Algebraic Geometry/Commutative Algebra Seminar

Speaker: Uwe Nagel

In this talk we consider double lines and, more generally, ropes of arbitrary codimension. We describe their homogeneous ideals and their Hartshorne-Rao modules. The results give rise to smooth parameter spaces. A deformation argument allows us to conclude that all ropes of fixed degree and genus lie in the same component of the corresponding Hilbert scheme. We show that this component is generically smooth if the genus is small enough unless the characteristic of the ground field is two and the curves under consideration have degree two. In this case the component is even non-reduced.

This is joint work with R. Notari and M. L. Spreafico.