TEXAS STATE UNIVERSITY

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Discrete Mathematics Seminar

Time: Friday, 21 April 2017, 2:15 – 3:15 PM
Location: 237 Derrick Hall
Title: Additive bases in groups
Speaker: Dr. Thai Hoang Le, University of Mississippi

Abstract:

Let $\mathbb{N}$ be the set of all nonnegative integers. A set $A \subset \mathbb{N}$ is called a basis of $\mathbb{N}$ if every sufficiently large integer is a sum of h elements from A, for some h. The smallest such h is called the order of A. For example, the squares form a basis of order 4 and the primes conjecturally form a basis of order 3 of $\mathbb{N}$. Erdős and Graham asked the following questions. If A is a basis of $\mathbb{N}$ and $a \in A$, when is $A \setminus \{a\}$ still a basis? It turns out that this is the case for all $a \in A$ with a finite number of exceptions. If $A \setminus \{a\}$ is still a basis, what can we say about its order? These questions and related questions have been extensively studied. In this talk, we address these questions in the more general setting of an abelian group in place of $\mathbb{N}$. This is joint work with Victor Lambert and Alain Plagne.

Bio:

Hoang Le received his PhD from UCLA in 2010. After that, Dr. Le held postdoctoral positions in Princeton, Austin and Paris, before joining the faculty of the university of Mississippi in 2015. Dr. Le enjoys working on problems in number theory and combinatorics, especially in the intersection of these two areas.