1089-35-227 **Andrea R. Nahmod** and **Natasa Pavlovic*** (natasa@math.utexas.edu), The University of Texas at Austin, Department of Mathematics, 2515 Speedway, Austin, TX 78712, and **Gigliola Staffilani**. *Almost sure existence of global weak solutions for Navier-Stokes equations.*

In this talk we consider the periodic Navier-Stokes equations and address the question of long time existence of weak solutions for super-critical initial data both in $d = 2$, 3,. For $d = 2$ we address uniqueness as well. In particular, we show that by randomizing in an appropriate way the initial data in $H^{-\alpha}(\mathbb{T}^d), d = 2, 3$ (for some $\alpha = \alpha(d) > 0$) which is below the scaling invariant Sobolev space, as well as below the space L^2 where one has available deterministic constructions of weak solutions, one can construct a global in time weak solution to Navier-Stokes equations. Such solution is unique when $d = 2$. (Received February 15, 2013)