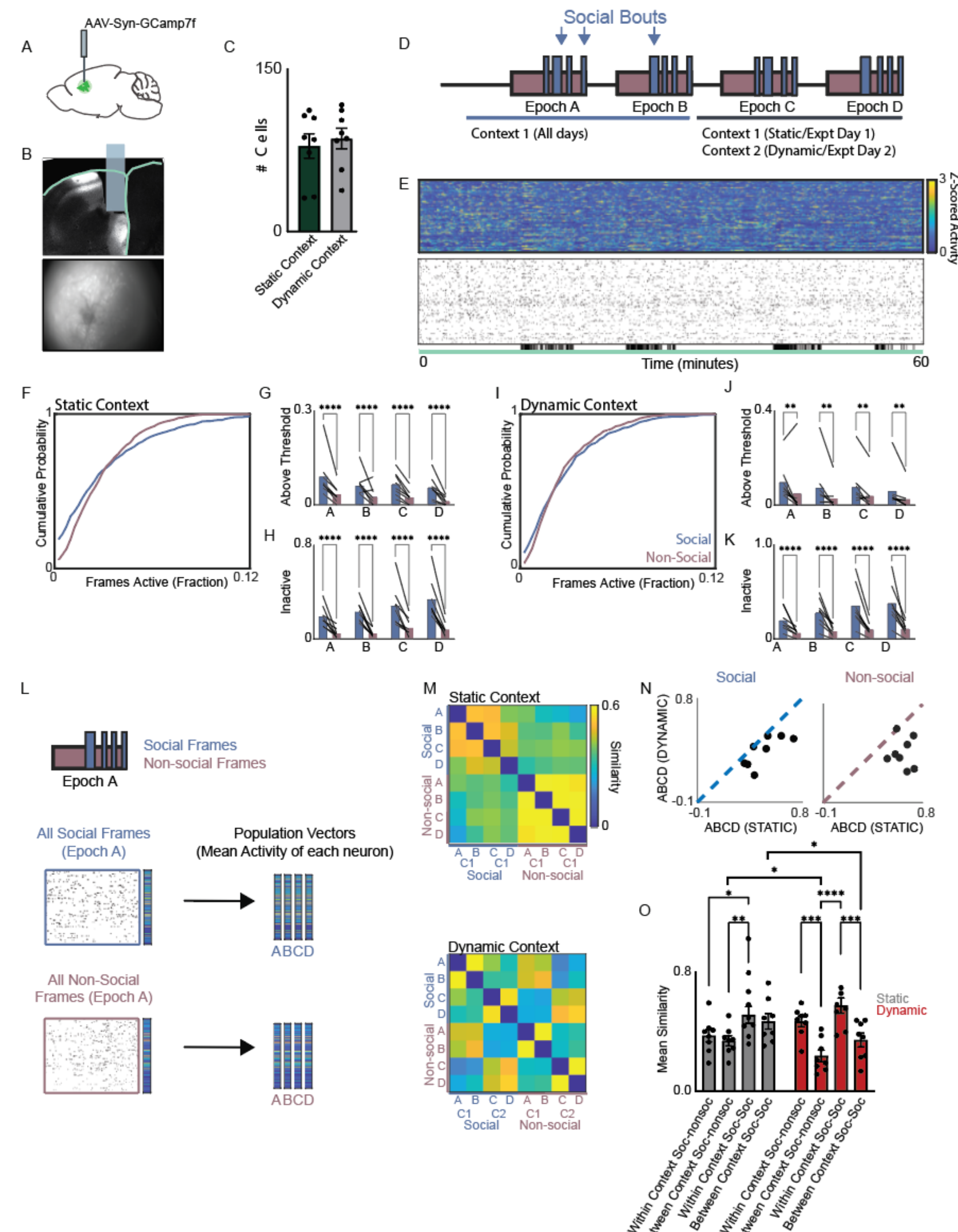


Context-variant and context-invariant ensembles for socioemotional action in the murine medial prefrontal cortex

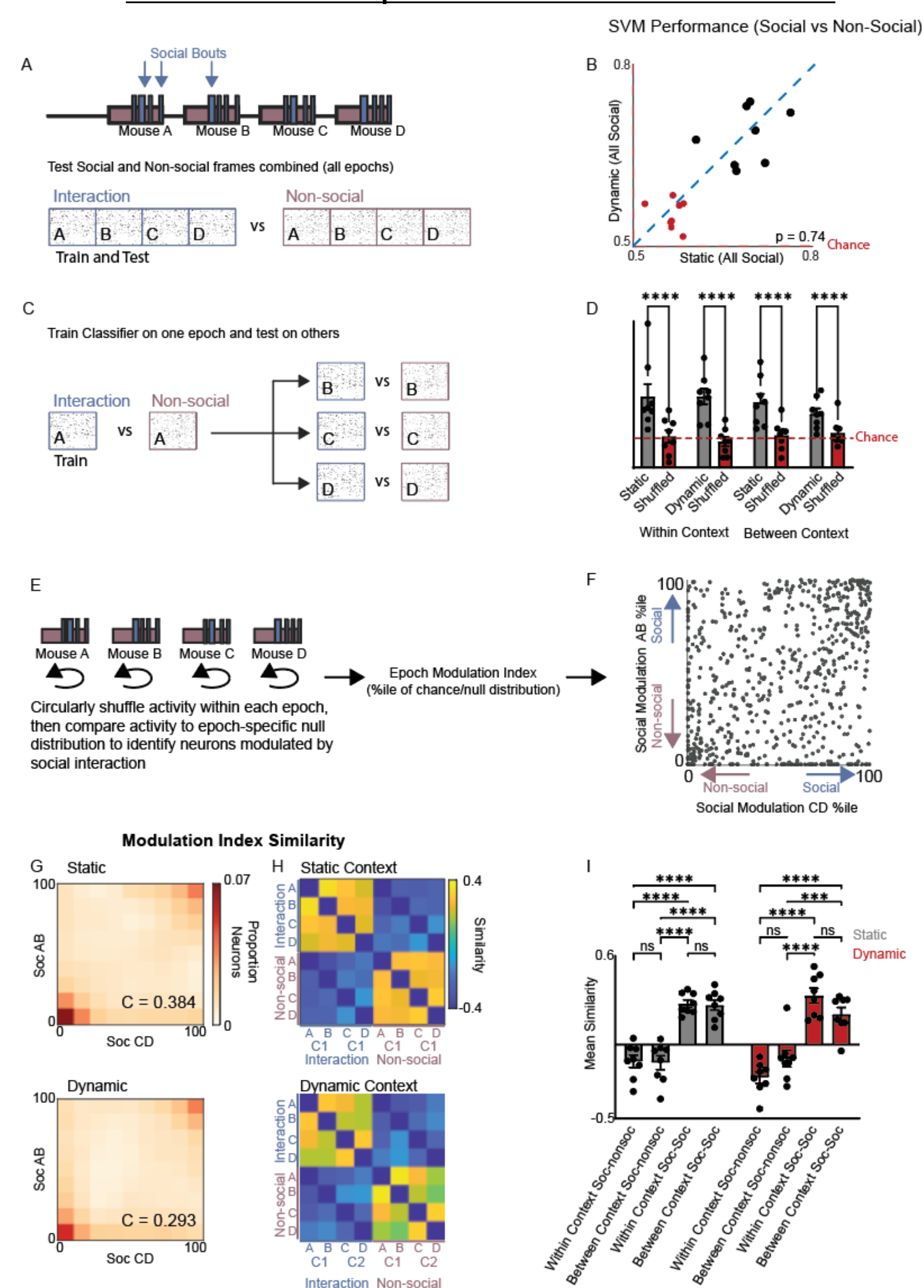
DONOHUE KC¹, Frost NA², Sohal VS¹

¹University of California, San Francisco; ²University of Utah

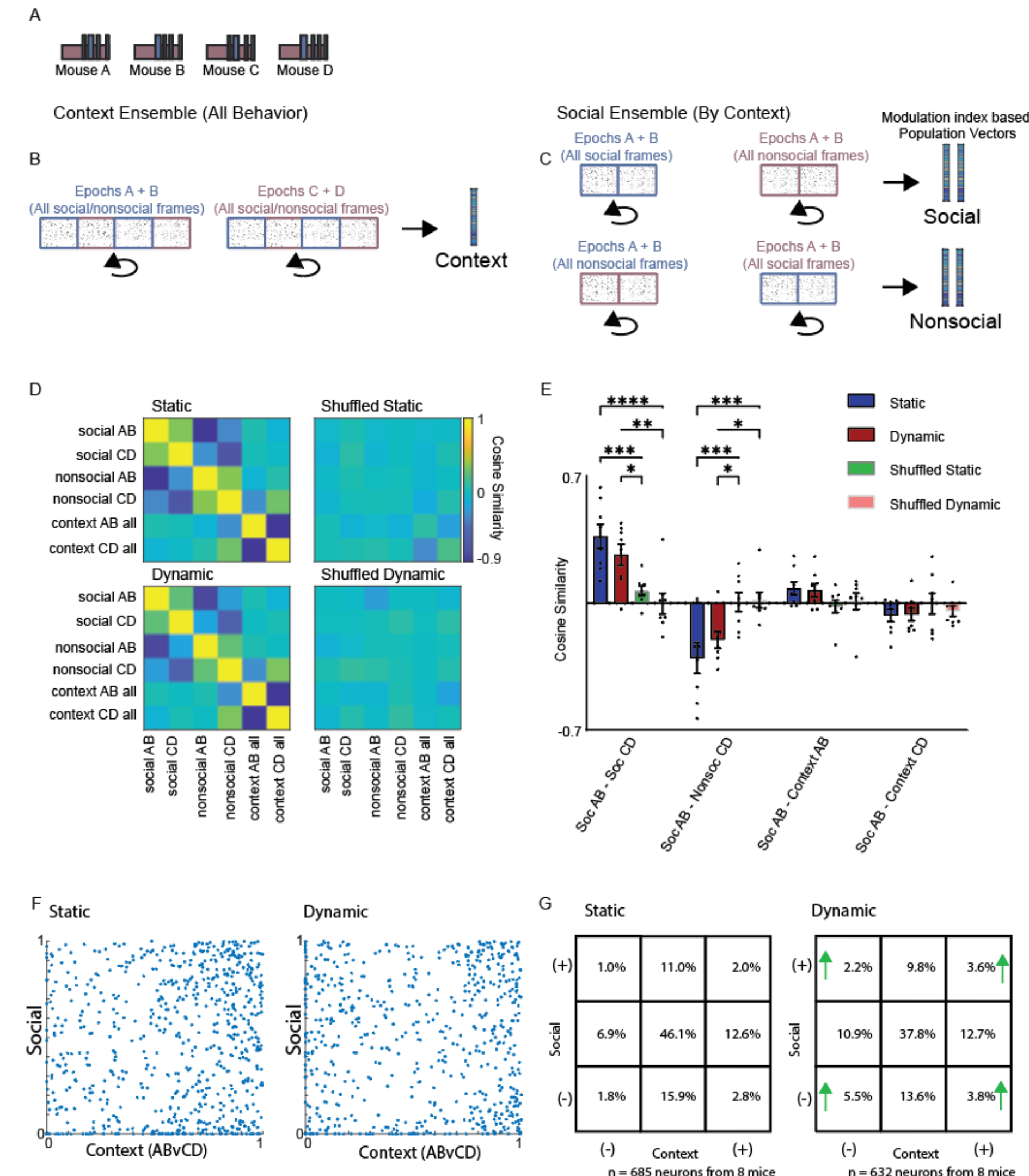
Reorganization of prefrontal network activity underlies dynamic contextual experience



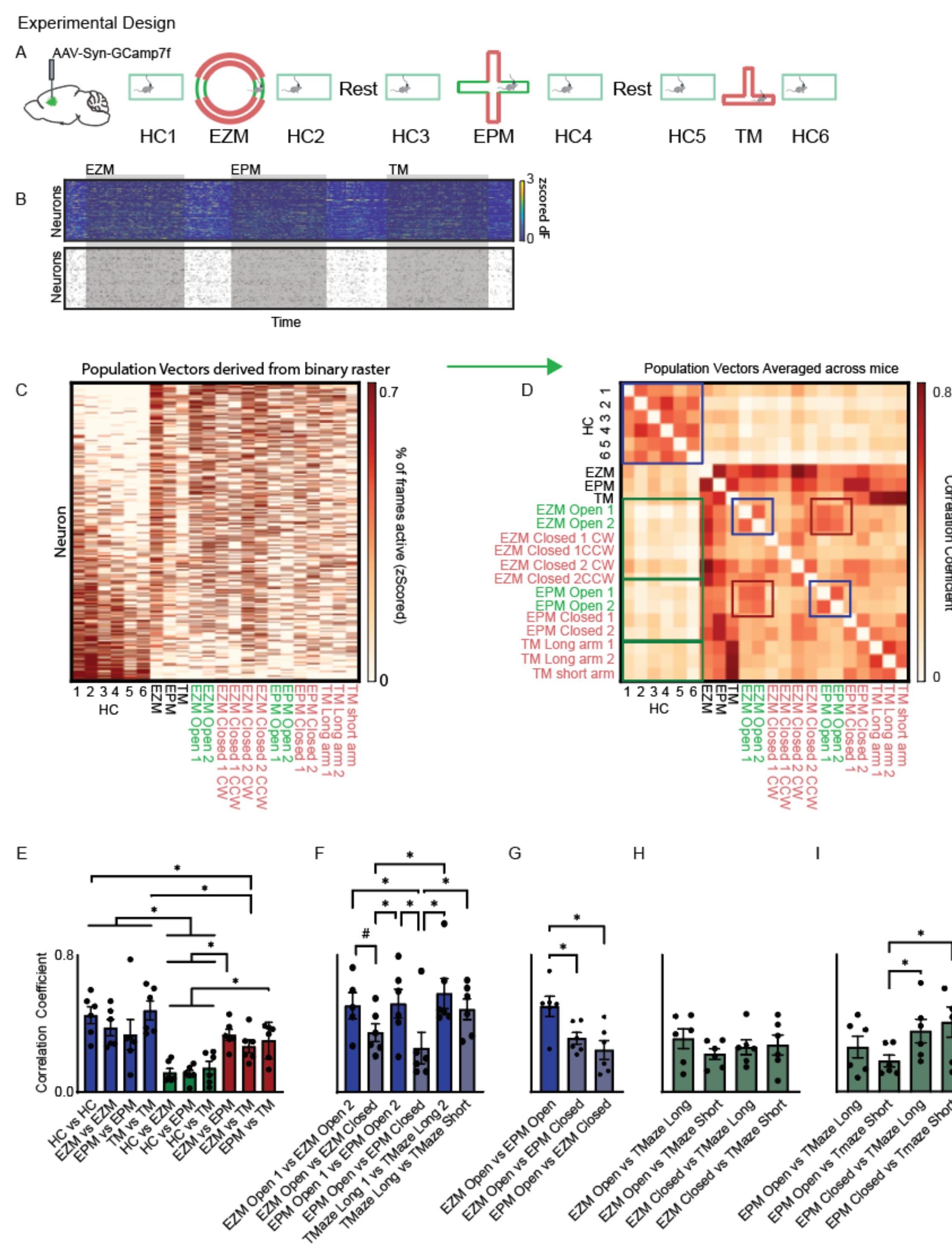
Context-invariant representations of social interactions



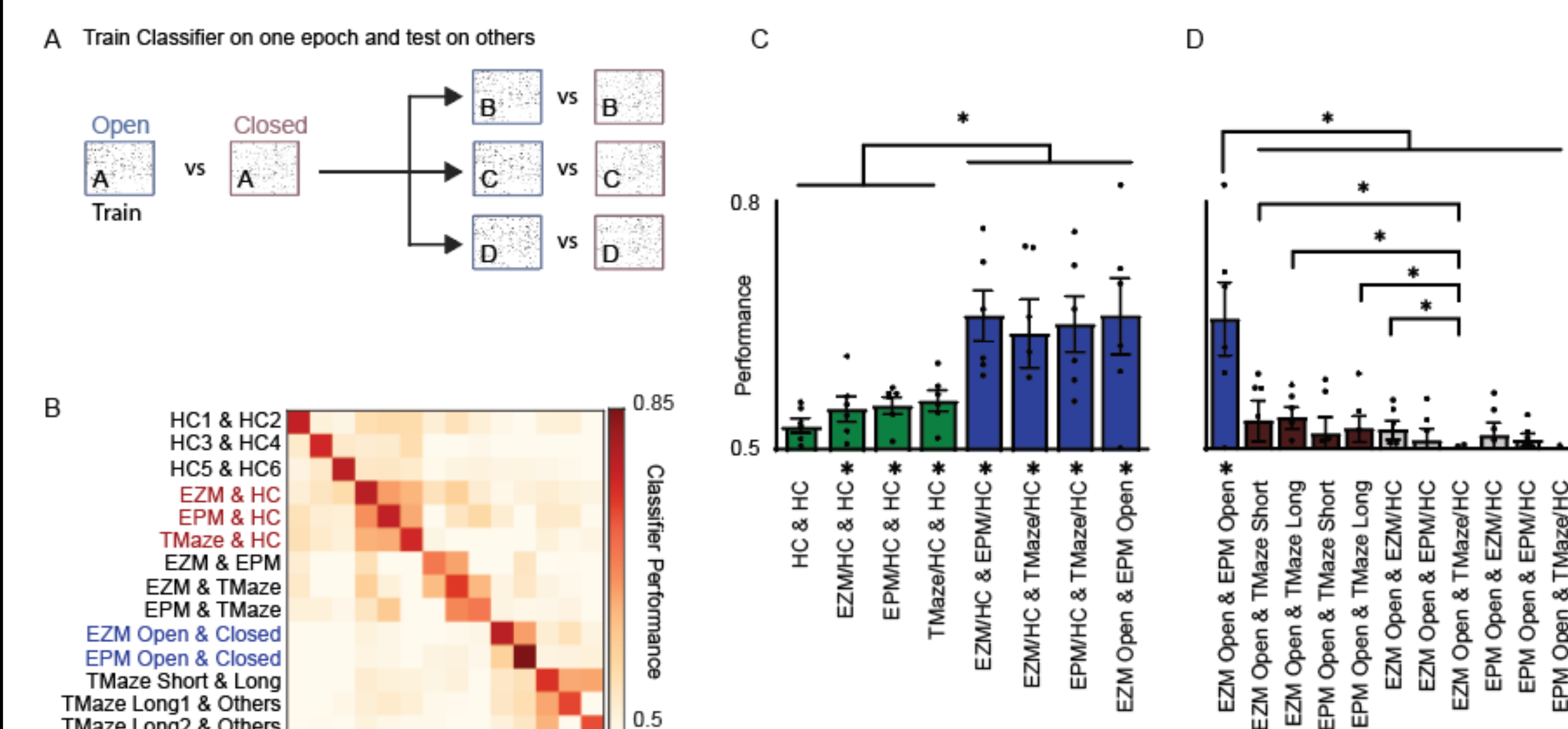
Overlapping but orthogonal representations of context and social information



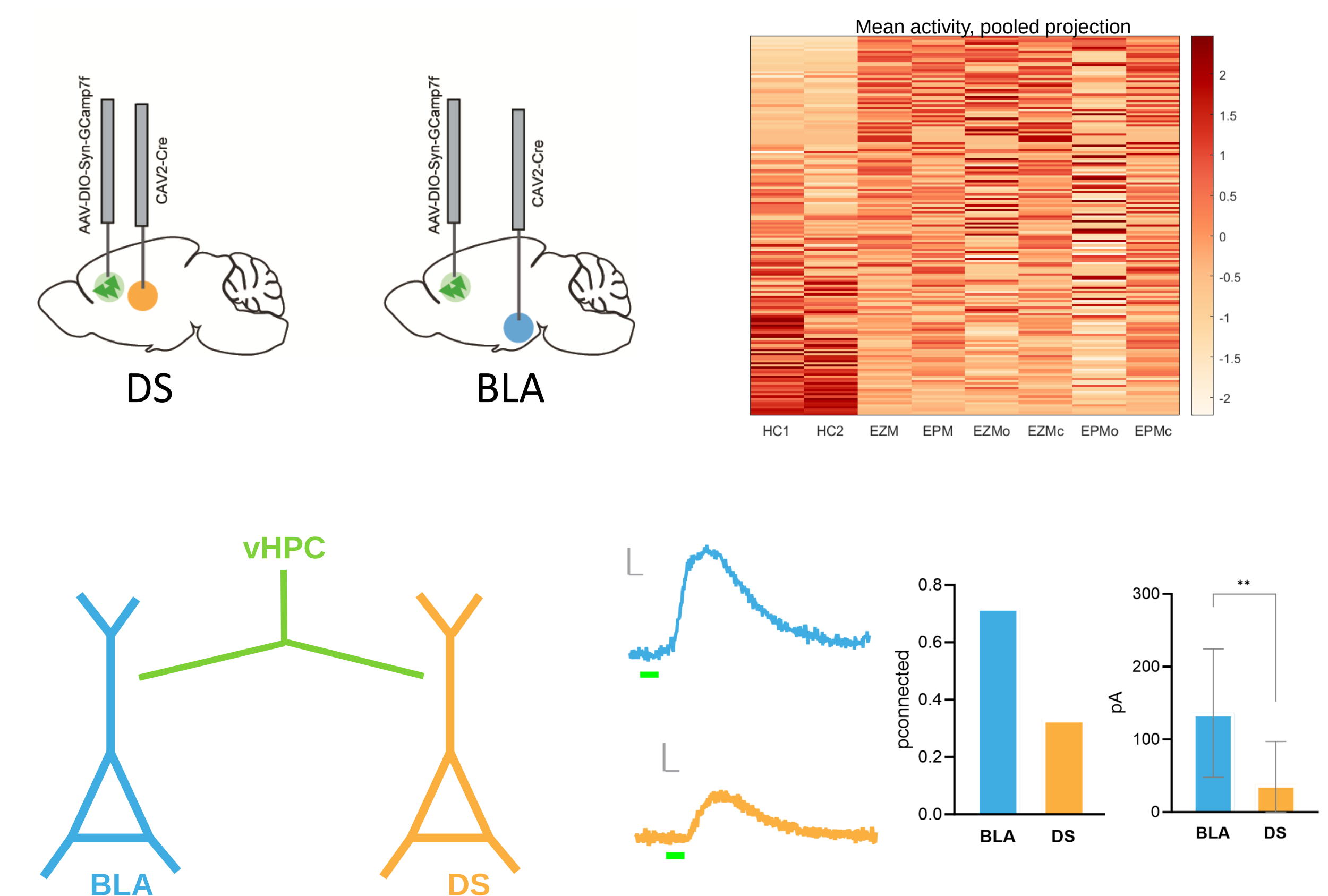
Context invariance of activity-related information



Decoding of behavioral states across context



PFC projection subclasses discriminate across context and receive discriminant inputs



Conclusion

1. We observe context dependent reorganization of prefrontal activity
2. Despite this reorganization we observe persistent representations of socioemotional information that emerge in different contexts
3. Ensemble representations of socioemotional information are oriented in orthogonal planes which permits both reliable and context invariant representations of behavioral state in changing contexts
4. Preliminary experiments suggest that projecting populations of prefrontal neurons receive distinct patterns of input and may encode specific contextual and socioemotional information