Group actions on Smale spaces and associated C*-algebras

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A Smale space is a type of hyperbolic topological dynamical system (X, ϕ) with a particularly tractable local structure. By associating groupoids coming from the contracting, expanding, and asymptotic behaviour of the Smale space, one may construct three C*-algebras. If there is a group action on X that commutes with ϕ, this induces an action on each of these C*-algebras, which in turn allows one to construct crosseed products C*-algebras. I will discuss my recent work with Robin Deeley which studies properties of groups actions on X that allow us to deduce structural properties of the resulting crossed products.