Prof.ssa Chloë Marshall, UCL - Institute of Education, University College London
https://iris.ucl.ac.uk/iris/browse/profile?upi=CRMAR95

Abstract:

Working memory is the capacity to encode, store, manipulate and recall information, and is essential for cognition. The focus of my talk is the association between working memory and language. As is often the case when trying to understand the nature of associative relationships between cognitive variables, it is not straightforward to establish causal direction, i.e. whether differences in working memory drive individual differences in language during development, or vice versa. Longitudinal studies of children's vocabulary size have suggestedthat working memory ability drives vocabulary development rather than the other way round. Mechanistically, the claim is that the phonological loop provides a temporary means of storing new words, before they are consolidated in phonological long term memory. However, the strength of working memory as a predictor of vocabulary size declines with age and is not found in all studies. A window onto the question of whether the causal influence might also operate in the opposite direction, i.e. that individual differences in language drive differences in working memory, comes from deaf children, whose language experience is very different from that of the vast majority of children. The diversity of language input in the deaf population, both with respect to age of access to language (from birth, later in infancy/childhood) and language form (signed or spoken), allows researchers to investigate how individual differences in linguistic input impact on working memory development. In this talk I will discuss a recent large-scale study of language and working memory in more than 100 deaf children aged 5-11 in the UK, in comparison to hearing peers. Our results suggest that whatever the language modality - spoken or signed - rich language expexperience from birth and good language skills play a critical role in the development of non-verbal working memory and in performance on non-verbal working memory tasks.