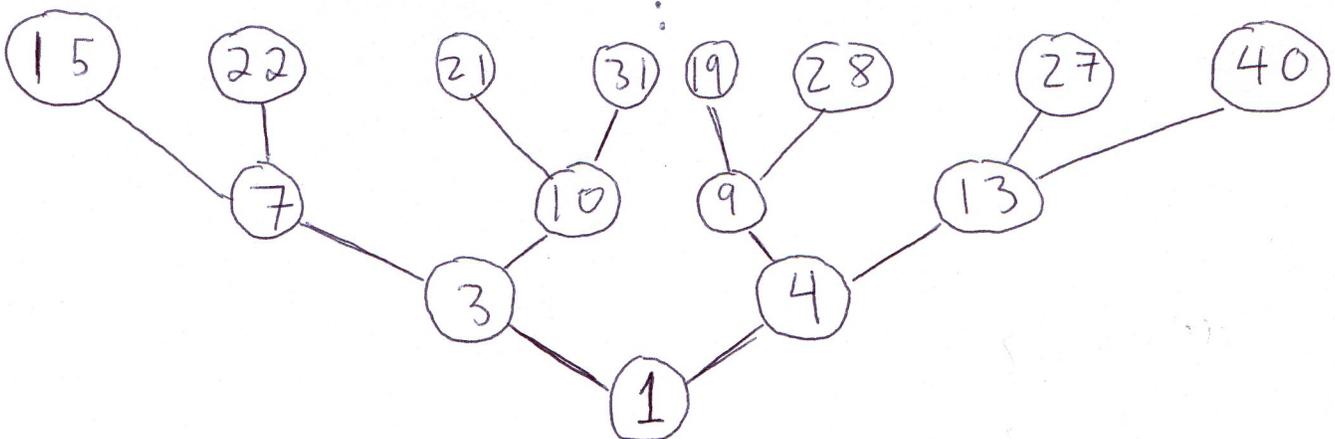# The SUMO Speaker Series for Undergraduates

(Pizza Provided)
Wednesday, October 20th
4:30-5:20, room 380C

A Mathematical Garden of Forking Paths

Professor Jeffrey Lagarias

ABSTRACT:

This talk gives history and results about the following integer sequence and generalizations. Let S be the smallest set of positive integers containing 1 and closed under the maps x → 2x+1 and x → 3x+1. Thus, S contains 1, 3, 4, 7, 9, 10, 13, 15, 19, 21, 22, 27, 28, 31, ... What is the structure of S? Of its complement? Such questions were raised by David Klarner in 1971, who worked on it and generalizations for many years. Contributions were made by Paul Erdös, Richard Rado, Michael Fredman, Donald Knuth, Don Coppersmith, and others. Some of the work on it was done at Stanford. Many questions remain unsolved.

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