Unfolding plane curves with cusps and nodes

Juan J. Nuno-Ballesteros

Any irreducible complex plane curve singularity $(Y, 0)$ can be parameterised, that is, it can be seen as the image of a finite and generically 1-1 map germ $\gamma : (\mathbb{C}, 0) \to (\mathbb{C}^2, 0)$. Then, we can look at it either as a finitely determined map germ with respect to the $\mathcal{A}$-equivalence or also as a frontal type singularity of finite codimension in some sense. This phenomenon becomes explicit when we consider a suitable deformation Y_t, parameterised by a stable map γ_t. In the first case, Y_t is a Morsification of Y, since the degenerated singularity splits into a finite number of nodes or transverse double points A_1. In the second case, besides the nodes, we also allow the birth of simple cusps A_2, which are stable singularities in this context. We want to characterize those surfaces $(X, 0)$ which correspond to the total space of such deformations, in terms of the transverse delta invariant and the local Euler obstruction of the surface.

Singular open book at infinity and the topology of its leaves

Raimundo Nonato Araujo dos Santos

In this talk we will introduce the singular open book structure at infinity for the pair (S,K) where S is a sphere of radius big enough and K is an (singular) algebraic subset on it. If time permits, we will also present topological information (up to homotopy) of its leaves.

On the simplicity of multigerms

Roberta Godoi Wik-Atique

Many authors have studied the operation of augmentation. In a paper with D.Mond and T. Cooper, we defined the operations of monic and binary concatenations that together with augmentations are used to obtain all codimension 1, corank 1, multigerms from $\mathbb{R}^n$ to $\mathbb{R}^p$, $n \geq p - 1$, as an inductive procedure starting with germs in lower dimensions and fewer branches. With M. Ruas and R. Oset we defined generalized concatenations to obtain codimension 2 germs. In this talk I will review some of these results and discuss the simplicity of the germs obtained. This is a joint work with M. Ruas and R. Oset.