

abstract

COMPUTER SCIENCE AND DISCRETE MATHEMATICS SEMINAR II

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

A permutation $\pi=(\pi_{\{1\}},\dots,\pi_{\{n\}})$ is consecutive 123-avoiding if there is no sequence of the form $\pi_i < \pi_{i+1} < \pi_{i+2}$. More generally, for S a collection of permutations on $m+1$ elements, this definition extends to define consecutive S -avoiding permutations. We show that the spectrum of an associated integral operator on the space $L^2([0,1]^m)$ determines the asymptotics of the number of consecutive S -avoiding permutations. Moreover, using an operator version of the classical Frobenius-Perron theorem due to Krein and Rutman, we prove asymptotic results for large classes of patterns S . This extends previously known results of Elizalde and settles a conjecture of Warlimont. This is joint work with Sergey Kitaev and Peter Perry.