

## **The Azat Miftakhov Day**

Webinar organized by the Azat Miftakhov committee

Wednesday June 16, 2021 starting at 4pm Central European Summer Time (UTC+2)

MARYNA VIAZOVSKA

EPFL, Switzerland

### **Sphere packings, universal optimality, and Fourier interpolation**

In this lecture we will show that the  $E_8$  and Leech lattices minimize energy for a wide class of potential functions. The key ingredient of the proof is sharp linear programming bounds. Construction of the optimal auxiliary functions attaining these bounds is based on a new interpolation theorem. This is joint work with Henry Cohn, Abhinav Kumar, Stephen D. Miller, and Danylo Radchenko.