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*Maximality and symmetry related to the 2-adic ring  $C^*$ -algebra*

The 2-adic ring  $C^*$ -algebra  $\mathcal{Q}_2$  is the universal  $C^*$ -algebra generated by a unitary and an isometry satisfying certain relations. It contains a canonical copy of the Cuntz algebra  $\mathcal{O}_2$ , which we denote by the same symbol. In this talk, we explore the maximality of this canonical copy of  $\mathcal{O}_2$  inside  $\mathcal{Q}_2$ , the fixed-point algebra of a periodic  $*$ -automorphism  $\sigma$  of  $\mathcal{Q}_2$  extending the flip-flop automorphism of  $\mathcal{O}_2$ , and the relationship between these two notions for  $\mathcal{Q}_2$ . This is based on joint work with Dilian Yang.