**Mean-Field limits for Coulomb dynamics**

Sylvia Serfaty, Courant Institute of Mathematical Science/ Joint lecture with Brown University PDE seminar

We consider a system of N particles evolving according to the gradient flow of their Coulomb or Riesz interaction, or a similar conservative flow. By Riesz interaction, we mean inverse power s of the distance with s between d-2 and d where d denotes the dimension. We prove a convergence result as N tends to infinity to the expected limiting evolution equation. This was previously an open question in general dimension, rendered difficult by the singular nature of the interaction.