UNIVERSITY AT ALBANY
State University of New York

Department of Mathematics and Statistics

Colloquium

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Resolution of Singularities for Analysts

Friday, November 4, 2011
3:00 p.m. in ES-143
(tea & coffee at 2:30 p.m. in ES-152)

Abstract. A basic problem is to describe the zero set of a polynomial or analytic function. In algebraic geometry, resolution of singularities was established by Hironaka in 1964 and has since developed into a powerful collection of methods. In analysis, there is a need for more concrete and effective approaches, allowing one to find numerical invariants of functions near zeros or critical points, such as the critical integrability, sublevel growth and oscillatory indices. I will describe these invariants, how they arise, and outline an analyst-friendly approach to resolution of singularities.

This is joint work with Tristan Collins and Malabika Pramanik.