THE THIRTEENTH COLLOQUIUMFEST

Speaker:

Sabir Gusein-Zade

Title:

On multi-index filtrations corresponding to a Newton diagram

Abstract:

Facets of a Newton diagram Γ in R^n define natural (quasi-homogeneous) valuations on the ring of germs of functions in n variables. Let f is a function with the Newton diagram Γ. The mentioned valuations define integer-valued functions on the ring of germs of functions on the hypersurface singularity $\{f = 0\}$ in two ways. These functions are not, in general, valuations, but order functions. (The latter means that they do not have to possess the property $v(g_1 g_2) = v(g_1) + v(g_2)$.) We shall discuss multi-index filtrations defined by these order functions and their Poincaré series.

The talk reflects joint results with W. Ebeling.