Abstract:
In 1978, Madsen, Thomas, and Wall proved that a finite group can act freely on a CW complex homotopy equivalent to a sphere if and only if it has periodic cohomology. Since this decades-old conjecture was proved, much work has been done to extend the result and find a classification of groups which can act freely on products of spheres. I will discuss recent progress in this area and some connections to representation theory and commutative algebra.