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Distinguished Lecturer Series

Friday morning with



Prof. Laszlo Babai

University of Chicago, USA

Transience and recurrence in the Abelian Sandpile Model

Originating in statistical physics, the Abelian Sandpile Model is a diffusion process on finite graphs with a remarkably rich theory that connects the fields of algebraic graph theory, discrete dynamical systems, stochastic processes, commutative semigroups and groups, number theory, algorithms and complexity theory, and more.

After a general introduction highlighting classical result by Deepak Dhar and others, I will outline recent work, in part with my former students Evelin Toumpakari and Igor Gorodezky, on the transition from "transient" to "recurrent" states in this model. I will conclude with open algorithmic problems.

Laszlo Babai is the George and Elizabeth Yovovich Professor of computer science and mathematics at the University of Chicago and former professor at Eotvos University, Budapest. He is a member of the Hungarian Academy of Science. He received an honorary doctorate from the Technical University of Budapest, the Erdos Prize in mathematics (Hungary), and the Godel Prize in theoretical computer science.

10:00-12:00 on Friday, 25 March, 2011—Saal Auditorium, Alon Bldg (37/202)
10:00-12:00 יום ו', 25 במרץ - באודיטוריום סאל, בבניין אלון (202/37)