

Title: Witt vectors of associative rings.

Abstract : Witt vector rings and their more general variants are classical tools in many branches of mathematics, ranging from algebra and algebraic number theory to arithmetic geometry and homotopy theory. However the constructions of the ring of Witt vectors and of the associated de Rham-Witt complex in the non-commutative set up are intriguing. In this talk we will recall the classical construction of Witt vectors in the commutative set up. In the non-commutative set-up we have two constructions of Witt vectors: one of them is by Hesselholt of the functor $W : \text{Associative rings} \rightarrow \text{Abelian groups}$ and another by Cuntz and Deninger of the functor $E : \text{Associative rings} \rightarrow \text{Associative rings}$. Both constructions $W(A)$ and $E(A)$ are isomorphic to the classical ring of Witt vectors when A is a commutative ring. The natural question is whether these constructions are related in some way when A is a non-commutative ring. In this talk we will discuss a partial answer to this question, which is joint work with A. Hoagdi.