



Berlin
Mathematical
School

BMS Friday Colloquium

Friday 30 November 2018 at 14:15

Tea & Cookies starting at 13:00

BMS Loft, Urania, An der Urania 17, 10787 Berlin

András Stipsicz

(Alfréd Rényi Institute of Mathematics)

Invariants of knots

Knot theory is a classical chapter of topology, which developed at an incredible speed lately. The introduction of the Jones polynomial in the late 80s, followed by Khovanov's work around 2000 and the discovery of knot Floer homology by Ozsváth and Szabó in 2002, provided not only new invariants, but also novel ways to define and use other branches of mathematics in studying knots.

In his talk, Stipsicz plans to discuss the main ideas and techniques used in the definition of (various versions of) knot Floer homologies. Since these objects are closely tied to the classic knot invariant provided by the Alexander polynomial, he will start with the discussion of those polynomials. With the introduction of the knot concordance group, he will arrive to the discussion of some applications of these invariants. Finally, some recent results and motivating open problems will be given.

Born and raised in Budapest, András Stipsicz received his PhD at Rutgers University (New Jersey, USA) in 1994. Currently, he is a professor at the Rényi Institute of Mathematics (Hungarian Academy of Sciences) in Budapest. He spent several years as a visiting professor at Princeton University, Columbia University and at the Institute for Advanced Study in Princeton. His research interest is in low dimensional topology, focusing on smooth 4-manifold theory, contact 3-manifolds and knots in 3-manifolds. He is a corresponding member of the Hungarian Academy of Sciences.



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