

# “Magnus Group Theory Seminar Online”

**Nikolay Romanovskiy**

**(Sobolev Institute of Mathematics, Novosibirsk, Russia)**

**“Rigid solvable groups”**

**Friday, Sep 23, 4:00pm (EDT)**

## **Abstract:**

A group  $G$  is called rigid if there is a normal series

$$G = G_1 > G_2 > \dots > G_m > G_{m+1} = 1,$$

such that all factors  $G_i / G_{i+1}$  are abelian and, considered as (right)  $Z[G / G_i]$ -modules, without torsion. For a given group  $G$  such a series is unique (if exists) and  $G$  is solvable of class exactly  $m$ . In particular, a free solvable group is rigid and the corresponding series consists of the commutator subgroups.

We prove that rigid groups are equationally Noetherian, develop algebraic geometry and dimension theory for such groups, define divisible rigid groups and divisible completions, define rigid products, study presentations of rigid groups by defining relators and the Word Problem in such groups.