IHSAN TOPALOGLU, VCU

Minimizing sets of weakly-repulsive nonlocal energies

In this talk we will consider weakly repulsive-strongly attractive nonlocal interaction energies over bounded densities of fixed mass m. In particular, we will show that under certain regularity assumptions on the interaction kernels these energies admit minimizers given by characteristic functions of sets volume m when m is sufficiently small (or even for every m, in some cases). Finally, we will present on a generalization of a recent result of Davies, Lim and McCann, and give sufficient conditions that guarantee that minimizers over probability measures are given by Dirac masses concentrated on the vertices of a regular $(N+1)$-gon in $\mathbb{R}^N$. This is a joint work with Davide Carazzato and Aldo Pratelli.