Figure 3. Relationship between single unit FDR and observed % ISI_v with idealized recording time. **(A)** Dependence of % ISI_v on total firing rate given varying underlying FDRs and confounding neuron counts. Lines correspond to analytical predictions; dots correspond to simulated results in the $R_t = [1, 20]$ case. **(B)** Dependence of % ISI_v on underlying FDR given varying total firing rates and confound neuron counts. Conventions as in **(A)**. **(C)** Prediction of FDR from observed % 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 % ISI_v across a range of external conditions for 100 total simulated units.