

Title: Weighted L^2 holomorphic functions on ball fiber bundles over compact Kähler manifolds

Abstract: In this talk, we will discuss constructions of weighted L^2 holomorphic functions of ball-fiber bundles over compact Kähler manifolds. Since any compact complex hyperbolic space forms have a ball-fiber bundle, a strongly 1-pseudoconvex manifold, we may expect that the bundle has plenty of holomorphic functions. In 2017, M. Adachi constructed weighted L^2 holomorphic functions on disc-fiber bundles over compact Riemann surfaces. In 2020, A. Seo and S. Lee extended his result to ball-fiber bundles over compact complex hyperbolic space forms using symmetric differentials and a variation of Hodge identities. Recently, A.Seo and S.Lee show that these phenomena are still valid for some compact submanifolds of finite volume ball quotients. In this talk, we will explain these results, and we will give some proof if time is permitted.