Publicacions més rellevants de la línia de recerca:
C^*-àlgebres

Abstract: We construct an AF-algebra A such that its local multiplier algebra $M_{\mathrm{loc}}(A)$ does not agree with $M_{\mathrm{loc}}(M_{\mathrm{loc}}(A))$, thus answering a question raised by G. K. Pedersen in 1978.

Abstract: We prove that the Cuntz semigroup is recovered functorially from the Elliott invariant for a large class of C*-algebras. In particular, our results apply to the largest class of simple C*-algebras for which K-theoretic classification can be hoped for. This work has three significant consequences. First, it provides new conceptual insight into Elliott's classification program, proving that the usual form of the Elliott conjecture is equivalent, among $\mathcal{Z}$-stable algebras, to a conjecture which is in general substantially weaker and for which there are no known counterexamples. Second and third, it resolves, for the class of algebras above, two conjectures of Blackadar and Handelman concerning the basic structure of dimension functions on C*-algebras. We also prove in passing that the Cuntz-Pedersen semigroup is recovered functorially from the Elliott invariant for a large class of simple unital C*-algebras.

Abstract: In this paper we introduce the class of purely infinite rings, which in the simple case agrees with the already existing notion of pure infiniteness. We establish various permanence properties of this notion, such as passage to matrix rings, corners, and behaviour under extensions, so being purely infinite is preserved under Morita equivalence. We show that a wealth of examples fall into this class, including important analogues of constructions commonly found in operator

algebras. In particular, for any (s-)unital K-algebra A having enough nonzero idempotents (for example, for a von Neumann regular algebra) its tensor product over K with many nonsimple Leavitt path algebras is purely infinite.