UNIVERSITÄT DES SAARLANDES
FACHRICHTUNG MATHEMATIK
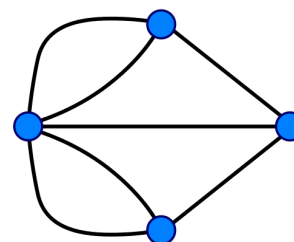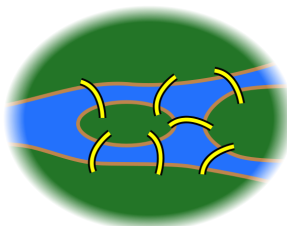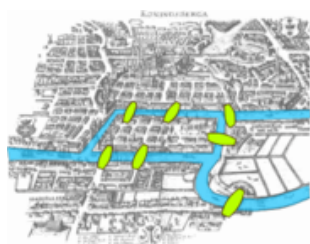Dr. Tobias Mai
Simon Schmidt
Prof. Dr. Moritz Weber

Graph Theory

Seminar announcement for the winter term 2019/2020

In this seminar we will cover basic notions and more advanced topics in graph theory. The foundations of graph theory were laid by Euler around 1740 by giving a negative resolution to the Seven Bridges of Königsberg (Königsberger Brückenproblem).

Amongst others, we will discuss the following topics:

- Paths, Hamiltonian graphs, Euler graphs,

- Adjacency matrix, eigenvalues and spectrum of a graph,

- Graph homomorphisms and isomorphisms,

- Coherent algebras, strongly regular graphs, transitive graphs,

- Trees (Cayley's Theorem, Matrix Tree Theorem),

- Planar graphs, Four and Five Color Theorem.

The seminar will take place: **Tuesday, 16–18, SR10, Building E2 4**

If you are interested in participating in the seminar, please write an email to any of the organizers **before 23 September**. The seminar is held in English unless all participants speak German. Further information via email and on the webpage

https://www.math.uni-sb.de/ag/speicher/maiweber_lehre_SemGraphwise1920.html.

(date: 3 September 2019)