



Факультет математики и компьютерных наук  
Санкт-Петербургский государственный университет

## КОЛЛОКВИУМ

четверг 21 мая 17:15, канал Zoom 675-315-555



**Damian Osajda (University of Wroclaw)**

### **Combinatorial nonpositive curvature and group theory**

Various notions of nonpositive curvature have been explored in recent decades in the frame of Geometric Group Theory. Most influential were the notions of  $CAT(0)$  and Gromov hyperbolic spaces. On one hand such spaces and their automorphism groups exhibit a plethora of important geometric, algebraic, and algorithmic features, so that equipping a given object with the structure allows one to conclude many interesting properties. On the other hand, various techniques emerging when studying nonpositive curvature give rise to methods of constructing new - sometimes seemed as exotic – examples. In the talk I will focus on the combinatorial version of nonpositive curvature. This concerns various local combinatorial conditions on simplicial or polyhedral complexes making them behave a bit like  $CAT(0)$  spaces. Examples of such complexes and of groups acting on them in a controlled way include: Gromov hyperbolic, small cancellation,  $CAT(0)$  cubical, and systolic ones, as well as recent generalization of these notions, which will be the main subject of the talk.

Приглашаются все желающие!