Invited Speakers 2011/2012

Thursdays 4:00pm

Venue Frank and Katherine May Lecture Theatre, Henry Wellcome Building

Date	Speaker	Title	Invited Speaker
23 February	**Dr Denis McKeown** *Institute of Psychological Sciences University of Leeds*	**Uncovering a short-term non-verbal memory**	Professor Mark Lansdale

Title: Uncovering a short-term non-verbal memory

Abstract: The neuroscience of auditory memory, based on a derived component of auditory evoked potentials termed the "mismatch negativity" reveals a remarkably detailed enduring "sensory" or short-term non-verbal memory. I describe our most recent behavioural experiments into this memory. In the first reported experiment I demonstrate that auditory memory is robust over extended retention intervals (RIs) when listeners compare the timbre of complex tones, even when active or verbal rehearsal is difficult or impossible. Thus the tones have an abstract timbre that resists verbal labelling, they differ across trials so that no "standard" comparison stimulus is built up, and the spectral change to be discriminated is very slight and therefore does not shift stimuli across verbal categories. Nonetheless, performance in this non-verbal immediate memory task was better at short (1, 2 or 4 s) than long (8, 16, or 32 s) RIs, an outcome predicted by temporal distinctiveness theory whereby at long RIs tones are closer in time to tones on previous trials. I reject this account in a second experiment where I demonstrate that the ratio of RI to inter-trial interval makes absolutely no difference to performance. Finally, some (fresh off the computer this week) data shows that a noise mask fails to disrupt this highly detailed short-term memory (so questioning the distinction between "sensory" and "short"). Such steady forgetting is consistent with a psychoacoustically derived conception of an auditory memory (the "timbre memory model" or TMM) which embodies time-based forgetting in the absence of feature-specific interference.