Cluster algebras and quantum affine algebras

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Abstract:
Cluster algebras were introduced by Fomin and Zelevinsky in the late 1990's and are now widely studied. Although the original motivation was to understand Lusztig's dual canonical basis, cluster algebras are now connected, somewhat unexpectedly, with many other areas of mathematics. In this talk we will define cluster algebras, state their main properties and show that the Grothendieck ring of some particular categories of finite-dimensional modules for quantum affine algebras of type A have a cluster algebra structure of same type on them.