

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

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Date: Thursday, March 28, 2019

Time: 12 pm

Location: ENG-LG02

## **The Iterated Local Model for Social Networks**

### **Abstract:**

On-line social networks such as Facebook and Twitter are often studied through friendships between users. Adversarial relationships also play an important role in the structure of these social networks. We define the Iterated Local Model (ILM) utilizing the transitive and anti-transitive generative mechanisms within social networks. These mechanisms provide a precise analogy to the adages "the enemy of my enemy is my friend," and "friends of friends are friends."

Complex networks exhibit four key properties: large scale, evolution over time, power law degree distribution, and the small world property. Densification is also observed in complex networks, where the average degree of the network increases over time. Each of these properties will be discussed for the ILM. Structural properties of the graphs generated by ILM, including the hamiltonicity and the chromatic number, will also be explored.

This is Joint Work with Anthony Bonato, Huda Chuangpishit, Sean English, and Bill Kay.

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