

PhD research topic proposal
BME, Doctoral School of Mathematics and Computer Science

Name of supervisor :

Gyula Y. Katona

Degree:

PhD

Title of the topic:

Graph pebbling and rubbing

Short description:

Graph pebbling is a one person mathematical game, it was introduced 20 years ago, originally arose in connection with a number theoretical problem. However it has promising application in modeling transportation problems as well. In the past years more than 100 article appeared that deals with the subject. In connection with pebbling various graph parameters can be defined. They are defined generally NP-hard, but some of them can be closed graph classes formula. An interesting question asks for the optimal pebbling number of large grids. There are some known upper and lower bounds, but the exact value is not yet known.

The graph rubbing is an extended version of pebbling. This is a far less discovered the area, but there are also interesting results. In many cases, results similar to those obtained in the case of stoning, but there are some interesting differences.

During the research the candidate will work on the open problems of the area.

Requirements:

basic knowledge of graphs and algorithms

Contact:

Phone:

E-mail:

Place of work:

Department of Computer Science and Information Theory

Statement: *The conditions of the research above are satisfied, the theme is confirmed by the Head of the Department/Institute*