Title: A new family of lattice paths enumerating cores

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Abstract:
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 expanding the discussion to multiple-cores and introduces a related family of lattice paths which generalizes Dyck paths and Motzkin paths.