1144-13-248 **Lars Winther Christensen**, **Sergio Estrada** and **Peder Thompson***
(peder.thompson@ntnu.no). *Stable category of Gorenstein flat modules.* Preliminary report.

We define a category of Gorenstein modules associated to a given cotorsion pair, and show it naturally induces a corresponding stable category, recovering the usual stable categories of Gorenstein projective and Gorenstein injective modules. This also gives a suitable stable category of Gorenstein flat modules, which we show is equivalent to the pure derived category of F-totally acyclic complexes of flat modules studied by Murfet and Salarian. This equivalence, which is described explicitly and holds for any coherent ring, extends work of Estrada and Gillespie. Our approach has the advantage that it avoids the use of projectives, so it can be generalized to non-affine noetherian semi-separated schemes, a direction we are also pursuing. The equivalence is given along the same lines as the classical equivalence, due to Buchweitz, between the stable category of maximal Cohen-Macaulay modules and the singularity category of a Gorenstein ring. (Received August 27, 2018)