1056-60-1340   **Suman Sanyal*** (`sanyal@marshall.edu`), Smith Hall 743C, Department of Mathematics, Marshall University, Huntington, WV 25755. *Brownian motion indexed by a time scale and its applications.*

In this talk, we will present a generalized version of Wiener's existence result for one-dimensional Brownian motion by constructing a suitable continuous stochastic process where the index set is a time scale (an arbitrary nonempty closed subset of the real numbers). We provide a construction of a countable dense subset of a time scale and use it prove a generalized version of the Kolmogorov-Ĉentsov theorem. As a corollary, we obtain a local Hölder-continuity result for the sample paths of the generalized Brownian motion on time scales. (Received September 21, 2009)