

## **“HIGH DIMENSIONAL” SIMPLE $C^*$ -ALGEBRAS**

MIKAEL RØRDAM

*Department of Mathematics and Computer Science, University  
of Southern Denmark, Campusvej 55, 5230 Odense M, Denmark*

E-mail: mikael@imada.sdu.dk

Villadsen showed in the mid ‘90s that simple  $C^*$ -algebras can have properties that with some right can be called “high dimensional”: stable rank  $> 1$  and strong perforation in  $K_0$ . These examples are particularly interesting in the study of Elliott’s classification conjecture, since they appear to fall outside of the class of  $C^*$ -algebras that can be classified. More examples have emerged over the last 10 years showing that simple  $C^*$ -algebras are more exotic objects than some of us anticipated 10 years ago. These examples include simple  $C^*$ -algebra with finite and infinite projections, and explicit counter examples to Elliott’s conjecture. In the talk I will describe (some of) these examples.