MATEJA SAJNA, University of Ottawa
On Sheehan's Conjecture for graphs with symmetry

It is known that every simple regular graph of degree d that has a Hamilton cycle in fact possesses a second Hamilton cycle if d is odd or $d \geq 300$. Sheehan conjectured that the statement is also true for $d = 4$, which would imply that it is true for every $d > 2$. Fleischner showed that Sheehan's conjecture fails for 4-regular multigraphs. In this talk, we show that Sheehan's conjecture is true for 4-regular vertex-transitive simple graphs, and present some other recent results on the conjecture for regular simple graphs with a sufficiently large automorphism group. This is joint work with Andrew Wagner.