1146-13-331 **Ela Celikbas*** (ela.celikbas@math.wvu.edu), **Olgur Celikbas**, **Shiro Goto** and **Naoki Taniguchi**. *Generalized Gorenstein Arf Rings.*

In 1971, Lipman proved that, if $(R, \mathfrak{m})$ is a complete, one-dimensional local domain with an algebraically closed field of characteristic zero, and R is saturated, then R has minimal multiplicity, that is, the embedding dimension of R is equal to the multiplicity of R. In the proof, Lipman used the fact that such a ring R is an Arf ring, i.e., R satisfies a certain condition that was studied by Arf in 1949 pertaining to a certain classification of curve singularities. The defining condition of an Arf ring is easy to state: if R is as above, then R is Arf provided, whenever $0 \neq x \in \mathfrak{m}$ and y/x, $z/x \in \mathrm{Frac}(R)$ are integral over R, one has that $yz/x \in R$.

A generalized Gorenstein ring is one of the generalizations of a Gorenstein ring, defined by a certain embedding of the rings into their canonical modules. The class of generalized Gorenstein rings is a new class of Cohen-Macaulay rings, which naturally covers the class of Gorenstein rings and fills the gap in-between Cohen-Macaulay and Gorenstein properties.

In this talk we give a characterization of generalized Gorenstein Arf rings. (Received January 25, 2019)