Seminar on Combinatorial Computing
October 27, Wednesday, 6:30 p.m.
Room 6417, Graduate Center
365 Fifth Avenue, New York

$O(\log\log n)$-competitive Binary Search Trees

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Abstract

We present an $O(\log\log n)$-competitive online binary search tree, improving upon the best previous (trivial) competitive ratio of $O(\lg n)$. This is the first major progress on Sleator and Tarjan's dynamic optimality conjecture of 1985 that $O(1)$-competitive binary search trees exist. We will discuss the lower bounds of Wilber, which our data structure is based on, and the need to create stronger lower bounds if the $O(\lg\log n)$-competitive ratio is to be improved.

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