1167-35-268 **Rowan Killip**, **Maria Ntekoume*** (maria.ntekoume@rice.edu) and **Monica Visan**. *On the well-posedness of the derivative nonlinear Schrödinger equation.*

We consider the derivative nonlinear Schrödinger equation in one space dimension, posed both on the line and on the circle. This model is known to be completely integrable and L^2-critical with respect to scaling. However, not much is known regarding the well-posendess of the equation below $H^{\frac{1}{2}}$. In this talk we prove that this problem is globally well-posed for initial data in the Sobolev spaces H^s for $\frac{1}{6} \leq s < \frac{1}{2}$ under some restriction on the L^2 norm. The key ingredient in our argument is proving that ensembles of orbits with L^2-equicontinuous initial data remain equicontinuous under evolution. This is joint work with Rowan Killip and Monica Visan. (Received March 08, 2021)