



Speech and Hearing Science (SHS) Lab

Ap.Prof. DI Dr.techn. Philipp Aichinger

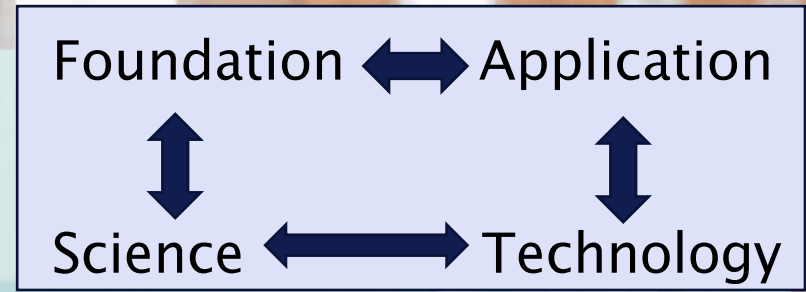
Div. Phoniatics-Logopedics

Dept. Otorhinolaryngology

Field of interest

- Speech production
- Auditory perception
- Computer model:

Periphery, nerves, brain



- Pathologies affecting speaking and/or hearing
⊆ communication disorders

Applications and research approaches

Medical applications:

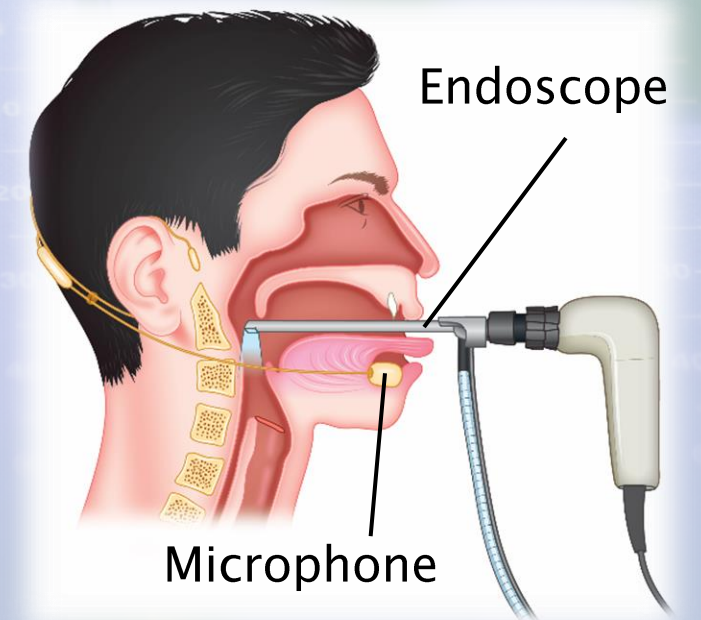
- Prevention, diagnosis, therapy and rehabilitation
- Decision support, eHealth, implants, assisting devices, biomarkers

AI-based approaches:

- Generative and discriminative approaches
- Representation learning and disentanglement
- Domain translation
- Natural language processing
- Speech analysis and synthesis
- Image and video processing

Data modalities

- Endoscopic high-speed videos
- Microphone recordings
- Electroglottography
(cf. electrical impedance tomography)
- Electronic patient records (EPRs)
- Questionnaires
/ patient reported outcomes (PROs)
- Action potentials
- Brain imaging
- ...



Partners and collaborators



Vinod Devaraj
PhD student
Medical signal processing



Jan Švec
Olomouc (CZ)



Michael Döllinger
Erlangen (Germany)



SPSC
TU Graz (AT)



Armin Dadras
PhD student
Computer vision



Jody Kreiman
(UCLA)



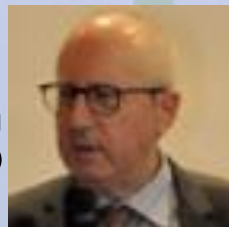
Carlo Drioli
Udine (Italy)



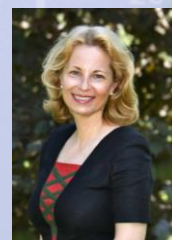
HNO und Phoniatrie Wien
Phon. UK Erlangen



Jean Schoentgen
Brussels (Bel)



Claudia Manfredi
(Italy)



Family



HPC
(MUV)

