Oberseminar Zahlentheorie und arithmetische Geometrie

Jeroen Sijsling

(Universität Ulm)

Reconstructing plane quartics from their invariants

Up to isomorphism, elliptic curves over **C** are classif ed by their j-invariant; their coarse moduli space is an aff ne line with the j-invariant as coordinate. Conversely, it is not diff cult to construct an elliptic curve with a specif ed j-invariant.
In higher genus the situation is quite a bit more complicated. The moduli space of smooth genus 2 curves, as determined by Igusa, is already no longer a quasi-aff ne space, although it is still birational. In this genus Clebsch and Mestre have developed methods to reconstruct curves from their invariants, which also apply to hyperelliptic curves of higher genus. These methods are however very specif c to the hyperelliptic case and do not at all generalize.
This talk describes joint work with Reynald Lercier and Christophe Ritzenthaler that describes how reconstruction is possible in the next simplest case: that of non-hyperelliptic curves in genus 3, or in other words smooth plane quartics in **P**^2.

Freitag, 11.11.2016, 10:15 – 11:15, g123

Alle Interessierten sind herzlich eingeladen.