Geometric interpolation by parametric polynomial curves

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Interpolation of curves and surfaces is a fundamental problem in computer aided geometric design (CAGD) and related fileds of research. In this talk we shall focus on interpolation of parametric curves (or data) by parametric polynomial curves. In contrast to functional case, where a polynomial of degree n can, in general, interpolate at most n+1 points, planar parametric polynomial curve of degree n might interpolate as much as 2n points. This kind of interpolation is known as 'geometric interpolation'. Some results and open problems related to geometric interpolation will be presented and interpolation of special parametric objects (such as circular arcs) will be briefly outlined.