Session 6	**Computational models of perception**
Time	**11:30 – 12:00**
Name	Nicol Harper (University of Oxford)
Title	'What and Where' in the Auditory System; an Unsupervised Learning Approach
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Abstract	Assessing 'what and where' for a sound is crucial to an animal's survival. Sounds reach our ears after being convolved by the head related impulse response (HRIR). The HRIR depends on the direction of the sound, and is caused by the acoustic properties of the outer ear and head. The brain somehow disentangles this convolution allowing the animal to locate the sound position and identify the source. The brain must do this for natural sounds, without hard-wired knowledge of the particular HRIRs or sources, frequently without an explicit training signal, and using both ears - but also must be capable with one ear alone. We present a generative model that, with these restrictions, aims to do this disentangling and represent the sound in a form useful for potential localization and identification.