Symplectic resolution of orbifolds

Symplectic and complex geometry share many features, while differ in others. By work of Thurston, McDuff, Gompf, and others, it is well known today that many manifolds admit symplectic and not kahler structures. However, it is not uncommon that methods originally from complex/kahler geometry have their symplectic counterpart in the symplectic category. There is interest today in determining these methods, one of which is the resolution of singularities.

First of all, it is not clear what a general definition of singularity should be in the symplectic category. However, there are various instances of particular singular objects in symplectic geometry, one of which is symplectic orfifolds.

In this talk we will give a method to obtain a symplectic resolution of orbifolds imposing some restrictions on the singular locus. The main point is endowing the normal orbifold bundle of a singular submanifold with a nice structure, and then exploting the results of resolution from algebraic geometry in a convenient way.

Joint work with Vicente Muñoz.