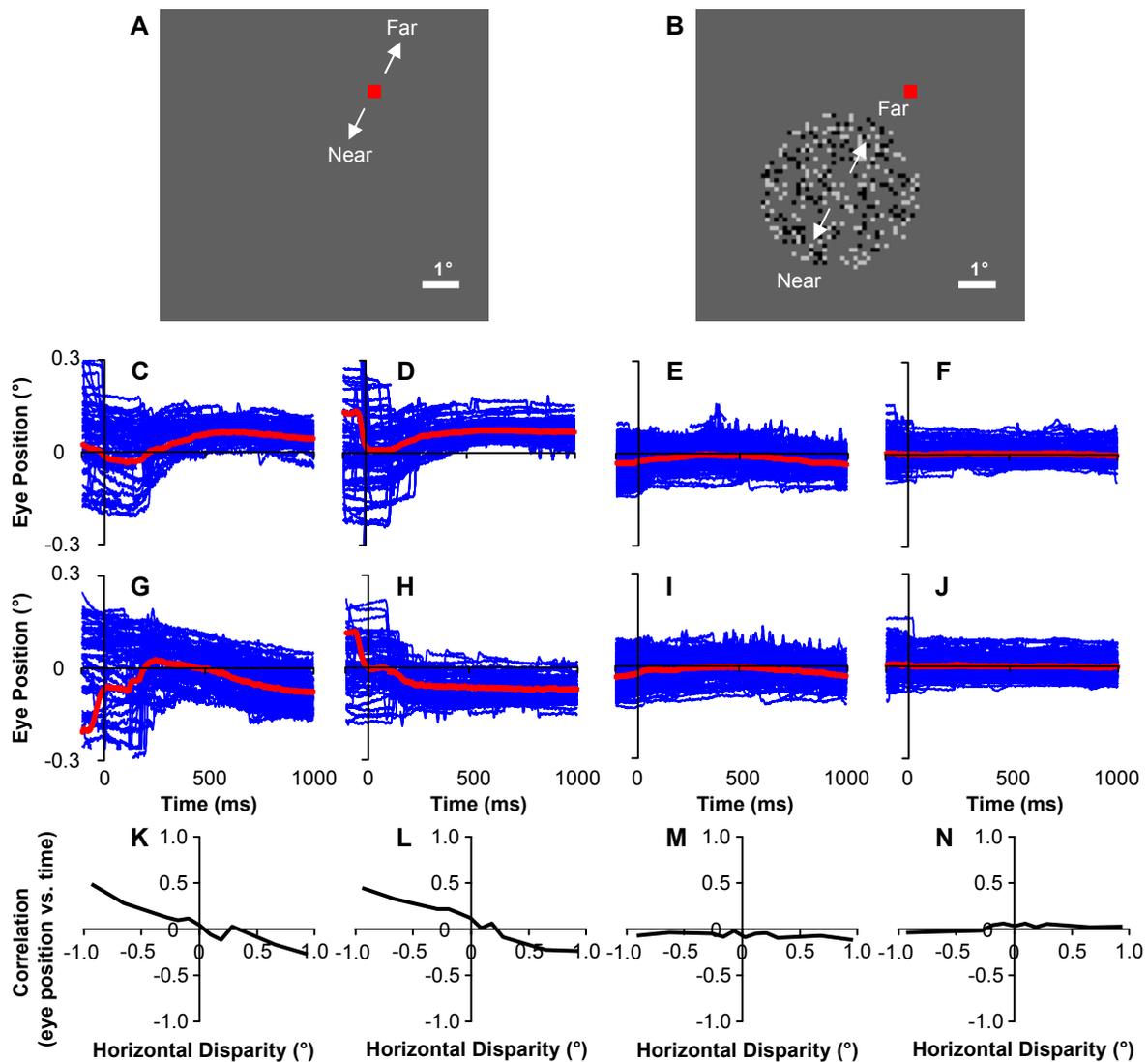
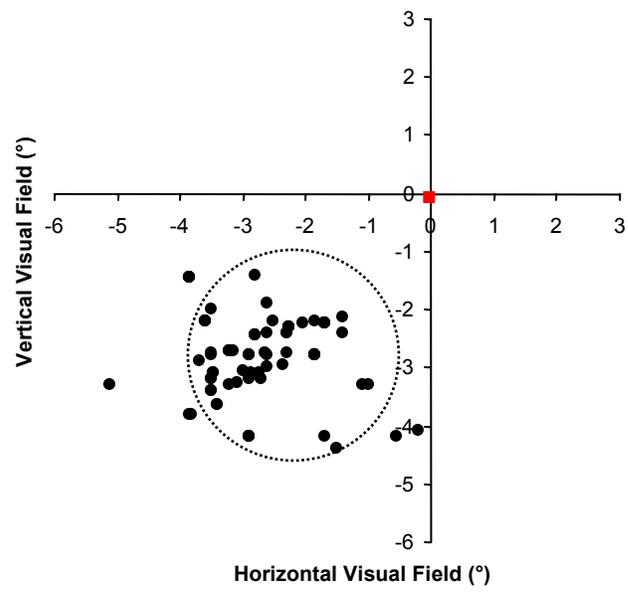


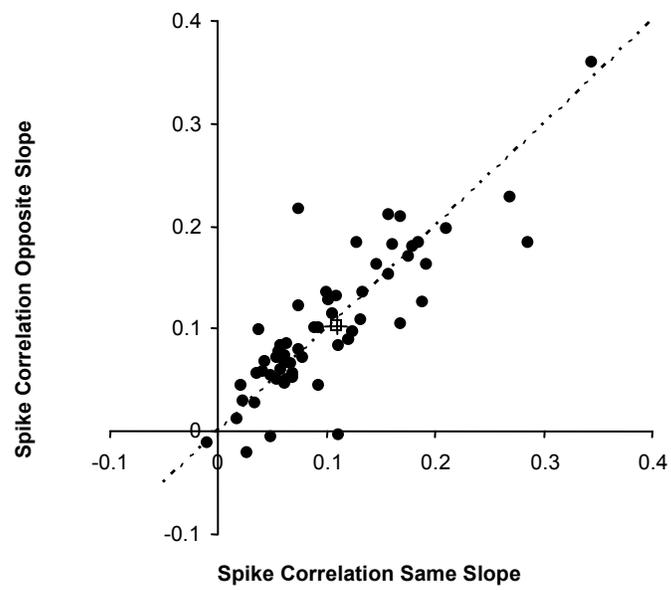
## Supplemental Figures



**Figure S1.** Horizontal eye position was monitored while the fixation point (**A**) or stimulus (**B**) was stereoscopically rendered at different depths. **C** and **G**, Individual (blue) and mean (red) horizontal eye positions for one monkey when near ( $-0.188^\circ$ ) and far ( $+0.188^\circ$ ) fixation points were presented, respectively. **D** and **H**, same data from the second monkey. **K** and **L**, correlation of horizontal eye positions with time versus fixation point horizontal disparity for each monkey. **E** and **I**, Individual (blue) and mean (red) horizontal eye positions for one monkey when near ( $-0.188^\circ$ ) and far ( $+0.188^\circ$ ) DRDS were presented, respectively (fixation point held at  $0^\circ$ ). **F** and **J**, same data from the second monkey. **M** and **N**, correlation of horizontal eye positions with time versus DRDS horizontal disparity for each monkey.



**Figure S2.** Locations of the recorded neurons (black points) relative to fixation (red square). The dashed circle represents the closest location of the DRDS to fixation for all of the recording sessions.



**Figure S3.** Average spike correlation measured when tuning curve slopes had the opposite sign versus when they had the same sign. Open square is the population average with standard error bars ( $n = 63$  pairs).