

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

**Dr. Patrick Bennett**

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Date: Wednesday, March 6, 2019

Time: 10am

Location: ENG 210

**Large triangle packings and Tuza's conjecture  
in random graphs**

**Abstract:**

The triangle packing number  $\nu(G)$  of a graph  $G$  is the maximum size of a set of edge-disjoint triangles in  $G$ . Tuza conjectured that in any graph  $G$  there exists a set of at most  $2\nu(G)$  edges intersecting every triangle in  $G$ . We show that Tuza's conjecture holds in the random graph  $G = G(n, m)$ , when  $m \leq 0.2403n^{3/2}$  or  $m \geq 2.1243n^{3/2}$ . This is done by analyzing a greedy algorithm for finding large triangle packings in random graphs.

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