Kempner Colloquium

Pentagram maps and nondegenerate curves

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A plane curve is called nondegenerate if it has no inflection points. How many classes of closed nondegenerate curves exist on a sphere? We are going to see how this geometric problem, solved in 1970, reappeared along with its generalizations in the context of the Korteweg-de Vries and Boussinesq equations. Its discrete version is related to the 2D pentagram map defined by R.Schwartz in 1992. We will also describe its generalizations, pentagram maps on polygons in any dimension and discuss their integrability properties. This is a joint work with Fedor Soloviev.

Tuesday December 9, 2014
3:00-3:40 PM
MATH 350