Title: Apollonius meets Pythagoras

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Abstract: Cyclographic map is an important tool in Laguerre geometry to solve the problem of Apollonius. The cyclographic map for a planar boundary curve is a ruled surface. PH curve is the free form curve whose tangent and normal are polynomial, so that its cyclographic map has parametric form. This talk concerns the finding of the offset curves of PH curves, medial axis transform (MAT) of a PH curve with a ray and the MAT of a PH curve with a cycle. We switch the MAT finding problem into surface/surface intersection problem, and the result intersection curve, also the MAT, is represented by rational Bezier form. Furthermore, the Apollonius problem concerning line, circle and PH curves are introduced in the talk.