Russ Woodroofe (Mississippi State)

A Broad Class of Shellable Lattices

Abstract for the Combinatorics Seminar 2016 May 16

Motivated by the problem of shelling the order congruence lattices of finite posets, we have discovered a new broad class of shellable lattices. The definition of the class is, viewed from one perspective, a purely lattice-theoretic analogue of (the subgroup lattice of) a solvable group. Our construction gives a unified proof of shellability for many of the known examples of shellable lattices.

This is joint work with Jay Schweig.
