

# September – December 2018



**Hausdorff Trimester Program**

## **Logic and Algorithms in Group Theory**

credit to: Barrington R. DeMers,  
Bradenton, FL

**Organizers:** André Nies, Eamonn O'Brien, Katrin Tent

Mathematical logic and algorithmic thinking have a strong impact on present-day group theory. Examples include the model theory of free groups, the algebraicity conjecture for groups of finite Morley rank, decidability questions, classification of  $p$ -groups, and Burnside type questions. The program aims at developing and connecting the two approaches.

**The program will include the following:**

- 10 - 14 September: Summer school with introductory lecture series by experts in the fields
- 22 - 26 October: International workshop

**Two-week periods of activity will focus on the following topics:**

- Free groups and their automorphisms, property (T)
- Computational group theory
- Expander graphs and approximate subgroups
- Model theory of groups
- Small cancellation theory
- Randomness in group theory

**Confirmed participants include:**

Emmanuel Breuillard  
Martin Bridson  
Gregory Cherlin  
Bettina Eick  
David Evans  
Willem Fouche

Harald Helfgott  
Gerhard Hiss  
Derek Holt  
Itay Kaplan  
Martin Kassabov  
Alex Lubotzky

Dugald Macpherson  
Gaven Martin  
Gabriele Nebe  
Sarah Rees  
Alan Reid  
Eliyahu Rips (tbc)

Colva Roney-Dougal  
Andreas Thom  
Simon Thomas  
Frank Wagner  
George Willis  
Henry Wilton



**Call for participation:** The Hausdorff Research Institute offers visiting positions for the whole period of the trimester program (for senior scientists, postdocs and PhD students). The deadline for applications is **February 28, 2018**. Please send applications (including CV and, for postdocs and PhD students, a letter of recommendation) using our online application form at [www.him.uni-bonn.de/logic-algorithms-groups/](http://www.him.uni-bonn.de/logic-algorithms-groups/). In addition numerous fellowships for shorter periods are available.