SARAH POST, Centre de Recherches Mathematiques, Univ. de Montreal
Recent advances in the theory of superintegrable systems

In this talk, I will discuss new results in the theory of superintegrable systems: Hamiltonian systems with more integrals of motion than degrees of freedom. The talk will consist of a brief survey of known results along with a focus on recent advances. In particular on the relationship between such systems and orthogonal polynomials. Topics to be discussed: new infinite families of superintegrable systems and recurrence relations for orthogonal polynomials, representations of symmetry algebras and the Askey scheme, and superintegrable spin chains.