Negative symptoms of schizophrenia form the main burden of disease, yet remain poorly understood and lack effective treatments. These symptoms are closely linked to impairments in emotional neurocognitive processes.

Movie stimuli elicit synchronised brain dynamics across individuals, reducing variance and exposing individual differences in emotional processing. There are demonstrated associations between altered neural synchrony during movie viewing and increased symptom severity in schizophrenia.

The **hidden Markov model (HMM)** identifies temporally evolving brain states from fMRI data. Reduced brain dynamism and increased time in inactive HMM states have been demonstrated in schizophrenia.

Here, we apply HMM analysis to fMRI data of 40 invited individuals with psychosis and 40 controls during viewing of an emotional video clip. Hidden networks (HNs) from the HMM model will be decoded by forward association of activated ROIs with 16 terms on the Neurosynth database, chosen to characterise brain processes during video watching (anxiety, language negative, positive, outdoor, task switching, inhibition, conflict, feedback, somatosensory, sensorimotor, auditory, emotion, face perception). The video clip is split into temporal segments based on content. We apply a MANOVA to the fractional occupancy (FO) of each HN over each segment, for inter-group significance. We then apply a t-test on identified segments to identify significant HN(s). We apply a False Discovery Rate correction (alpha = 0.05) at each step. We hypothesise that the FO will be significantly different between groups. We hypothesise that the FO of more ambiguous HNs will be significantly higher for the experimental group across segments.