
CHRIS GODSIL, University of Waterloo, Waterloo, ON, N2L 3G1

Graph spectra and quantum computing

As a graduate student, I was fascinated to learn that the eigenvalues of a graph could actually provide useful information about its structure. I started work on this topic, and never outgrew my interest in it—it seemed a harmless enough amusement. But recently I have been surprised to find that a number of questions arising in quantum computing could be profitably attacked using results and techniques from the theory of graph spectra. In my talk I will present some of these problems (in graph theoretic terms), and discuss what progress has been made.