# Combinatorics Seminar

Wednesday, March 24, 2004

3:00pm in Hume 331

(Refreshment will be served at 2:30pm in Hume 307)

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## Bonds in 3-Connected Multigraphs

### ABSTRACT

Given a connected multigraph $G$ and three nonempty even-sized subsets $A$, $B$, $C$ of $V(G)$, when does $G$ have two disjoint connected subgraphs $G_1$ and $G_2$ such that $V(G_1) \cup V(G_2) = V(G)$, and $|V(G_1) \cap A|$, $|V(G_1) \cap B|$, and $|V(G_1) \cap C|$ are all odd? This problem was solved by Chakravarti and Robertson in 1979 for the special case where $|A| = |B| = |C| = 2$, which is a variation of a result on disjoint paths proved independently by Seymour, Shiloach, and Thomassen. In this talk, I will present a solution of this problem for cycles and for all 3-connected multigraphs. This is joint work with Xujin Chen and Wenan Zang of University of Hong Kong.