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*Quivers with Potentials and Triangulated Surfaces*

Mutations of quivers with potentials (QPs) and their representations have been recently defined by H.Derksen, J.Weyman and A.Zelevinsky, providing a representation-theoretic extension of quiver mutations. For a class of quivers arising from triangulations of marked bordered surfaces, S.Fomin, M.Shapiro and D.Thurston have realized quiver mutations in terms of flips combinatorially defined on ideal triangulations. In this talk we discuss the problem of realizing some QPs and their mutations in terms of these flips. We also discuss the problem of extending these constructions to the level of QP-representations (generalizing a recent construction by I.Assem, T.Brüstle, G.Charbonneau-Jodoin and P-G.Plamondon, that defines representations in terms of curves on unpunctured surfaces).