Department of Circuit Theory

Faculty of Electrical Engineering

Czech Technical University in Prague

would like to invite you

to a guest lecture

Prof. Shimon Sapir, PhD, CCC-SLP

University of Haifa, Israel

Acoustic speech analysis and classification methods for early detection and monitoring progression of dysarthria: The importance of speech tasks and the nature of neurological disease

---

when: Thursday 2nd April 2015 at 17:00

where: Technická 2, Praha 6, lecture room 51
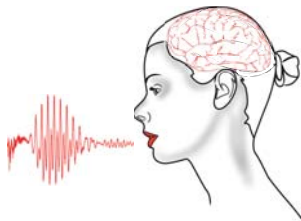
Neurological diseases often affect voice and motor speech production (aka dysarthria). In many progressive neurological diseases, voice and speech disorders might be the first signs of the disease, although these signs might be imperceptible. In recent years there has been a dramatic increase in research studies aimed to develop acoustic voice analysis techniques and classification methods for the early detection and monitoring progression of the neurological disease. The findings from these studies are extremely important both from a theoretical stand point and clinical applications. Most of these studies are related to the dysarthria associated with Parkinson's disease. In spite of these important findings, there is still a need for studies that improve early detection and monitoring progression of neurological diseases by acoustic speech analyses and classification/machine learning methods. One way to improve these methods is to determine which speech tasks are most sensitive, specific, and effective for the detection, monitoring, and characterization of the dysarthria and the neurologic disease that underlie the dysarthria. The purpose of this presentation is to address these issues and to suggest specific speech tasks for different types of dysarthria.

Shimon Sapir Ph.D, CCC-SLP is a Professor of Communication Sciences and Disorders at the University of Haifa, Haifa, Israel. His main research and clinical specialties are voice and motor speech physiology and pathology. He received his BA (Mathematics), MSc (Speech and Hearing Sciences), and PhD (Speech and Hearing Sciences and Speech Pathology) from the University of Washington, in Seattle, Washington. He did his postdoctoral training in Medical Speech Pathology at the Mayo Clinic, Rochester, Minnesota. He taught for 6 years at Northerwestern University, Evenston, IL. In 2001 he founded the department of Communication Sciences and Disorders, the Speech Signal Processing Laboratory, and the Interdisciplinary Clinic at the University of Haifa. He headed the CSD department until 2007, and later headed the Department of Physiotherapy at the University of Haifa. During the last 15 years Prof. Sapir has researched and documented the effects of speech therapy methods (mainly LSVT) on voice and speech disorders associated with Parkinson's disease and other neurological diseases. He developed acoustic metrics and perceptual methods designed to differentiate between normal and abnormal motor speech control, early detection, and monitoring disease progression. He has presented numerous scientific papers, as well as organized international workshops to advance the field of voice and motor speech disorders and control. Prof. Sapir has published over 80 papers and chapters in scientific journals and medical textbooks.