Workshop: Real, tropical, and complex enumerative geometry
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The enumerative geometry of linear orbits of plane curves

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Abstract

Let C be a complex plane curve of degree d. How many translates of C pass through 8 general points in the plane? In other words, what is the degree of the $PGL(3)$-orbit of C in the projective space of plane curves of degree d? In a series of papers, Paolo Aluffi and I have answered this enumerative question for arbitrary C. We also determine the boundary of the orbit of C. Besides the global geometry of C, the answer depends in a subtle way on the inflection points and singularities of C. In the talks, I will present an overview of this work.