Cartesian Squares and the Ring of Integer-Valued Polynomials

Abstract: Let R, T, A, B be commutative rings with identity. A cartesian square is a very simple construction that is widely used in commutative algebra. In particular, these constructions provide a rich source of (counter)examples. Moreover, in the last decade, it has been determined that the ring $\text{Int}(E, D)$ of integer-valued polynomials can be defined by means of a Cartesian square. In this talk, we will survey some known results and open questions about cartesian squares and how they relate to the ring $\text{Int}(E, D)$.