

# Pure Mathematics Seminar

## Graphs of Finite Solvable Groups

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Texas State University

Let  $G$  be a finite group and write  $\pi(G)$  for the set of prime divisors of the order of  $G$ . The well-known prime graph of  $G$ , denoted by  $\Gamma(G)$ , is the graph with vertex set  $\pi(G)$  and with two vertices  $p$  and  $q$  linked by an edge if and only if there exists an element of order  $pq$  in  $G$ . In this talk we discuss a purely graph theoretical characterization of prime graphs of solvable groups which says that a graph isomorphic to the prime graph of a solvable group if and only if its complement is 3-colorable and triangle free. We also introduce and discuss the notion of a minimal prime graph. The work presented is joint with Alexander Gruber, Mark L. Lewis, Keeley Naughton, and Benjamin Strasser.

Date: **Friday, September 30, 2016**

Time: **2:00 pm**

Place: **Edinburg:** MAGC 1.302, **Brownsville:** UBLB 2.206

**The talk will delivered live at the *Edinburg* campus and will be streamed to the Brownsville campus**

**Coffee and cookies will be served.**

For further information or for special accommodations, please contact Dr. Sergey Grigorian via email at [sergey.grigorian@utrgv.edu], or Dr. Alexey Garber at [alexey.garber@utrgv.edu], or visit the webpage <http://www.utrgv.edu/math/news-events/seminars/puremath/index.htm>