

# Michigan Math Club

Thursday at 4pm in the Commons

Free Pizza and Pop

## Longest Monotone Subsequences

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Abstract for 7 Feb 2013

A so-called “well known theorem” states that in any permutation of  $\{1, 2, \dots, n^2+1\}$ , there exists a monotone subsequence of length at least  $n+1$ , either increasing or decreasing. In 1961 Stan Ulam raised the problem of determining the distribution of the longest increasing subsequence of a random permutation.

In 1972 Hammersley wrote a fascinating essay on this problem: “A few seedlings of research.” We discuss this problem and research it led to in probability and statistical physics.

