
BERN-FRIBOURG GRADUATE SEMINAR

a seminar for Master and PhD students

Thursday 2nd May, 2024: 17:15 - 18:00

Room B7, Exakte Wissenschaften, Bern

ANNE SCHNATTINGER

University of Neuchâtel

Genus and Degree of Smooth Irreducible Curves in \mathbb{P}^2 and \mathbb{P}^3

Abstract

A key object of algebraic geometry are varieties in the projective space, which are given as the zero set of homogeneous polynomials. A very important type of varieties are curves, which can simply be defined as varieties whose irreducible components all have dimension one. However, classifying these objects is a more difficult task. In this talk, we will restrict ourselves to smooth irreducible curves (the “nice” kind of curves) and introduce the notion of the genus and degree of such curves. These two characteristics allow us to give a characterization of smooth irreducible curves in the two- and three-dimensional projective space.

The talk requires no prior knowledge of algebraic geometry and aims to give an intuition for all previously mentioned concepts.