Seminar on Combinatorial Computing
October 11, Wednesday, 6:30 p.m.
Room 6417, Graduate Center
365 Fifth Avenue, New York

The discharging method and its applications for graph drawing

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Abstract

We give a short introduction into the "discharging method," a general technique that has turned out to be useful in the proof of the four-color conjecture and many other important results on graphs with low average degree. We describe some recent applications, including Ackerman's theorem stating that the maximum number of edges that a graph with n vertices can have if it can be drawn in the plane without four pairwise crossing edges is $O(n)$. We also prove, for varios instances of G, that if the intersection graph of n convex bodies in the plane contains no subgraph isomorphic to G, then its number of edges is $O(n)$.

For further information contact Janos Pach at pach@cims.nyu.edu,
or visit our website
http://www.math.nyu.edu/p̃ach/public_html/combinatorics_seminar.html