Geometry, Groups and Dynamics/GEAR Seminar
(held at the Illinois hub of GEAR)

12:00 pm, Tuesday, March 29, 2016, 243 Altgeld Hall

Yevgenya Movshovich (EIU)

On /\-positioning of arcs between parallel support planes

Abstract: The following result for an arc, called by J. Wetzel, the /\-property, was proved in Theorem 5.1 of "Besicovitch triangles cover unit arcs", Geom. Dedicata, vol. 123, (2006),] by P. Coulton and Y. Movshovich: Any simple plane polygonal finite arc g has two parallel support lines and three parameters r < t < u; so that g(t) lies on one line, while g(r) and g(u) lie on the other. When showing that a convex set contains all unit arcs, the /\-property allow us to study only 3 and 4-segment arcs, shaped as letters S and W or a staple. There were two announcements on extending the result of Theorem 5.1 from polygonal to simple arcs: one by Y. M. (Geometry Seminar, UIUC, 2009) and the other by R. Alexander, J. E. Wetzel, W. Wichiramala in their recently submitted paper "The /\-property of a simple arc". In this talk we prove Theorem 5.1 omitting all three requirements on a rectifiable arc: polygonal, simple and plane.

Video (unavailable)