Toby Walsh

Symmetry in Combinatorial Search

Thursday, 19th August, 2010, Room 3.2.14

Symmetry has played an important role in many areas of artificial intelligence including constraint programming, satisfiability, planning, and automated reasoning. In this talk, I will describe recent work on formalizing and using symmetry. My talk will contain a minimum of group theory but will hopefully equip you with the tools to study symmetries within your domain of interest. I will show how such symmetry can speed up reasoning, and has led to the discovery of new results in both graph and number theory.

Some of the work described is joint with Marijn Heule, George Katsirelos and Nina Naroditskaya. Short bio

Toby Walsh is currently Scientific Director of NICTA, adjunct Professor at the University of New South Wales, external Professor at Uppsala University and an honorary fellow of Edinburgh University. He has been elected a fellow of both AAAI and ECCAI. He is an Editor of the Handbook for Constraint Programming, and of the Handbook for Satisfiability. He has been Conference and/or Program Chair of the CP, SAT and IJCAR conferences and will be Program Chair of IJCAI 2011.