BRENDAN MCKAY, Australian National University, Australia

Some examples of exhaustive graph generation

We give a brief overview of the art of generating graph classes on the computer, with particular attention to avoidance of isomorphs. Our examples will include two recent projects. One is to generate fullerenes without adjacent pentagons (joint with Jan Goedgebeur) and the other is to catalogue all small Turan graphs for collections of short cycles (joint with Narjess Afzaly). In both cases we manage to considerably improve on earlier results.