**Abstract:**

In usual Hamiltonian geometry, a real convexity theorem is a statement on the convexity properties of the image, under the momentum map, of the fixed-point set of an antisymplectic involution. In this talk, we investigate the corresponding situation in quasi-Hamiltonian geometry. The main result is a real convexity theorem for quasi-Hamiltonian actions of compact connected and simply connected Lie groups. Applications include the construction of a Lagrangian submanifold in the moduli space of surface group representations.