Graz University of Technology

Institut für Diskrete Mathematik

Combinatorics Seminar

Friday 7th June 12:30

Online meeting (Webex)

Transversals in Latin squares

Richard Montgomery

(University of Warwick)

A Latin square of order n is an n by n grid filled with n symbols so that every symbol appears exactly once in each row and each column. A partial transversal of a Latin square of order n is a collection of cells in the grid which share no row, column or symbol, while a full transversal is a partial transversal with n cells.

The natural extremal question here (and the subject of the Ryser-Brualdi-Stein conjecture) is: how large a partial transversal can we guarantee in any Latin square of order n? For a Latin square chosen uniformly at random it is known due to Kwan that we can expect to find a full transversal, so a natural probabilistic question is: can we expect to be able to decompose a random Latin square into disjoint full transversals?

I will discuss recent work on both of these questions, the latter of which is joint work with Candida Bowtell.

Meeting link:

https://tugraz.webex.com/tugraz/j.php?MTID=m8500c46344212abf0fa37925da5ef9bf

Joshua Erde, Mihyun Kang