

# BERNOULLIS TAFELRUNDE

GRADUATE STUDENT SEMINAR

**Monday, 20 November 2023, 12:15–13:00**

Seminarraum 05.002, Spiegelgasse 5

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## Smooth Irreducible Curves in $\mathbb{P}^3$ of Small Degree and Genus

### ABSTRACT

Irreducible projective curves are one-dimensional zero sets of irreducible homogeneous polynomials. In the two-dimensional projective space such sets are simply defined by a single polynomial. Thus, they are easy to classify by means of the degree of the defining polynomial. The goal of this talk is to reproduce such a classification of smooth irreducible curves in the three-dimensional projective space. As a measure to do this, we will introduce the notion of the degree and genus of a smooth irreducible curve and find relations between these two notions. This allows us to determine which degree-genus-pairs can (or cannot) occur and to explicitly find smooth irreducible curves of small degree and genus.