Hyperbolic 5-manifolds that fiber over the circle

Speaker: Bruno Martelli

Abstract: We show that the existence of hyperbolic manifolds fibering over the circle is not a phenomenon confined to dimension 3 by exhibiting some examples in dimension 5. More generally, there are hyperbolic manifolds with perfect circle-valued Morse functions in all dimensions n≤5. As a consequence, there are hyperbolic groups with finite-type subgroups that are not hyperbolic.

The main tool is Bestvina—Brady theory enriched with a combinatorial game recently introduced by Jankiewicz, Norin and Wise. These are joint works with Battista, Italiano, and Migliorini.

Time: 15:00 (German time)