



UNIVERSITY OF MALTA

Faculty of Science

Department of Mathematics

Algebraic connectivity and vertex-deleted subgraphs

by

Prof. Stephen Kirkland

Given an undirected graph G , its Laplacian matrix L can be written as $L=D-A$, where A is the $(0,1)$ adjacency matrix for G , and D is the diagonal matrix of vertex degrees. The second smallest eigenvalue of L is known as the algebraic connectivity of G , and this quantity has been the subject of a good deal of work over the last several decades. In this talk, we will give a survey of some of the key results regarding algebraic connectivity for graphs. We will then discuss some recent work relating the algebraic connectivity of a graph G to that of the graph formed from G by deleting a vertex and its incident edges.

Date: Thursday, 8th October 2009

Time: 10:00am

Venue: Room: Math&Phys Bldg 405

The Mathematical Engine Driving Your Google Search

by

Prof. Stephen Kirkland

A key component of any search engine is its ability to produce a meaningful ranking of the web pages associated with a query. The search engine Google is certainly a success, and its ranking algorithm, called PageRank has been a big part of its success. The PageRank algorithm is built on mathematical ideas that date back more than a century, and in this talk we will describe the old mathematics that facilitates this contemporary application.

Date: Tuesday, 6th October 2009

Time: 11:00am

Venue: Junior College conference room.

All university members of staff and students are cordially invited to attend.

Contact Prof I. Sciriha for further details.

Prof I. Sciriha 2009-10