

## Spurious overlaps increase of capacity in attractor networks with realistic plasticity rules

### Speaker

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### Abstract

In the classical theories of attractor networks, spurious overlaps, namely overlaps with memories different from the one the network is trying to retrieve, decrease the capacity. The paradigmatic example is the Hopfield model, where spurious overlaps increase the magnitude of the noise field driving the network away from the memories.

When analyzing a network with learning rules and transfer functions inferred from in vivo data, we find that overlaps with unretrieved memories, while individually negligible, contribute an order-one term to the input current that leads to a substantial increase in the memory capacity.

