PROCESSING SPEECH IN NOISE - A POWERFUL WINDOW INTO THE HUMAN BRAIN

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Verbal communication remains the most powerful way in which humans' exchange and disseminate information, thoughts and emotions. Most normal everyday conditions involve speech communication in noisy backgrounds like lecture rooms, restaurants, markets, etc and hence comprehension of speech requires the use of skills sets beyond the bottom-up processes of hearing but also higher order cognitive processes such as lexical memory, working memory, executive control and attention, among others. In this talk I will describe the studies in my laboratory on the contribution of bottom up auditory processes and top-down cognitive to speech comprehension in noise and then describe how these are altered by brain disorders like autism spectrum disorders, Parkinson's disease and Friedrich's ataxia, but spared (at least in early stage) multiple sclerosis.