Colloquium

University of Notre Dame
Department of Mathematics

Peter Winkler - Dartmouth College

Speaker: Peter Winkler

Dartmouth College

Will give a lecture entitled

Permutons

Date: Wednesday, April 26, 2017
Time: 4:00 PM
Location: 129 Hayes-Healy Hall
Departmental Tea: Tea in Room 257 (lounge in Hurley Hall) at 3:30 p.m.

Abstract:

The "pattern density" of a permutation pi in a permutation sigma of $\{1, \ldots, n\}$ is the fraction of subsequences of sigma (written in one-line form) that are ordered like π. For example, the density of the pattern "12" in sigma is the number of pairs $i < j$ with $\sigma(i) < \sigma(j)$, divided by $\binom{n}{2}$.

What does a typical permutation look like that has one or more pattern densities fixed? To help answer this we employ limit objects called "permutons," together with a variational principle that identifies the permuton that best represents a given class of permutations.

Joint work with Rick Kenyon, Dan Kral' and Charles Radin.