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**Derek Levin**, **Lara Pudwell** and **Manda Riehl\*** (riehtar@uwec.edu), HHH 512, 105 Garfield Ave, Eau Claire, WI 54701-4004, and **Andrew Sandberg**. *Pattern Avoidance on  $k$ -ary Heaps*.

A  $k$ -ary heap is a labelled tree with  $n$  nodes with two properties: a) it is a complete  $k$ -ary tree: all the levels of the tree are fully filled except possibly the last level, and the nodes on that level are filled from left to right, and b) the nodes are labelled with 1 to  $n$  and every path from root to leaf forms an increasing sequence of labels. For each  $k$ -ary heap, we associate a permutation by reading the labels on the heap from left to right by levels, starting at the root. We present several results on pattern avoidance for patterns of length 3 in binary heaps, as well as their generalizations to  $k$ -ary heaps, and also present several conjectures for further study. (Received January 19, 2015)