

Title: Analytic combinatorics

Lecturer: Stephan WAGNER

Generating functions are a powerful tool for the exact and asymptotic enumeration of many different types of discrete structures. Typical examples include trees and other types of graphs, words over finite alphabets, permutations, compositions, number partitions and set partitions. The course will provide an introduction to some analytic techniques that are commonly used in this context, such as singularity analysis of generating functions and the saddle point method. These techniques will be illustrated by topical examples.