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**C-Y. Jean Chan\***, Department of Mathematics, PE 214, Central Michigan University, Mt. Pleasant, MI 48859, **I-Chiau Huang**, Institute of Mathematics, Academia Sinica, Taiwan, and **Jung-Chen Liu**, National Taiwan Normal University. *Affine semigroup rings – combinatorial v.s. algebraic properties*. Preliminary report.

Let  $S$  be an affine semigroup ring. Let  $R$  be an affine semigroup ring contained in  $S$  as a subring. We consider  $S$  as an algebra over  $R$  (not necessarily a finite algebra). In this talk, we will define Apéry monomials of  $S$  with respect to  $R$ . This generalizes the notion of the Apéry set in the numerical semigroup rings. Interesting algebraic properties are encoded in the set of Apéry monomials. This is a joint work with I-C. Huang and J.-C. Liu. (Received February 04, 2020)