2018 Ulam Colloquium

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Rationality Problems

Abstract: An algebraic variety is rational if it is birational to projective space, i.e., can be parametrized by polynomials. Over the complex numbers, rationality is governed by global geometric invariants. The situation is much more subtle in higher dimensions. I will discuss recent geometric ideas and constructions that emerged in the study of rationality of higher-dimensional algebraic varieties.