1110-05-60 **Tewodros Amdeberhan** and **Emily Leven*** (esergel@ucsd.edu). *Multi-cores, posets, and lattice paths.*

A partition of a positive integer n has a Young diagram representation. To each cell in the diagram there is an associated statistic called the hook length, and if a number t is absent from the diagram then the partition is called a t-core. A partition is an (s,t)-core if it is both an s- and a t-core. Since the work of Anderson on (s,t)-cores, the topic has received growing attention. This talk discusses some recent work expands the discussion to multiple-cores, with an emphasis on $(s, s+1, \ldots, s+k)$-core partitions. Our results exploit connections between three combinatorial objects: multi-cores, posets and lattice paths (with a novel generalization of Dyck paths). (Received February 06, 2015)