

**The Weizmann Institute of Science  
Faculty of Mathematics and Computer Science**

**Geometric Functional Analysis and Probability Seminar**

Room 155, Ziskind Building  
on Thursday, Feb 22, 2024  
at 13:30

**Katya Simarova**  
St. Petersburg

will speak on

**Some limit theorems for U-max statistics with geometric structure**

Abstract:

U-max statistics, introduced by Lao and Mayer in 2008, serve as an extreme-value analogue of U-statistics. Natural examples of U-max statistics include the maximum of random variables and the diameters of convex hulls. However, more complex examples exist, such as the maximal perimeter or area of an  $m$ -polygon calculated over all possible  $m$ -sets of points from a random sample. This talk will focus on specific U-max statistics that possess a geometric structure and derive limit theorems for them, with the Weibull distribution as a limit.