

<b>Session 2</b>	<b>Listening in the real world: communication sounds</b>
<b>Time</b>	<b>14:00 – 14:30</b>
<b>Name</b>	Guy Brown (Sheffield University)
<b>Title</b>	Perceptual compensation for the effects of reverberation on consonant identification: Perceptual and computer modelling studies
<b>Authors</b>	Guy Brown
<b>Address</b>	Department of Computer Science University of Sheffield
<b>Email</b>	g.brown@dcs.shef.ac.uk
<b>Abstract</b>	<p>Human listeners are able to ‘perceptually compensate’ for the effects of reverberation on speech recognition, by exploiting information gained from prior exposure to the reverberant environment. We consider two computer models of this process. The first (low-level) model explains the compensation effect in terms of dynamic range control in the auditory periphery, which is assumed to be effected via the auditory efferent system. A second (high-level) approach regards perceptual compensation as a model selection process, in which dry or reverberant speech models are engaged depending on the acoustic context. The two approaches are evaluated against perceptual data from Watkins et al., and data from our own listening experiments that assess compensation in a consonant identification task. Both approaches are successful in modelling some aspects of the listener data, and make predictions that will be tested through further perceptual experimentation.</p>