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Title: Non-commutative projective lines and bimodule species
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In the 1970s, Beilinson discovered a beautiful derived equivalence between the projective line and a certain finite-dimensional algebra called the Kronecker algebra. This allows one to understand the representation theory of the Kronecker algebra geometrically. The Kronecker algebra was generalised by Ringel to bimodule species by replacing the two-dimensional vector space with a bimodule of dimension two on either side. Non-commutative versions of the projective line appeared with the work of Van den Bergh, Patrick and Nyman in the 1990s and they also were constructed from such a bimodule. In this talk, we will examine these non-commutative projective lines and show how they can shed light on bimodule species. This is joint work with Adam Nyman.