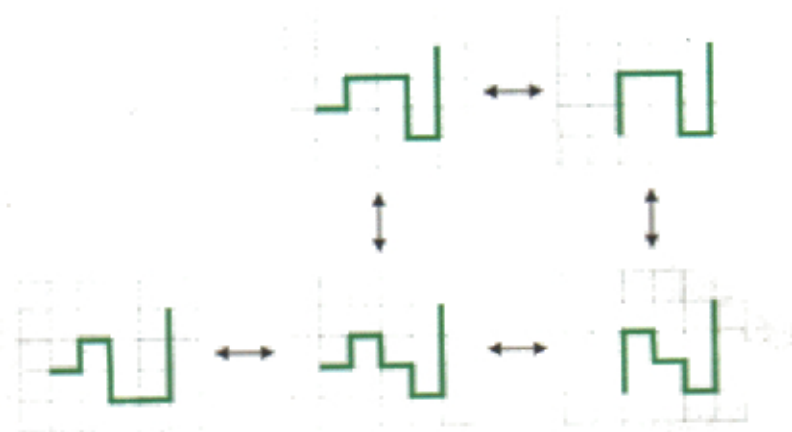


The Humboldt State University
Department of Mathematics
Presents:

The 66th Harry S. Kieval Lecture**



Thursday, September 17, 2015

7:30 P.M. Founders Hall Room 118

“Moving Robots Efficiently Using High-Dimensional Geometry”

Federico Ardila, Ph.D.

San Francisco State University; Universidad de los Andes, Colombia

How do we move a robot on a grid efficiently from one position to another? What is the most likely evolutionary tree of life? These questions lead to the study of high-dimensional "spaces of possibilities". Fortunately, geometers and algebraists have encountered and studied these kinds of spaces before. Thanks to the tools they've developed, we can build "remote controls" to navigate these complicated spaces. This talk will describe these techniques, and show how we have implemented them for some examples of interest

Dr. Federico Ardila received his Ph.D. in 2003 from MIT and is a faculty member at San Francisco State University and the Universidad de Los Andes in his native Colombia. He studies objects in algebra, geometry, topology, and applications by understanding their underlying combinatorial structure. He received the National Science Foundation CAREER Award and is Editor-in-Chief of the Journal of Combinatorial Theory, Ser. A.

Federico is strongly committed to helping build an increasingly diverse community of mathematicians. With that goal, he started the SFSU-Colombia Combinatorics Initiative, and hosts over 200 combinatorics lectures on YouTube. He also co-directs the MSRI-UP undergraduate research program and has advised 40 thesis students, including 15 women, and 30 members of underrepresented groups.