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**Carl C Hammarsten\*** ([hammarsc@lafayette.edu](mailto:hammarsc@lafayette.edu)). *Decorated Heegaard Diagrams and Combinatorial Heegaard Floer homology.*

A 3-dimensional closed manifold  $Y$  represented by its branched spine has a canonical Heegaard decomposition. We present this decomposition graphically in the form of a strip diagram. We show that strip diagrams have nice properties which greatly simplify the calculation of Heegaard Floer homology. Motivated by this work, we introduce the idea of a decorated Heegaard diagram. That is, a Heegaard diagram together with a collection of embedded paths satisfying certain criteria. Using this decorated Heegaard diagram, we present a combinatorial definition of a chain complex which is homotopically equivalent to the Heegaard Floer one, yet significantly smaller. Finally, we consider the presentation of a branched spine by its O-graph and show how to reformulate our definition in these terms. (Received September 26, 2017)