

Supplementary Information

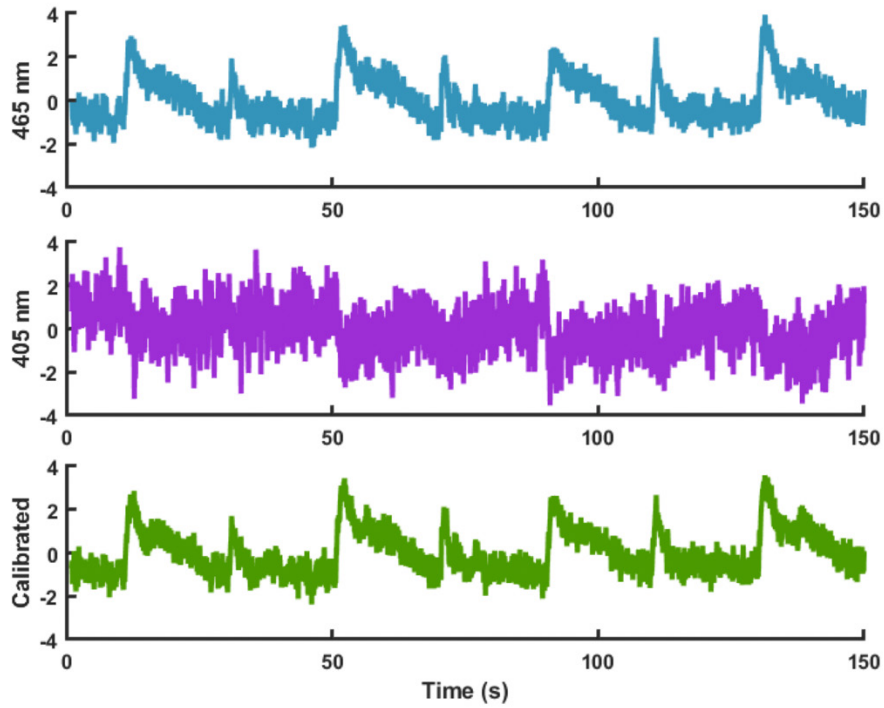


Figure S1: Stimulus-evoked GCaMP based fiber photometry recording. Representative stimulus-evoked signals in 465nm (top) and 405nm (middle) channels and calibrated calcium signal (bottom) by regressing the 405 nm signal from the 465nm signal.

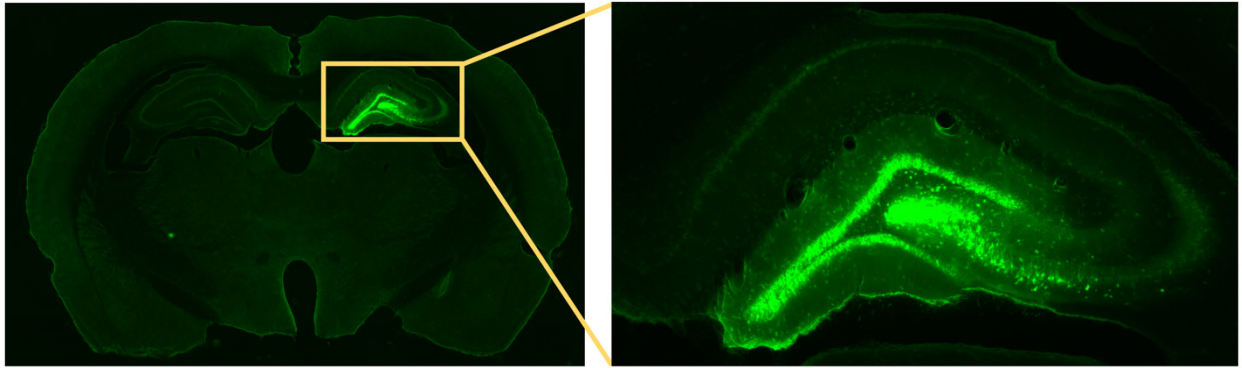


Figure S2: Histological characterization of GCaMP6s protein expression.

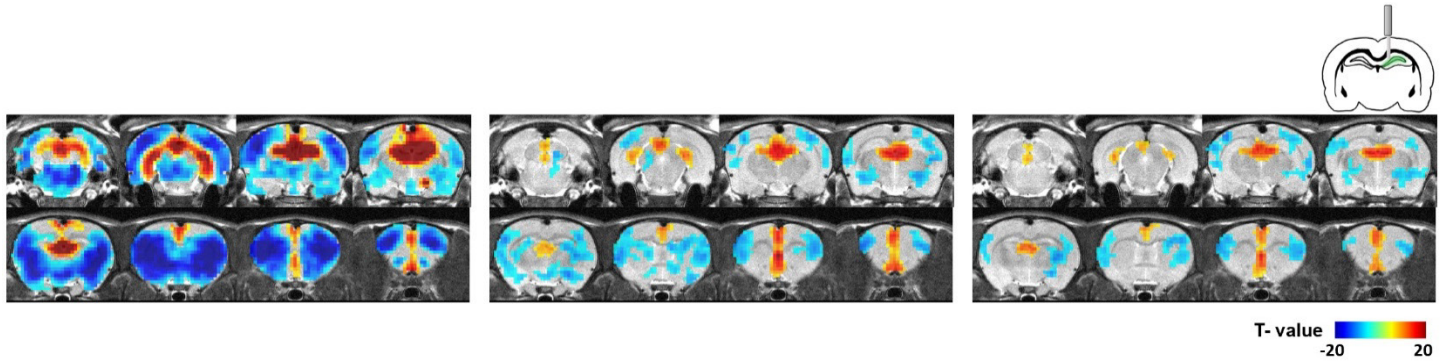


Figure S3. Thresholded t-maps of (left) BOLD-driven RSFC, (mid) calcium-triggered RSFC, and (right) spike event-triggered RSFC of the dHP. $P < 0.05$, FDR corrected.

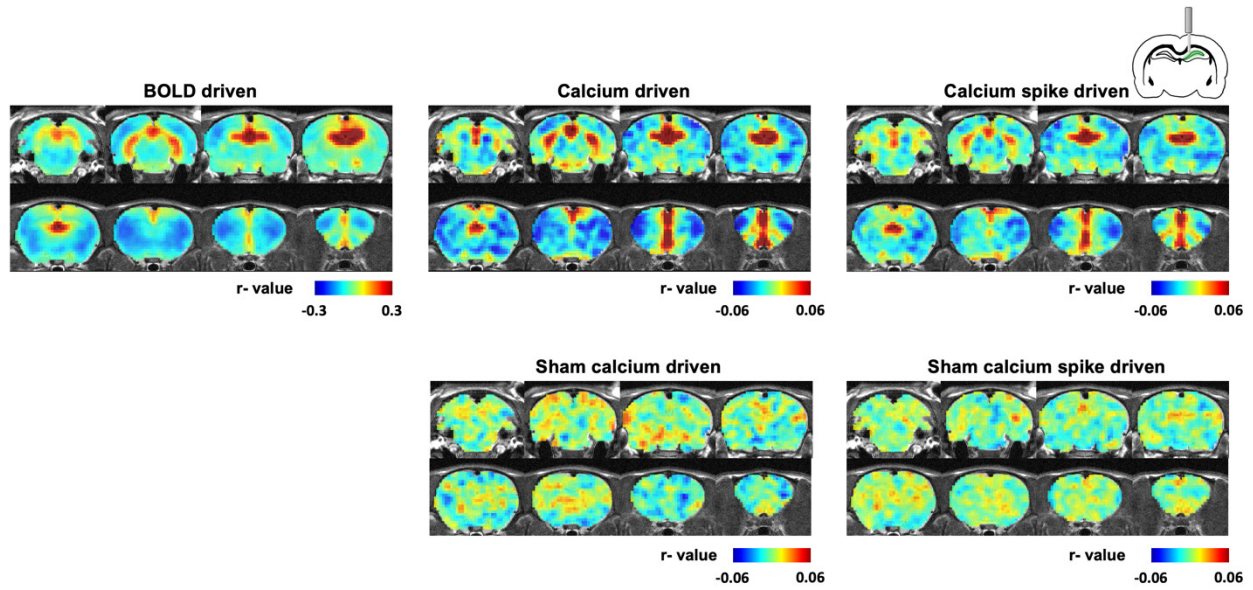


Figure S4. Spatial correlation maps generated using (top left) acquired dHP BOLD signal, (top middle) calcium-predicted BOLD signal, (top right) spike train-predicted BOLD signal, (bottom middle) sham calcium-predicted BOLD signal, and (bottom right) sham calcium spike train-predicted BOLD signal.