

Gdansk-Krakow-Lodz-Warszawa Seminar on Singularity Theory
30 October 2020

Speaker: David Trotman (Aix-Marseille University)

Title: The smooth Whitney fibering conjecture and density of strongly topologically stable maps.

Abstract: In 2017 Adam Parusinski and Laurentiu Paunescu proved the Whitney fibering conjecture for real or complex analytic sets: there exists a stratification of the set such that for each stratum X there is a local analytic fibering by copies of X whose tangent spaces vary continuously in a neighbourhood of X . Their stratification satisfies a particular type of Zariski equisingularity which implies Whitney (b) -regularity. We prove an analogous smooth Whitney fibering conjecture for smooth stratified sets satisfying Bekka's (c) -regularity, thus in particular for Whitney stratified sets. As an application we improve Mather's theorem (which was Thom's conjecture) that topologically stable maps between smooth manifolds are dense: we show the density of the set of *strongly* topologically stable maps. (This is joint work with Claudio Murolo and Andrew du Plessis.)