Andrew Obus* (andrew.obus@baruch.cuny.edu) and Padmavathi Srinivasan. The conductor-discriminant inequality for hyperelliptic curves.

The Artin conductor $A$ is a measure of bad reduction of a curve over a discretely valued field. If the curve is hyperelliptic of order prime to the residue characteristic, the valuation $D$ of the discriminant of the branch locus is another reasonable such measure (this can also be extended to the case where the residue characteristic divides the order of the cover, but we will not consider this). For curves of genus 1, it is a result of Ogg and Saito that $D = A$. For curves of genus 2, $D \geq A$, due to Liu. It is conjectured that $D \geq A$ for all hyperelliptic curves. Padmavathi Srinivasan has shown that this is true as long as the residue characteristic is at least $2g + 2$. I will speak on joint work with Srinivasan on extending this result to all hyperelliptic curves of odd residue characteristic, which requires one to deal with possible wild ramification of the branch locus. (Received January 29, 2019)