J Scott Carter*\texttt{(carter@southalabama.edu)}, Department of Mathematics and Statistics, ILB 325, Mobile, AL 36688. \textit{Geometric, homological, and categorical considerations of local crossings of $n$-foams.}

An $n$-foam is a space that is locally modeled on a dual structure to an $(n+1)$-simplex. Their crossings are parametrized by means of binary sequences. Colorings of the crossings can be given in terms of so-called endomorphic quasigroups: sets that have two binary operations which satisfy certain associativity, distributivity, and self-distributivity conditions. From such colorings and from the local pictures, a homology theory is formed. These ideas will be sketched and a plethora of pictures will be presented. (Received August 05, 2015)