ANDREA SACCHETTI, Università di Modena e Reggio Emilia *Bifurcation trees in nonlinear Schrödinger equations*

In this talk we discuss some recent results for a class of nonlinear models in Quantum Mechanics. In particular we focus our attention to the nonlinear one-dimensional Schrödinger equation with a periodic potential and a Stark- type perturbation. In the limit of large periodic potential the Stark-Wannier ladders of the linear equation become a dense energy spectrum because a cascade of bifurcations of stationary solutions occurs when the ratio between the effective nonlinearity strength and the tilt of the external field increases.