1132-35-122 **Estapraq Kahlil*** (estapraq.k@gmail.com). *On the well-posedness of the Cauchy problem for some nonlocal nonlinear Schrödinger equations*

This talk addresses the global and local well-posedness of the initial-value problem for the dispersion-managed nonlinear Schrödinger equation

$$iu_t + \alpha u_{xx} + \int_0^1 g(s)T^{-1}(s)\left[|T(s)u|^2 T(s)u\right]\ ds = 0,$$

which has applications in nonlinear fiber optics. The operator $T(s)$ is a nonlocal operator defined by $T(s) = \exp\left[-iD(s)\partial_x^2\right]$, where $D(s)$ models the dispersive properties of the fiber. We establish sufficient conditions on $D(s)$ to prove well-posedness (in the sense of Hadamard) in L^2, and to prove the existence and stability of solitary-wave solutions, which model localized light pulses within the fiber. (Received July 18, 2017)