Schizophrenia fMRI study: experiment and methods

**Task**: learning of object-location associations over repeated encoding and retrieval periods

**Subjects**: 11 diagnosed with schizophrenia and 11 healthy controls

**DCM**: generative model of the BOLD signal, parameters estimated by Bayesian statistics

\[
\dot{x} = (A + \sum_{j=1}^{N} u_j B^j) x + Cu
\]

\[
y = \lambda(x, \theta_{\lambda})
\]

\[
p(\theta|y, M) = \frac{p(y|\theta, M)p(\theta|M)}{p(y|M)}
\]

**Model space**: five areas involved, two sets defined by varying connections and the effects of conditions

**Model selection**: by the estimation of the Bayesian evidence
Schizophrenia fMRI study: results

Parameter level comparison:
connections between PFC and HPC and HPC and IT are impaired

Model comparison: top-down information flow and the modulatory effects of conditions are less likely to be present in schizophrenia

Slow learning: differentiated from the illness by model probability distribution