Systolic inequalities in symplectic topology

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The theme of this talk is quantitative symplectic topology. I will address the question of whether there exist upper bounds for symplectic capacities in terms of volume. In general such upper bounds do not exist, but under additional assumptions the existence of these upper bounds is related to important conjectures in geometry. In particular I will discuss a perturbative positive result for the symplectic isoperimetric conjecture, aka Viterbo's conjecture, and its relation to conjectures in systolic geometry. Finally I will discuss a conjecture on the uniqueness of capacities for convex bodies and its relation to an open question by HWZ on the minimal value of the action spectrum on a 3d convex energy level. This is partly joint work with Abbondandolo, Bramham and Salomão.