Title: Models for compact quasi-Sasakian and quasi-Vaisman manifolds and applications to compact nilmanifolds

Abstract: In this talk, I will present some commutative differential graded algebras which are models for compact quasi-Sasakian and quasi-Vaisman manifolds. Quasi-Sasakian (respectively, quasi-Vaisman) are endowed with a normal almost contact metric structure (respectively, a Hermitian structure) and they are a natural extension of Sasakian and co-Kähler manifolds (respectively, Vaisman manifolds). As an application of the previous results, we completely describe compact quasi-Sasakian (respectively, quasi-Vaisman) nilmanifolds of constant index. In particular, as a consequence, we derive some recent results on compact Sasakian (respectively, Vaisman) nilmanifolds.