Tropical schemes

Diane Maclagan (Warwick University, UK)

Abstract:
Tropicalization replaces a variety by a polyhedral complex that is a "combinatorial shadow" of the original variety. This allows algebraic geometric problems to be attacked using combinatorial and polyhedral techniques. While this idea has proved surprisingly effective over the last decade, it has so far been restricted to the study of varieties and algebraic cycles. I will discuss joint work with Felipe Rincon, building on work of Jeff and Noah Giansiracusa, to understand tropicalizing schemes, and more generally the concept of a tropical scheme.