Séminaire d'algèbre, géométrie et topologie
Mercredi 22 février à 14h
Salle I

Edward Bierstone

Toronto

Resolution of singularities with minimal memory

Resolution of singularities provides a functor from the category of algebraic varieties X and smooth morphisms over a field of characteristic zero (or other suitable categories) to a category whose objects are sequences of blowings-up over a given variety X leading to a smooth variety X'. Necessarily, the resolution process involves some memory – each blowing-up in a resolution sequence depends not only on X, but also on the preceding blowings-up in the sequence. What is the least possible memory ? Is there a resolution algorithm that computes each successive blowing-up step-by-step, with such minimal input data ? The questions are related to the role of maximal contact in desingularization algorithms. This will be a general talk, including a report on recent work with Bernd Schober.