

**School of Mathematics and Applied Statistics**  
**2013 Colloquium Series**  
University of Wollongong

**Title:** Extending the concept of an automatic group

**Speaker:** Murray Elder (University of Newcastle)

**Time and Date:** Friday 14 June 2013, 3:30pm

**Location:** 6-210

**Abstract:** This is joint work with Jennifer Taback and Sharif Younes, Bowdoin College USA

I will define and motivate the concept of an automatic group, defined by Thurston, Cannon, Epstein and others in the 90s, and then discuss new work extending the definition, initiated by Kharlampovich, Khousainov and Miasnikov in 2011, to include many more groups while preserving some of its useful consequences. The area combines formal language theory and computation theory (automata, Turing machines), complexity, and combinatorial group theory.