Seminar on Combinatorial Computing
November 17, Wednesday, 6:30 p.m.
Room 6421, Graduate Center
365 Fifth Avenue, New York

The Ramsey arrow and the polynomial hierarchy

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Abstract

Let $\rightarrow$ be the (weak) Ramsey arrow. That is, we write $F \rightarrow (G, H)$ to mean that however the edges of the graph F are colored red and blue, either the red subgraph must contain a copy of G or the blue subgraph must contain a copy of H. This relation has been extensively studied in recent decades. Last year, Marcus Schaeffer proved that the question of whether $F \rightarrow (G, H)$ is Pi_p^2-complete. That is, the problem is hard at the second level of the polynomial hierarchy, and is therefore probably strictly harder than the the NP-complete problems. An account will be given of the proof and of the significance of result.

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or visit our website: http://math.gc.cuny.edu/Seminars/Combinatorics.html