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**BEN BURTON**, The University of Queensland

*Regina in Regina: Adventures in computation with knots and 3-manifolds*

Regina is a software package for studying 3-manifold triangulations and normal surfaces. It includes a graphical user interface and Python bindings, and also supports angle structures, census enumeration, combinatorial recognition of triangulations, and high-level functions such as 3-sphere recognition and connected sum decomposition. In this talk we describe how Regina has been used to compute crosscap numbers of knots (the non-orientable counterpart to knot genus), drawing on techniques from 3-manifold topology, integer programming, and computational algebra.