1125-53-1051   **Ziva Myer*** (`zmyer@brynmawr.edu`). *The Generating Family Cohomology Ring for Legendrian Submanifolds.* Preliminary report.

A contact structure on a smooth manifold is a geometric structure given by a maximally non-integrable hyperplane field. Legendrian submanifolds are the submanifolds of the largest possible dimension that are everywhere tangent to the contact structure. There are many examples of Legendrian submanifolds that are isotopic as smooth submanifolds, but are not equivalent via an isotopy through Legendrian submanifolds. To show this, Legendrian invariants have been constructed through a variety of techniques. I will discuss how I am extending one such invariant, Generating Family Cohomology, by constructing a product structure. The construction uses moduli spaces of Morse flow trees – spaces of intersecting gradient trajectories of functions whose critical points encode Reeb chords of the Legendrian submanifold. This product lays the foundation for an A-infinity algebra that shows, in particular, that Generating Family Cohomology has a ring structure. (Received September 14, 2016)