



**Figure 1 - Factors affecting the relationship between  $ISI_v$  and FDR.** Schematic representation of occurrence of ISI violations for a cluster with varying firing rates (**A**) TP-FP covariance (**B**), and numbers of contaminant neuron(s) (**C**). In all cases, underlying FDR between the two cases is the same, while observed  $ISI_v$  varies as a consequence of changes in these characteristics of neuronal activity. Blue corresponds to true positive (TP) spikes, and red corresponds to false positive (FP) spikes. Overhead dots indicate observed ISI violations.  $\tau$  represents the neuronal refractory period.