The School of Psychology invites you to a Special Seminar with

Prof. Arthur Wingfield

Chair of the Neuroscience program, Volen National Center for Complex Systems, Brandeis University

On:

"Stability in the Face of Change: Language Comprehension, Hearing Acuity, and the Aging"

Tuesday, May 13th 2014, at 09:00
Faculty room

In addition to declines in hearing acuity, older adulthood is often accompanied by reduced working memory capacity, reduced efficiency in executive control, and general slowing in a range of perceptual and cognitive operations. In spite of these changes, comprehension of meaningful speech as one ages typically reflects relative stability, or at most, a “graceful decline”, rather than catastrophic failure. The question is thus not only why performance in some aspects of spoken language comprehension decline in adult aging, but why in the absence of significant neuropathology, performance remains as stable as it does. In phrasing the question in this way we address one of the most fundamental questions in current neurobiology: how stable behavior can be produced in spite of changes in underlying neural structures and circuit parameters (Marder, 2011). I will present data showing (a) that the negative effects of age and hearing loss on rapid speech comprehension increase when syntactic complexity of the speech increases cognitive demands and (b) that the perceptual effort attendant to successful recognition in the face of reduced hearing acuity can draw on resources that would otherwise be available for sentence comprehension and for encoding words in memory. I will then present data showing (a) that effects of hearing loss on speech recall can be ameliorated by allowing the listener to self-regulate processing time and (b) that poor word recognition can be rescued by effective use of linguistic context, with a further advantage shown for those with good cognitive ability.

You are invited!