

COMBINATORICS  
SEMINAR

*The asymptotics of  $r(4, t)$*

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**Abstract:** I will give an overview of recent work, joint with Jacques Verstraete, where we gave an improved lower bound for the off-diagonal Ramsey number  $r(4, t)$ , solving a long-standing conjecture of Erdős. Our proof has a strong non-probabilistic component, in contrast to previous work. This approach was generalized in further work with David Conlon, Dhruv Mubayi and Jacques Verstraete to off-diagonal Ramsey numbers  $r(H, t)$  for any fixed graph  $H$ . We will go over of the main ideas of these proofs and indicate some open problems.

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MATHEMATICS  
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