

Weighted blow-ups are an important class of birational transformations that arise in the study of moduli spaces and of resolution of singularities. When studying their intersection theory, we need to generalise Fulton's formulas for blow-ups to their weighted version. This has been the main focus of my research in collaboration with Stephen Obinna under the guidance of Dan Abramovich.

In the talk, I will give a brief introduction of weighted blow-ups and of the needed definitions and tools from intersection theory. I will then state the main theorem, a weighted version of Fulton's key formula. This will have, as a corollary, the description of the Chow ring of a weighted blow-up, which I will present in the special case of Keel's formula. If time allows it, I will present one more corollary: a generalisation of Fulton's blow-up formula, which is a current working in progress and will be proved for the toric case.