1073-57-185   **Joshua Sabloff*** (`jsabloff@haverford.edu`), Department of Mathematics, Haverford College, 370 Lancaster Ave., Haverford, PA 19041, and **Lisa Traynor** (`ltraynor@brynmawr.edu`), Department of Mathematics, Bryn Mawr College, 101 North Merion Ave., Bry Mawr, PA 19010. *Obstructions to Lagrangian Cobordisms between Legendrian Submanifolds.*

Legendrian knots lie at the intersection of knot theory and contact topology, so one might hope to gain insight into the geometry and geography of Legendrian knots by adapting questions and techniques from the smooth to the contact setting. In smooth knot theory, for example, one might study the 4-ball genus of a knot or concordance between knots. For a Legendrian submanifold in a contact manifold X, this translates to finding Lagrangian cobordisms between Legendrian submanifolds in the symplectization $\mathbb{R} \times X$. I will discuss obstructions to two Legendrian submanifolds being Lagrangian cobordant and, in particular, obstructions to a Legendrian submanifold having a Lagrangian cap, i.e. being null-cobordant. I will produce these obstructions using the technique of generating families and will also explore how Lagrangian cobordisms illuminate the geometric meaning and TQFT-like structure of generating family invariants. (Received August 01, 2011)