There are several sufficient conditions for a graph on \( n \) vertices to contain a cycle of length \( k \), and, in particular, to be hamiltonian. Often these conditions do not hold in sparse graphs, i.e. in graphs with number of edges being \( o(n^2), n \to \infty \). In this talk we present several recent results on the existence of cycles of certain lengths (including hamiltonian cycles) in some families of sparse graphs, and state some open problems.

For the DM seminar schedule, see:
http://www.people.vcu.edu/~dcranston/DM-seminar