Algorithms in discrete Morse theory Kevin Knudson

Abstract:

Forman's discrete Morse theory is a combinatorial version of classical smooth Morse theory that can be applied to general cell complexes. In this talk I will discuss the basics and present a solution to the following question: given a function defined on the vertices of a simplicial complex, can we extend it to a discrete Morse function on the entire complex in a way that mirrors the behavior of the function?