1163-57-474 **Jessica Purcell** and **Anastasiia Tsvietkova*** (a.tsviet@rutgers.edu). *The number of surfaces of fixed genus embedded in a 3-manifold.* Preliminary report.

It was noticed before that presence of embedded essential surfaces in a 3-manifold can give information about that manifold. However to construct, classify or count such surfaces is a non-trivial task. If 3-manifold is complement of an alternating link with n crossings in a 3-sphere, we previously showed that the number of genus-g surfaces is bounded by a polynomial in n. This was the first polynomial bound. This was joint work with Joel Hass and Abigail Thompson. In the talk, I will discuss a generalization that concerns any cusped 3-manifold that is complement of a link alternating on some embedded surface in an arbitrary 3-manifold. (Received September 07, 2020)