Supplemental figures

(A,B,C) Normalized response equalization for neuronal population for 3 bias levels. 0 degrees is the biased orientation; all other orientations are drawn with an equal probability. Error bars represent ± 1 SD from the mean response across trial repeats. (D,E,F) The prior probability of dependence for the 3 bias levels (red line).
**Supplemental Figure 2**

Effects of adaptation on neuronal response tuning curves. (A) Average orientation tuning curve responses in V1 data for pre (black line) and post (red line) adaptation. The neuron's preferred orientation in the data (aligned to zero for visualization) was between 0-15 degrees away from the adapter orientation (arrowhead). Adapted from Wissig & Kohn (2012). (B) Model prediction of neuronal response pre and post adaptation, for a neuron that prefers a stimulus of 0 degrees and was adapted to a stimulus of that orientation. (C) Inferred posterior probability, for a 0 degree normalization pool, that past and present stimuli are dependent, for the model neuron in (B). Note that the tuning curves of the inferred probability peak at the orientation of the adapter (arrowhead). (D) Same as (A), but for an adapter 14 degrees away from preferred orientation, resulting in repulsion, namely a shift of the tuning curve peak away from the adapter. Adapted from Müller et al. (1999). (E,F) same as (B,C), but for an adapter 45 degrees away from the model neuron's preferred orientation. (B,E) Overall suppression strength in the model was controlled by a free parameter (Methods), which we set here to match the suppression level in (A) when both adapter and test have an orientation of 0 degrees.