# Symplectic geometry, capacities and embeddings Daniel Cristofaro-Gardiner and Richard Hind

**Abstract.**

The first part of the workshop will provide an introduction to symplectic geometry, covering motivation from classical mechanics, symplectic and contact manifolds, Darboux's theorem, Hamiltonian flows and Lagrangian submanifolds. There will be a concise overview of the theory of pseudoholomorphic curves, omitting analytical details, leading to Gromov's nonsqueezing theorem and the notion of a symplectic capacity. We will also discuss combinatorial methods for computing capacities. Participants will attend lectures in the mornings and gather in small groups in the afternoons, to work on assigned problems or prepare presentations on specific results.

In the second part of the workshop, the small groups will have the option either to study an important paper in the field, with a view to outlining the results at the end of the workshop, or to research problems of an experimental or computational nature related to symplectic embeddings or capacities. The group work will be supported by additional morning lectures on relevant topics.

We hope that at the end of the workshop participants will have a broad understanding of the theory and basic problems in quantitative symplectic geometry, and be inspired to maintain contacts and continue research in the field.