friday, 17.05.2024, 1:15 p.m.
in Lecture Hall I of the Physics Institute



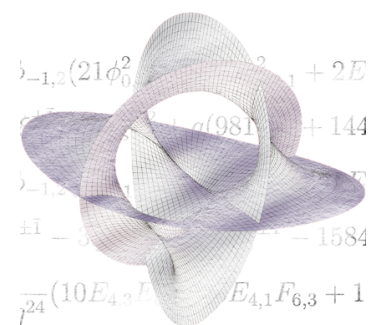
Guglielmo Lockhart

Bonn University

**„A two-dimensional window into
non-perturbative physics”**

Quantum field theories at strong coupling exhibit a host of phenomena that are not immediately visible to perturbation theory. One surprising feature is that, beside point particles, the degrees of freedom of strongly coupled QFTs can include two-dimensional string-like excitations. I will argue that these string-like degrees of freedom are powerful probes into the physics of strongly coupled QFTs, which encode detailed and often subtle properties about their particle spectrum and symmetries in a natural way.

In the case of supersymmetric theories, string theory provides a natural framework for studying this class of extended objects, which are realized by wrapping membranes in an internal space. We will see how this gives rise to a rich interplay between quantum field theory, the properties of the internal space, and the mathematical theory of modular forms.



Everybody is welcome, especially students of all semester

