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**Speaker:** Wei Wang  
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Thursday, May 5, 2011  
2:00 PM  
258 Hurley Hall

**Title:** On Rainbow Ramsey Theorems

**Abstract:**

Rainbow Ramsey Theorems are some corollaries of Ramsey Theorems which have some anti-Ramsey properties. In a recent work, Csimá and Miletí gave a new proof of Rainbow Ramsey Theorem for pairs, and from this new proof obtained some interesting reverse mathematical results, e.g. Rainbow Ramsey Theorem for pairs is strictly weaker than Ramsey Theorem for pairs. An interesting aspect of this proof is the involvement of algorithm randomness. We combine the techniques from Csimá-Miletí's work with some early techniques and results relating to Ramsey Theorem for pairs and show that Rainbow Ramsey Theorem for triples is weaker than the Arithmetic Comprehension Axioms, and thus also weaker than Ramsey Theorem for triples. In this talk, we shall sketch a proof for a key situation and also include some relating questions.