

RYERSON UNIVERSITY
DEPARTMENT OF MATHEMATICS
GRAPHS AT RYERSON (G@R) SEMINAR

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Date: Thursday, September 20, 2018

Time: 10am

Location: ENG 210

Randomly Playing Plates and Olives

Abstract:

Much can be learned about a manifold by studying the smooth functions on it. One particularly nice type of functions are Morse Functions. The game of plates and olives was formulated by Nicolaescu to study an enumeration problem related to Morse functions on the 2-sphere.

In the game of plates and olives, here are four different types of moves:

1. add a new plate to the table,
2. combine two plates and their olives onto one plate, removing the second plate from the table,
3. add an olive to a plate, and
4. remove an olive from a plate.

We will look at the original problem of enumerating morse functions on the sphere, and also will look at the game of plates and olives when it is played by choosing a move to make at each step randomly. We will see that with high probability the number of olives grows linearly as the total number of moves goes to infinity.

This project consisted of joint work with Andrzej Dudek and Alan Frieze.

ALL FACULTY, STAFF, STUDENTS AND GUESTS ARE WELCOME TO ATTEND