Lipschitz contact equivalence of functions in two variables

Abstract:

We consider germs at the origin in $\mathbb{R}^2$ of continuous functions definable in a polynomially bounded o-minimal structure (e.g., semialgebraic or subanalytic). We construct a complete invariant of an equivalence class of such functions with respect to Lipschitz contact equivalence. A similar construction produces a complete bi-Lipschitz invariant for a germ of a real definable two-dimensional surface in $\mathbb{R}^n$. This is joint work with L. Birbrair and A. Fernandes (University of Ceara, Fortaleza, Brazil).