1135-57-2597   **Eric Samperton*** (`egsamp@math.ucdavis.edu`). *Mapping class group actions on representation sets of surfaces and universality in (2+1)-D TQFT.*

Fix a finite group G and let S be a surface. The mapping class group $\mathrm{MCG}_*(S)$ acts on the set of G-representations $\{\pi_1(S) \to G\}$. Varying S, the different actions can be packaged as a (2+1)-D TQFT, closely related to the Dijkgraaf-Witten theory associated to G. More precisely, the actions are those afforded by the G-crossed modular tensor category of G-graded vector spaces.

   In joint work with Greg Kuperberg, the author proved a precise version of classical computational universality for these actions when G is a nonabelian simple group. We will discuss these results, and their possible applications to the *quantum* universality of modular tensor categories via the process of gauging. (Received September 26, 2017)