Title: “Interpretation of Local False Discovery Rates”

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ABSTRACT:

The local false discovery rate is a summary statistic that is often presumed to be equal to $P(X=0 | Y)$. But, Stephens (2017) points out that this interpretation is untenable because it contradicts the zero density assumption. This talk, which is joint work with D. Xiang and N. Ignatiadis, shows that the zero density assumption implies that the lfdr is exactly $E(\sech(XY) | Y)$, so that small non-zero signals also contribute. Under sparsity assumptions, we show that the lfdr is the probability that the signal is small
in the precise sense $|X| < 1.377/|Y|$.