

Algebra/Topology Seminar

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THE DISCRETE FLOW CATEGORY

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1:15 p.m. in ES-143

ABSTRACT. Large-scale homology computations are often rendered tractable by discrete Morse theory. Every discrete Morse function on a given cell complex X produces a Morse chain complex whose chain groups are spanned by critical cells and whose homology is isomorphic to that of X . However, the space-level information is typically lost because very little is known about how critical cells are attached to each other. In this talk, we discretize a beautiful construction of Cohen, Jones and Segal in order to completely recover the homotopy type of X from an overlaid discrete Morse function.