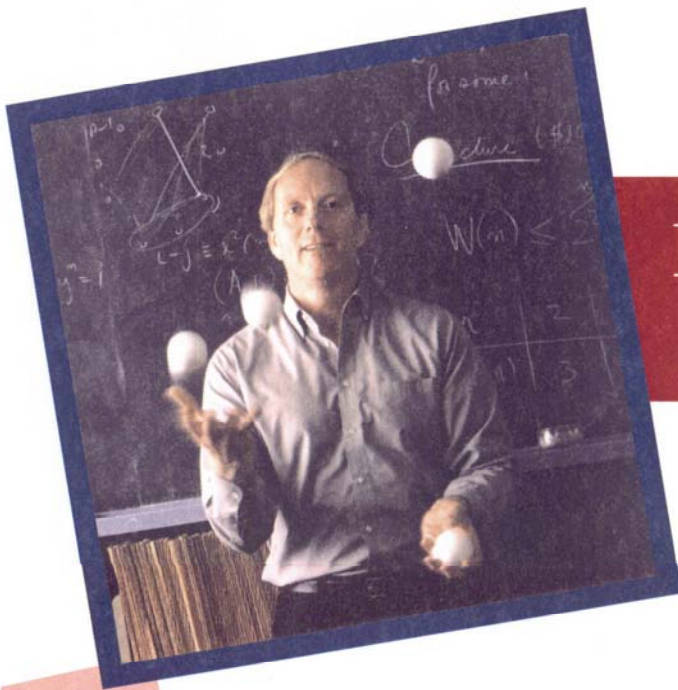


Juggling Permutations of the Integers



R.L. Graham
AT&T Research

$$x^n = \sum_k \binom{n}{k} (x+k)^n$$

In a certain sense, the art of juggling is a physical realization of many of the principles that mathematicians and computer scientists know and love. They include the search for patterns, the design and analysis of appropriate algorithms, and the prospect of facing problems of unbounded difficulty. In particular, juggling is typically a very discrete activity, and as such, is governed by a rich family of combinatorial constraints.

Recently, a new and unexpectedly simple way of describing juggling patterns has been discovered. This has led to a bewildering array of previously unknown patterns, as well as several new combinatorial theorems relating linear extensions of partially-ordered sets to chromatic polynomials of associated graphs.

Ron L. Graham of AT&T Bell Labs, a world renowned theoretical mathematician and past president of the International Jugglers Association, will describe these developments, and demonstrate some of these new tricks.

- April 3, 1997 from 7pm to 9pm
- Floyd Theater (SAC)
- Cosponsored by the Bullitt endowment and the Department of Mathematics