

Fall 2018 Undergraduate Seminar

Department of Mathematics



Lightning Strikes!

James T. Campbell

Professor, University of Memphis

Date: Tuesday, November 13

Time: 12:00-12:50 pm

Location: Room 703, Thackeray Hall

Dr. Campbell is a Professor in the Mathematical Sciences Department at the University of Memphis. His main research area is ergodic theory, a term whose pronunciation must be handled with care, especially when speaking of it for the first time. He has also worked in operator theory and complex dynamics. Lately he has been interested in lightning models, as well as mentoring undergraduate research. Fun fact: James was a grad student at UNC when Michael Jordan played there (the best memory of his life).



We will explore a discrete model for the formulation of lightning. Begin with an $m \times n$ grid of randomly generated numbers (levels). Starting with a cell in the top row, draw an edge to neighbors whose level is less or equal to our current level, list the visited cells in a queue, and repeat this process. We are interested in the resulting path, and would like to be able to compute the probability that some portion of the path reaches the bottom of the grid (i.e., a lightning strike). This is joint work with Memphis undergrad Lauren Sobral. Pizza and drinks will be provided!

SPEAKER(S) FOR NEXT WEEK:

Graduate Student Panel,
11/27



Organized by: Tom Everest, Derek Orr, Jeff Wheeler, and Jeremiah Morgan