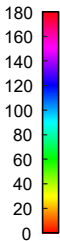
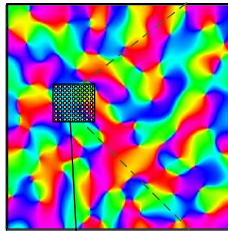
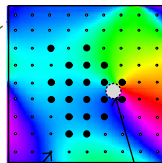
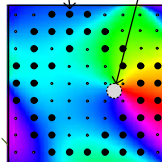
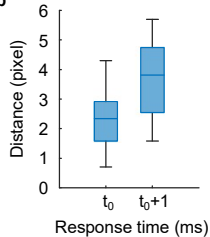
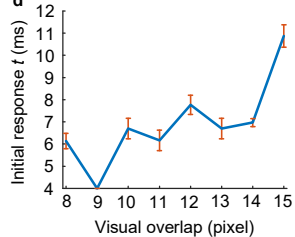


**a****Orientation map****Neurons' positions in the box***Zoom in***Spatial-temporal response****Resting neuron** $t_0$  ms**Firing neuron****Pinwheel centers** $t_0+1$  ms**b****d****c**