



Figure 3. Relationship between single unit FDR and observed $\% \text{ ISI}_v$ with idealized recording time. **(A)** Dependence of $\% \text{ ISI}_v$ on total firing rate given varying underlying FDRs and confound neuron counts. Lines correspond to analytical predictions; dots correspond to simulated results. **(B)** Dependence of $\% \text{ ISI}_v$ on underlying FDR given varying total firing rates and confound neuron counts. Conventions as in **(A)**. **(C)** Prediction of FDR from observed $\% \text{ ISI}_v$ with time varying firing rates using either a time invariant homogeneous equation [Eq. #] or a time variant heterogeneous equation [Eq. #]. **(D)** Prediction of FDR from observed $\% \text{ ISI}_v$ across a range of external conditions for 100 total simulated units.