



universität  
wien

FAKULTÄT FÜR MATHEMATIK  
Dekan Univ.-Prof. Dr. Radu Ioan Bot

Einladung zur öffentlichen Defensio

**Lucas Teyssier**

Thema der Dissertation  
**Mixing and cover time profiles for random walks on graphs**

**Abstract:**

We will consider the mixing time and cover time problems for random walks on finite graphs. We will first present a simple geometric condition which characterises, on vertex-transitive graphs of bounded-degree, whether the properly rescaled cover time has asymptotically Gumbel fluctuations, and whether the uncovered set is decorrelated around the cover time. Next we will discuss an improvement of the Diaconis–Shahshahani upper bound lemma and a novel identity for the characters of the symmetric group. We will explain how they allow to find the cutoff profile for random transpositions.

**Prüfungssenat**

Univ.-Prof. Mag. Dr. Andreas Cap  
(Vorsitz, Universität Wien)

Univ.-Prof. Nathanael Berestycki, PhD  
(Universität Wien)

Prof. Dr. Diaconis Persi  
(Stanford University)

Prof. Dr. Sousi Perla  
(University of Cambridge)

**Zeit und Ort:**

Topic: Thesis defense L. Teyssier

22 June 2023, 03:00 pm, Seminarraum 01, Oskar-  
Morgenstern-Platz 1, 1090 Wien