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Marston D E Conder* (m.conder@auckland.ac.nz), Department of Mathematics, University of Auckland, Private Bag 92019, Auckland. *Combinatorial group-theoretic methods in the study of automorphisms of maps and surfaces.*

This lecture will give a brief survey of some useful aspects of combinatorial group theory and associated computational methods, with special reference to finitely-presented groups and their applications to the study of ‘large’ groups of automorphisms of maps and surfaces. Some recent results – obtained in joint work with Tom Tucker and Jozef Siran – will be announced on groups of given symmetric genus (the smallest genus of an orientable surface on which the group acts faithfully), and on the genus spectra of orientably-regular maps that are chiral (irreflexible), and of orientably-regular maps with simple underlying graph (having no multiple edges). (Received February 27, 2007)