

Speaker: Kevin Tucker, University of Illinois at Chicago, IL, USA

Title: Singularities via BCM Algebras

Abstract: In this lecture series, I will give an introduction to the use of Big Cohen Macaulay (BCM) algebras to study singularities in positive and mixed characteristic commutative algebra and algebraic geometry. Topics will include BCM algebras, splinter rings and the Direct Summand Theorem, and connections to tight closure and test ideals. We also aim to discuss recently introduced mixed characteristic perfectoid analogues of Hilbert-Kunz multiplicity and F-signature.