Speaker: Gerardo Mendoza
Temple University

Title: Characteristic classes of the boundary of a compact complex b-manifold

Abstract: A complex b-manifold is a a manifold M with boundary together with a choice of an involutive subbundle $T^{0,1}M$ of the complexification of its b-tangent bundle ${}^bTM$ such that $T^{0,1}M \cap \overline{T^{0,1}M} = 0$ and $T^{0,1}M + \overline{T^{0,1}M} = \mathbb{C}\,{}^bTM$. The boundary of such a manifold inherits a rich structure, including a globally defined nonwhere vanishing real vector field $\mathcal{T}$, that resembles that of the circle bundle of a hermitian holomorphic line bundle. Assuming that there is a $\mathcal{T}$-invariant metric on ∂M we will describe a classification of ∂M when M is compact and the orbits of $\mathcal{T}$ are periodic in terms of the integral 2-cohomology of the space of orbits.