

Raw Counts

$$Y$$

Delta Method

$$\log(y/s + 1)$$

GLM Residual

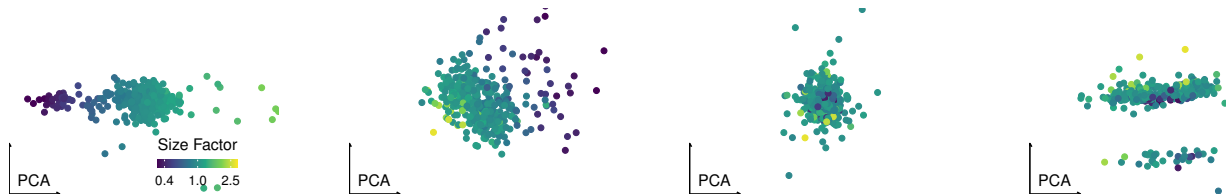
$$\frac{y - \mu}{\sqrt{\mu + \alpha \mu^2}}$$

Latent Expression

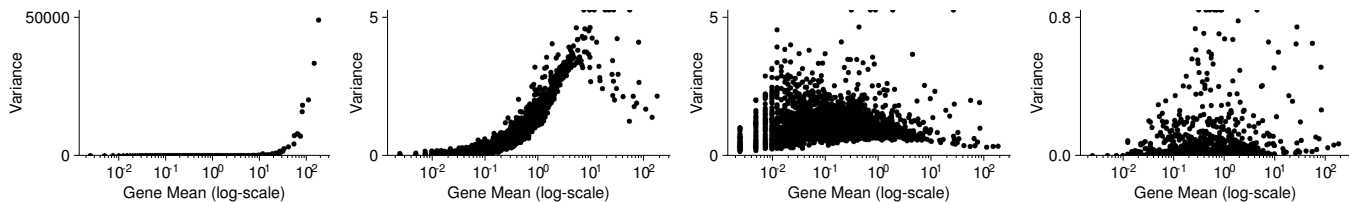
$$Y \sim \text{Poisson}(M)$$

$$M \sim \text{LogNormal}(\mu, \sigma^2)$$

(A) Confounding between sequencing depth and PCA embedding of transformed data from droplets encapsulating identical RNA



(B) Mean-variance relation of values for 2,597 genes of the GSE130931 dataset



(C) Distribution of transformed values for a single gene (*Sftpc*) with a bimodal expression pattern in lung epithelium

