Operator algebras and hyperbolic dynamical systems

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The notion of an Axiom A system and its basic sets was introduced by Smale. I will discuss these and show how one can construct interesting and important C*-algebras from the basic sets. I will describe the structure of the algebras, and also how they contain interesting dynamical information. Within the framework of A. Connes' non-commutative geometry, the algebras are the non-commutative replacements for the basic sets.