1107-13-149 **Naoki Taniguchi*** (`taniguti@math.meiji.ac.jp`), 1-1-1 Higashi-mita, Tama-ku, Kawasaki, 214-8571, Japan. *Almost Gorenstein rings of higher dimension.*

My talk is based on the joint work with S. Goto and R. Takahashi. The aim of this research is to find a new class of Cohen-Macaulay rings, which may not be Gorenstein, but sufficiently good next to Gorenstein. One of the candidates for such a ring is almost Gorenstein, which was originally introduced by B. Barucci and R. Fröberg in the case where the local rings are analytically unramified of dimension one. After that S. Goto, N. Matsuoka and T. T. Phuong extended the notion of almost Gorenstein property over one-dimensional Cohen-Macaulay local rings which are not necessarily analytically unramified. Now a question is what is a possible definition of almost Gorenstein rings of higher dimension, which I would like to talk in my lecture and our proposal is as follows.

Let R be a Cohen-Macaulay local ring with maximal ideal $\mathfrak{m}$ possessing the canonical module K_R. Then we say that R is *an almost Gorenstein local ring*, if there exists an exact sequence

$$0 \to R \to \mathrm{K}_R \to C \to 0$$

of R-modules with $\mu_R(C) = \mathrm{e}^0_{\mathfrak{m}}(C)$, where $\mu_R(C)$ (resp. $\mathrm{e}^0_{\mathfrak{m}}(C)$) stands for the number of elements in a minimal system of generators for C (resp. the multiplicity of C with respect to $\mathfrak{m}$). (Received January 12, 2015)