The topology of rationally and polynomially convex domains

Abstract:
Rationally and polynomially convex domains in $\C^n$ are fundamental objects of study in the theory of functions of several complex variables. After defining and illustrating these notions, I will explain joint work with Y. Eliashberg giving a complete characterization of the possible topologies of such domains in complex dimension at least three. The proofs are based on recent progress in symplectic topology, most notably the h-principles for loose Legendrian knots and Lagrangian caps.

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