

Session 5	Neural basis for auditory perception
Time	09:00 – 09:30
Name	Georg Klump (University of Oldenburg)
Title	Mechanisms of auditory scene analysis: psychophysics and neural correlates
Authors	Prof. Dr. Georg Klump
Address	Institute for Biology and Environmental Sciences, Carl von Ossietzky University of Oldenburg, Germany
Email	georg.klump@uni-oldenburg.de
Abstract	<p>In the natural environment, often many sound sources in an acoustic scene are active that the auditory system needs to segregate for further analysis of the signals from one source. In addition, sequential signals from the same source must be grouped together to allow integrating the information from a source. This applies, for example, to conversations at human cocktail parties as well as to communication by animals. The rules that govern the perceptual segregation of sound sources, the grouping of the sounds from one source and the neural correlates of these rules are the topic of the talk presenting results from studies in birds (e.g., European starling) and mammals (e.g., Mongolian gerbils, humans). Examples are provided that relate to the role of harmonic relations between frequency components of a tone complex, to the perceptual binding of sequential sounds from the same source (i.e., the effect of auditory streaming), and to the perceptual restoration of sounds that are partially masked by sounds from other sources. The relevance the mechanisms of auditory scene analysis for communication in real-life situations is discussed.</p>