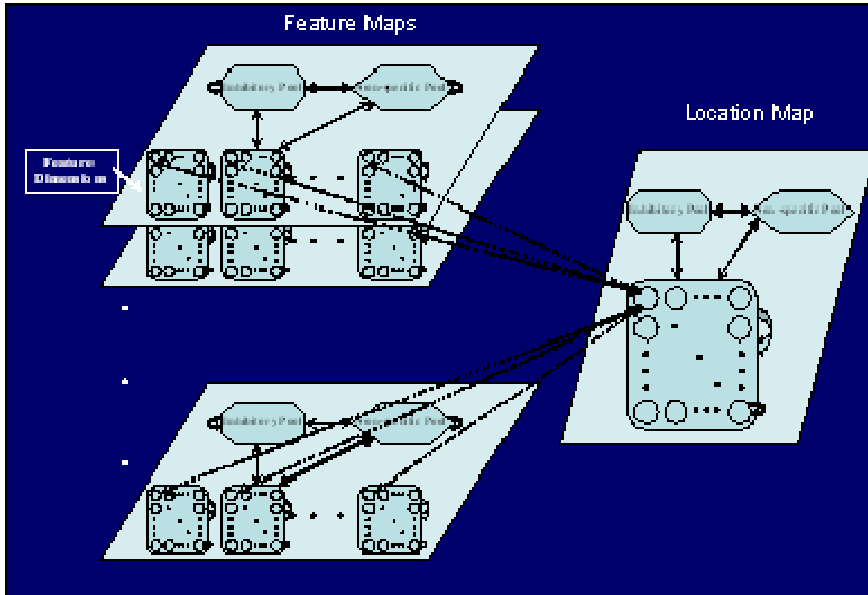


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Illusory Conjunctions in sSoTS



Challenges

To be able to understand the underlying processes involved in Illusory Conjunction .

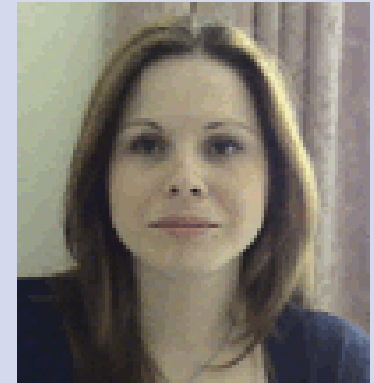
Background and Results

The neural circuits involved in human attention are very complex and very difficult to be decomposed. To solve this problem we used the visual search over time and space model (sSoTS) that incorporates different synaptic components (NMDA, AMPA and GABA) and the IAHP current. In previous work we have shown [1,2] that, when coupled with a process of active inhibition, new items can be successfully prioritised over time periods matching those found in psychological studies.

Furthermore, it is known that participants involved in a fast visual search will falsely combine features of two objects into one object. This project is involved with investigated the effects of short display exposure in the spiking Search over Space and Time model (sSoTS).

References

1. Mavritsaki E., Heinke D., Deco G. and Humphreys G.W. (2006) "A computational model of visual marking using an interconnected network of spiking neurons: The spiking search over time & space model (sSoTS)." *Journal of Physiology Paris*, 100, 110-124.
2. Mavritsaki E., Heinke D., Deco G. and Humphreys G.W. (2007) "Suppressive effects in visual search: A neuron-computational analysis of preview search" *Neurocomputing*, 70, 1925 -1931.



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Matlab, C++

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