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Rational plane curves via syzygies

This talk will report on joint work with Andy Kustin, Claudia Polini and Bernd Ulrich. We study rational plane curves using a parametrization. Our main goal is to relate the commutative algebra of the parametrization to the singularities of the curve. I will focus on two topics: singular points of multiplicity c on a curve of degree $2c$, and the classical study of configurations of singularities of rational plane quartics.