Charles University
Faculty of Mathematics and Physics

Cordially invites you to

24th Jarník's Lecture

Counting with *L*-functions

Given by

Gergely Harcos

(Alfréd Rényi Institute of Mathematics,
Budapest, Hungary)

**On Tuesday, September 30, 2025
at 3:40 p.m.**

In Auditorium K1,
MFF UK
Sokolovská 49/83, Prague 8

Abstract: How many lattice points are there on a large sphere centered at the origin, and how are they distributed? How many prime numbers are there up to a large bound, and how are they distributed in various residue classes? These questions have been systematically studied for at least 225 years, and they are far from being fully resolved. They led to the development of *L*-functions, a key unifying concept of number theory. I will review some interesting results (old and new) about *L*-functions, and how they shaped our understanding of the opening questions. The talk will assume no preliminary knowledge of number theory.

Gergely Harcos received his Ph.D. in Mathematics from Princeton University in 2003. Since 2017, he has led the Automorphic Forms Research Group at the Alfréd Rényi Institute of Mathematics. In 2024, he was elected an ordinary member of Academia Europaea. He has delivered more than 100 invited talks at conferences and other professional events.