

APRIL 1 - JULY 15

IMPAN, WARSAW

SIMONS SEMESTER ON

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SEMINAR

WEDNESDAY, 3.04.2019

13:00-13:50

ROOM 321

ŚNIADECKICH 8

00-656 WARSZAWA

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Nima Hoda (Wrocław University)

## Shortcut graphs and groups

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*Abstract: Shortcut graphs are graphs in which long enough cycles cannot embed without metric distortion. Shortcut groups are groups which act properly and cocompactly on shortcut graphs. These notions unify a surprisingly broad family of graphs and groups of interest in geometric group theory and metric graph theory including: systolic and quadric groups (in particular finitely presented  $C(6)$  and  $C(4)$ - $T(4)$  small cancellation groups), cocompactly cubulated groups, hyperbolic groups, Coxeter groups and the Baumslag-Solitar group  $BS(1,2)$ . Most of these examples satisfy a strong form of the shortcut property. I will discuss some of these examples as well as some general constructions and properties of shortcut graphs and groups.*

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