Determinantal Varieties and Singularities of Matrices

Miriam Pereira (UFPb)

Abstracts:
We study codimension two determinantal varieties with isolated singularities. These singularities admit a unique smoothing, thus we can define their Milnor number as the middle Betti number of their generic fiber. For surfaces in $\matC^4$, we obtain a L\^{e}-Greuel formula expressing the Milnor number of the surface in terms of the second polar multiplicity and the Milnor number of a generic section. We also relate the Milnor number with Ebeling and Gusein-Zade index of the 1- form given by thedifferential of a generic linear projection defined on the surface.