

## Geometric group theory

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**Abstract:** The reading seminar will mainly follow the book “Office hours with a geometric group theorist”; occasionally we will follow some complementary sources as well. The number of topics covered, among the following, may depend on the number and on the motivation of the students.

1. Groups acting on trees
2. Free groups and folding
3. The ping-pong lemma
4. Automorphisms of free groups
5. Quasi-isometries
6. Dehn functions
7. Hyperbolic groups
8. Ends of groups
9. Asymptotic dimension
10. Growth of groups
11. Coxeter groups
12. Right-angled Artin groups
13. Lamplighter groups
14. Thompson’s groups
15. Mapping class groups
16. Braid groups
17. Small cancellation groups.

### References:

M. Clay & D. Margalit (ed.), *Office hours with a Geometric Group Theorist*, Princeton University Press, 2017.

P. de la Harpe, *Topics in Geometric Group Theory*, Chicago University Press, 2000.

R. Lyndon, P. Schupp, *Combinatorial Group Theory*, Springer, 1977.