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Mary R Sandoval* (mary.sandoval@trincoll.edu), 300 Summit Street, Department of Mathematics, Trinity College, Hartford, CT 06106. *Connections between singular spaces: leaf spaces of Riemannian manifolds and orbifolds.*

Given a Riemannian foliation on a compact boundaryless manifold, recall that the space of leaf closures is a singular stratified space. In fact, under certain circumstances the leaf closure space has the structure of an orbifold. More generally, the leaf closure space is a connected union of orbifolds whose dimensions vary. This talk will consist of a brief survey of the connections between leaf spaces and orbifolds, via the underlying groupoids. Connections to problems in spectral theory may also be discussed, as time permits. (Received February 26, 2009)