1022-05-65 **Florent Hivert** and **Jean-Christophe Novelli*** (novelli@univ-mlv.fr), 5, rue du bac, 93360 Neuilly-plaisance, France, and **Jean-Yves Thibon**. *Commutative combinatorial Hopf algebras.* Preliminary report.

We propose several constructions of commutative or cocommutative Hopf algebras based on various combinatorial structures, and investigate the relations between them. A commutative Hopf algebra of permutations is obtained by a general construction based on graphs, and its non-commutative dual is realized in three different ways, in particular as the Grossman-Larson algebra of heap ordered trees.

Extensions to endofunctions, parking functions, set compositions, set partitions, planar binary trees and rooted forests are discussed. Finally, we introduce one-parameter families interpolating between different structures constructed on the same combinatorial objects. (Received September 08, 2006)