

Speaker: Natasha Dobrinen, University of Denver

Title: The universal homogeneous triangle-free graph has finite Ramsey degrees

Abstract: We prove that the universal triangle-free graph has finite Ramsey degrees. The proof roughly follows the outline of Sauer's proof showing that the Rado graph has finite Ramsey degrees. However, most of the notions involved had to be newly constructed. We develop a notion of skew strong triangle-free tree, which has certain nodes in it being distinguished to densely code the universal triangle-free graph. We call these 'strong coding trees.' Using ideas from Harrington's forcing proof of the Halpern-Lauchli Theorem, we construct new notions of forcing to prove Halpern-Lauchli and Milliken-style theorems in ZFC for strong coding trees. Then a new notion of similarity type for trees with distinguished nodes is developed as well as a new kind of subtree envelope. These features come together to prove the result.