

# Decision Problems in Homeomorphism Groups

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Monod's group  $H := H(\mathbb{R})$  introduced in (Monod, *Proc. Nat. Acad. Sci.* **110**(12), 2013, 4524–4527.) is a group of piecewise projective orientation-preserving homeomorphisms of  $\mathbb{R} \cup \{\infty\}$  which stabilize infinity and is another counterexample of the von Neumann-Day conjecture.

In this talk we discuss current progress on the study of the conjugacy problem and centralizers in  $H$  and its subgroups by generalizing techniques developed in (Kassabov and Matucci, *Groups, Geom. Dyn.* **6**(2),2012, 279–315) and (Burillo, Matucci, Ventura, *Israel J. Math.* **216**(1), 2016, 15–59).