Covering a Graph by Subgraphs

Professor Fan Genghua
Fuzhou University

Date: 28 October 2011 (Friday)
Time: 11.00am – 12.00pm
Venue: SPMS-LT3, SPMS-03-02
School of Physical and Mathematical Sciences

Abstract
A graph G is covered by a set of its subgraphs if each edge of G is contained in at least one of the subgraphs. An equivalent version of the Four-Color-Theorem is that every bridgeless planar graph can be covered by two even subgraphs (even graph: union of edge-disjoint circuits). The 8-Flow Theorem is equivalent to the covering of three even subgraphs. In this talk, we mainly consider the cases where the subgraphs are matchings, paths, or circuits.

Speaker Biography
Dr. Genghua Fan is a Professor in Mathematics and Vice-President of Fuzhou University. Dr. Fan obtained his Ph.D. from Department of Combinatorics and Optimization at University of Waterloo in 1988. He was promoted to associate professor with tenure at Arizona State University in 1995, and joined the Chinese Academy of Sciences under the "Hundred Talent Program" as a professor in 1997. Dr. Fan obtained the "Outstanding Youth Award" from the National Science Foundation of China in 1998, and won the Second Prize of State Natural Science Award in 2005. He is a Managing Editor of the Journal of Graph Theory, a leading international journal on graph theory.

Dr. Fan's principal research interests lie in graph theory, with emphasis on structural graph theory, extremal graph theory, weighted graphs, Eulerian graphs, integer flows, and subgraph covering. He is currently working on the applications of graph theory to the VLSI design.

Host: Prof. Chee Yeow Meng, Division of Mathematical Sciences, School of Physical and Mathematical Sciences