

1125-VB-2045 **Timothy I Myers*** (tim-myer@hotmail.com). *Lebesgue Integration on a Banach Space with a Schauder Basis.*

This talk will feature the construction of a Lebesgue measure and integral on any Banach space with a Schauder basis. This theory has the advantage that the integral is computable from below as a limit of Lebesgue integrals on Euclidean space as the dimension $n \rightarrow \infty$, so that we may evaluate infinite dimensional quantities by means of finite dimensional approximation. We will discuss applications to Feynman's path integral and Gaussian measure. (Received September 19, 2016)