Yang Xiao* (yang_xiao@brown.edu), Brown University Box 1917, 151 Thayer St, Providence, RI 02912. Automorphisms of the $k$-curve Graph.

Given an orientable surface $S$ of finite type, we define its $k$-curve graph to be the graph with vertices corresponding to isotopy classes of essential simple closed curves on $S$, and with edges between two vertices if they admit representatives that intersect geometrically at most $k$ times. For any surface with genus greater than 2, we show that the automorphism group of the 1-curve graph is isomorphic to the extended mapping class group, resolving a conjecture of Schmutz-Schaller. More generally, we can extend the same result to $k$-curve graph for surfaces with large genus with respect to $k$. This project is joint work with Tarik Aougab, Yassin Chandran, Marissa Loving, Roberta Shapiro, and Rob Oakley. (Received January 26, 2019)