1147-13-433 **Yusuke Nakajima***, 5-1-5 Kashiwanoha, Kashiwa, Chiba 277-8583, Japan. *Stable categories of maximal Cohen-Macaulay modules over three dimensional Gorenstein toric rings.*

Maximal Cohen-Macaulay (= MCM) modules are important objects in representation theory of modules over a commutative ring. For some nice cases, we have an equivalence between the stable category of (graded) MCM modules and a certain triangulated category associated to a non-commutative algebra. For example, for a Kleinian singularity, the stable category of $\mathbb{Z}$-graded MCM modules is equivalent to the derived category of finitely generated modules over the path algebra of the Dynkin quiver of type ADE. Moreover, if we forget the grading, we have an equivalence between the stable category of MCM modules and the cluster category of the above path algebra. Thus, these kinds of equivalences give us other viewpoints of MCM modules.

In my talk, I will show analogues of these equivalences for three dimensional Gorenstein toric rings. The main ingredient is a non-commutative crepant resolution of such a toric ring. (Received January 23, 2019)