

**Résumé:**

Arveson's work on the theory of commuting families of operators established deep connections with commutative algebra and algebraic geometry, and attracted the attention of a number of researchers. At the center of much of this work is Arveson's conjecture, made over a decade ago, that many commuting families of linear operators are essentially normal. To date, however, the truth of this conjecture has been established only in certain special cases. In this talk, I will give an introduction to this area of research and explain the interest in essential normality. I will present recent work that provides a new perspective on Arveson's conjecture, and establishes the conjecture for a large new class of examples. Part of the talk will refer to recent joint work with Orr Shalit.