

Current research interests

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An important ingredient in defining cluster algebras is the notion of mutation, which can be modeled by the mutation of cluster tilting objects in cluster categories. One can define mutation in arbitrary triangulated categories, which was done by Iyama-Yoshino. In a recent joint work with Yu Zhou, a notion of mutation of torsion pairs in triangulated categories is given, and the mutation of torsion pairs is proved a torsion pair again. If the triangulated categories are the cluster categories of type A_n (or of type A_∞), a geometric interpretation of the mutation is given via the mutation of Ptolemy diagrams of a regular $(n + 3)$ -gon P_{n+3} (resp. a ∞ -gon P_∞). The mutation of Ptolemy diagrams is defined by generalizing the flip of triangulations of P_{n+3} (resp. P_∞).