Séminaire d'algèbre, topologie et géométrie
Jeudi 10 octobre à 14h
Salle I

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LJAD

Hypersurface singularities in codimension 2

In 1979 O. Zariski proposed a general theory of equisingularity for algebraic and algebroid hypersurfaces over an algebraically closed field of characteristic zero. This theory is based on the notion of dimensionality type that is defined recursively by considering the discriminants loci of subsequent "generic" projections. For instance, the points of dimensionality type 0 are the regular points and the singular points of dimensionality type 1 are the ones that appear generically in codimension 1. Zariski proved that the latter ones are isomorphic to the equisingular families of plane curve singularities.

In this talk we consider the case of dimensionality type 2, the Zariski equisingular families of surface singularities in 3-space. Using an approach going back to Briançon and Henry, we show that in this case the generic linear projections are generic in the sense of Zariski (this is still open for dimensionality type greater than 2). Over the field of complex numbers, we show that such families are bi-Lipschitz trivial, by constructing an explicit Lipschitz stratification. (Based on joint work with L. Paunescu.)