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Tropical Geometry

Tropical geometry is geometry over the tropical semiring, where multiplication is replaced by addition and addition by minimum. This turns objects from algebraic geometry into objects of polyhedral geometry, and allows new combinatorial techniques to enter the area. This simple idea has had a surprisingly large impact over the last decade, both inside and outside algebraic geometry, including connections to areas as diverse as number theory, combinatorics, mathematical biology, and economics. In this talk I will survey a sampling of these ideas and applications, and introduce some of the algebraic foundations.