

APRIL 1 - JULY 15

IMPAN, WARSAW

SIMONS SEMESTER ON

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COLLOQUIUM

TUESDAY, 30.04.2019

16:15-17:30

ROOM 3180, MIMUW

BANACHA 2

02-097 WARSZAWA

# GEOMETRIC AND ANALYTIC GROUP THEORY

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*On a conjecture of Gardner*

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Abstract: In 1925, Tarski asked if a disc in the plane and a square of the same area are equidecomposable, i.e. if the disc can be partitioned into finitely many pieces which can be rearranged by isometries of the plane to form a square. In 1990, Laczkovich showed that Tarski's circle squaring problem has a positive answer but his pieces were not measurable. In 1991 Gardner conjectured that if two measurable sets are equidecomposable with respect to an action of an amenable group, then they are equidecomposable using measurable pieces.

Recently, there were a couple of breakthrough results in this area, including a result of Grabowski, Mathe and Pikhurko which provides measurable pieces in the Tarski circle squaring problem.

I will discuss recent progress towards Gardner's conjecture.

This is joint work with T. Cieřła.

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