1161-13-276 **Philippe Gimenez** and **Hema Srinivasan*** (`srinivasanh@missouri.edu`), Department of Mathematics, University of Missouri, Columbia, MO 65211. *Semigroup Rings in Higher Dimensions.*

Let $\langle A\rangle$ be the semigroup finitely generated by a subset $A = \{\mathbf{a_1}, \ldots, \mathbf{a_p}\}$ of $\mathbb{N}^n$. Let k be an arbitrary field. The semigroup ring $k[A]$ over A is isomorphic to $k[x_1, \ldots, x_p]/I_A$, where I_A is a binomial ideal. We will also denote by A the $n \times p$ integer matrix whose columns are the elements in A. It is well known that the $\dim k[A] = Rank A$. Let A and B be two $n \times p$ and $n \times q$ matrices over natural numbers. Two semigroups $\langle A\rangle$ and $\langle B\rangle$ are said to be glued to obtain the semigroup $\langle C\rangle$ if the ideal of I_C is generated by a single special element modulo $I_A + I_B$. When $n = 1$, the dimension of $k[A]$ is one, which is the case of the numerical semigroup rings. Two numerical semigroups can always be glued and this is not the true in higher dimensions. We will discuss the problem of when two semigroups can be glued and how it relates to various properties of semigroups such as depth, Cohen-Macaulay and symmetry. (Received August 18, 2020)