1153-57-84 **Ko Honda*** (honda@math.ucla.edu). *Convex hypersurface theory in contact topology.*

We explain the basics of convex hypersurface theory (CHT) in contact topology, extending the work of Giroux in dimension three. Specifically, any closed hypersurface in a contact manifold can be C^0-approximated by a convex one and a C^0-generic family of mutually disjoint closed hypersurfaces parametrized by $t \in [0,1]$ is convex except at finitely many times $t_1, \ldots, t_N$, and that crossing each t_i corresponds to a bypass attachment. As applications of CHT, we prove the existence of compatible (relative) open book decompositions for contact manifolds and an existence h-principle for codimension 2 contact submanifolds. This is joint work with Yang Huang. (Received August 16, 2019)