

*Department of Mathematics,  
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# Math 269 - Combinatorics

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## The Iterated Local Model for Social Networks

**Abstract:**

Complex networks are said to exhibit four key properties: large scale, evolving over time, small world properties, and power law degree distribution. The Preferential Attachment Model (Barabási–Albert, 1999) and the ACL Preferential Attachment Model (Aiello, Chung, Lu, 2001) for random networks, evolve over time and rely on the structure of the graph at the previous time step. Further models of complex networks include: the Iterated Local Transitivity Model (Bonato, Hadi, Horn, Pralat, Wang, 2011) and the Iterated Local Anti-Transitivity Model (Bonato, Infeld, Pokhrel, Pralat, 2017). In this talk, we will define and discuss the Iterated Local Model. This is a generalization of the ILT and ILAT models, where at each time step edges are added deterministically according to the structure of the graph at the previous time step.

**Tuesday, March 10, 2020  
2:00 PM  
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