LIVIU MARE, University of Regina
Nonabelian GKM Theory

This is a report on joint work with Oliver Goertsches. A theorem of Goresky, Kottwitz, and MacPherson (GKM) describes the equivariant cohomology ring for certain actions of tori on compact manifolds in terms of points whose stabilizers have codimension at most 1. I will discuss a generalization of this result to actions of compact, possibly nonabelian, Lie groups. The corresponding equivariant cohomology ring is this time determined by points whose stabilizers have corank at most 1. Like in the usual GKM theory, one can encode the equivariant cohomology ring into a certain labeled graph, which this time has some special features.