PETER MCDONALD, Simon Fraser University

The Briançon-Skoda theorem for pseudo-rational singularities

The Briançon-Skoda theorem gives a comparison between the integral closure of powers of a finitely generated ideal with its ordinary powers. The theorem was originally proved via analytic methods for coordinate rings of smooth varieties over the complex numbers in 1974. In 1981, Lipman and Sathaye showed the result holds for any regular local ring. Since then, there have been many generalizations of the original comparison statement to rings with mild singularities, and it was long expected to hold for rings with pseudo-rational singularities. In this talk, I'll discuss recent results unifying and generalizing much of this work that settles the Briançon-Skoda theorem for rings with pseudo-rational singularities (and, more generally, for birational derived splinters). This is joint work with Linquan Ma, Rebecca R.G., and Karl Schwede.