

Biography

Rüdiger Land is a Neuroscientist working at the Institute for Audioneurotechnology at the Hannover Medical School in Germany. He studied Cognitive Science, Biology and Philosophy of Mind in Mainz, Osnabrück and Hamburg. His research focuses on hearing and deafness, with a focus on temporal processing in the auditory system, age-related central deficits in hearing, and restoration of hearing with cochlear implants. In addition, one focus is the comparison of the visual and auditory system, with respect to their functional similarities and functional differences. Currently, his research addresses the question, how the presence of visual cross-modal plasticity in the deaf auditory cortex does influence the outcome of hearing restoration with auditory prostheses. The main research methods involve large scale parallel multi-electrode recordings and ECoG of neuronal network activity in the sensory cortex and midbrain in response to visual, auditory and electrical stimulation via cochlear implants. Another focus lies on the mechanisms of general anesthesia affecting auditory perception and consciousness. The fact, that general anesthesia alters, but not block the transmission of sensory information into the brain, can provide hints, what functional prerequisites are necessary to establish our conscious auditory perception.