TIMOTHY MYERS, Howard University

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 $\mathcal{B}$ 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 $n \to \infty$, so that we may evaluate infinite dimensional quantities by means of finite dimensional approximation. Applications will be discussed.