SEMINARIO
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Intersection form and projective contractions

Abstract: Through this talk we will focus on the study of morphisms given by composition of a sequence of blow-ups of smooth d-dimensional projective varieties. The motivation is that this kind of morphisms play a central role on singularity theory due to the existence of embedded resolutions of singular projective varieties. More concretely, we are interested in finding an answer to the following question: Given the sky of such a morphism, is it possible to recover the sequence of blow-ups (modulo permissible permutations) from the numerical data given by the multilinear intersection form on divisors with exceptional support?

Our main tool will be the existence of regular divisorial contractions under certain hypothesis. After defining an equivalence relation for the morphisms considered above, we will define the key concept of final divisor. Finally we will give some numerical criteria characterizing final divisors in the case of a sequence of point blow-ups with arbitrary ambient dimension d.

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