

Roberto Giménez Conejero

Title: Good real pictures of complex maps

Abstract: Given a holomorphic map germ $f_C : (C^n, 0) \rightarrow (C^{n+1}, 0)$, the problem we are interested in is finding a real map germ $f_R : (R^n, 0) \rightarrow (R^{n+1}, 0)$ such that its complexification is equivalent to f_C and all the topological data of f_C can be found in f_R . More precisely, one wants to find that the equivalent of the Milnor fiber for f_C is realised as a real object.

I will introduce the problem and the (new) techniques we use. After that, I will explain the main ideas to understand our two main results: a restrictive necessary condition to have good real pictures and showing that the inclusion of the real image into the complex is a homotopy equivalence (this was a conjecture from the 90s by David Mond). Time permitting, I will show some counter-intuitive consequences.

This is a joint work with Ignacio Brevi Ribes.