Geometry Seminar
October 9, 2007, Tuesday, 6:00 p.m.
Room 613, Courant Institute
251 Mercer Street, New York

Fixed parameter tractability in geometry and graph drawing

Sue Whitesides
McGill University, Montreal

Abstract

Fixed parameter tractability (fpt) provides a systematic approach to dealing with seemingly intractable problems. Roughly, the goal is to design algorithms with running times of the form $O(f(k)n^c)$, where k is a parameter associated with the problem, n is the input size, and c is a constant. Thus, a running time in $O(2^k n)$ exhibits this form, whereas a running time in $O(n^k)$ does not. This approach can lead to the design of algorithms that may be useful for small values of the parameter k. While fpt methods have been explored extensively for combinatorial and graph theoretic problems, this is not yet the case for problems in geometry. Here we survey the area.

For further information contact {pach,pollack}@cims.nyu.edu, or visit our website: http://www.math.nyu.edu/seminars/geometry_seminar.html