

## **Iterating evolutes and involutes: theory and experiments**

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The evolute of a plane curve is the envelope of its normals; the involute is the result of reconstructing a curve by the family of its normals. These two classical constructions are analogous to differentiation and integration of functions of one variable. In this talk I shall discuss the dynamics of these two maps, in the continuous and discrete settings. In the latter, a curve is replaced by a polygon, and the normals by either the perpendicular bisectors of the sides, or by the bisectors of the angles. These two discretizations yield very different dynamics. This is a joint project in progress with M. Arnold, D. Fuchs, I. Izmistiev and E. Tsukerman.