University of Zurich UZH

2 PhD openings in Auditory Cognitive Neuroscience in Zurich, Switzerland

We are recruiting two PhD candidates to join the Computational Neuroscience of Speech & Hearing research group https://www.cl.uzh.ch/en/phonetics/neuro.html at the University of Zurich in Switzerland. The PhD positions are funded by the Swiss National Science Foundation as part of a larger project http://p3.snf.ch/Project-185715.

2 open PhD positions @University of Zurich:

PhD position 1: (Sub)cortical speech processing in older adults in health and disease.
PhD project 1 will focus on the influence of age-related cognitive impairment (e.g., due to Alzheimer's disease) on speech perception and neural speech processing at different stages from the brainstem up to the cortex and explore the association between age-related hearing loss and cognition in this population. The goal is to better understand the role of hearing impairment in cognitive decline within an aging population, as recent data suggests that hearing impairment is a strong risk factor for dementia.

PhD position 2: Audiovisual language processing training in naturalistic settings for older hearing impaired. PhD project 2 will focus on developing naturalistic settings to measure audiovisual speech processing in older adults with hearing impairment, using virtual realities combined with EEG, enriched audiovisual stimulation, and real environmental noises. The goal is to create more engaging, relevant, and beneficial auditory-cognitive trainings for hearing impaired.

Your main responsibilities:
- Plan, design, and run the EEG experiments
- Analyses of behavioral, neuropsychological, and brain data
- Communication of study results in scientific publications and at scientific conferences
- Supervision of Bachelor- and Master students as well as interns

We offer:

The Computational Neuroscience of Speech & Hearing team is passionate about understanding the neural underpinnings of (auditory) language processing with a focus on clinical populations who have difficulties to process and understand spoken language, particularly older adults with hearing impairment. A major aspect is how technology can support the development of novel rehabilitation strategies (e.g., virtual reality trainings, digital lip-reading trainings, neurofeedback) to act against language processing difficulties in various clinical populations. Our research is based on neuroimaging techniques (e.g., EEG, sMRI, brainstem recordings) as well as psychophysical and neuropsychological testing.

We are part of the Phonetics & Speech Sciences Division in the Department of Computational Linguistics at University of Zurich. Our work is very interdisciplinary and interinstitutional, and we work closely with researchers from Psychology, Neuroscience, Audiology, Phonetics, and Linguistics as well as with industry (e.g., Sonova, Pro Audito). Our group is embedded in a larger interdisciplinary research environment working on perception, language, and the brain (e.g., Language and Medicine https://www.language-and-medicine.uzh.ch/en.html, NCCR Evolving Language https://www.evolvinglanguage.ch/, Neuroscience Center Zurich https://www.neuroscience.uzh.ch/en.html. We provide excellent supervision and the prospective PhD students will work closely with the other team members and new team members which will join the lab

in 2022. We are an enthusiastic, international, fun, family-friendly academic environment with excellent, rich, and stimulating research, training, and teaching possibilities.

We offer two fully funded PhD positions (3 years) with a salary of CHF 47'040.- (year 1) to 50'040.- (year 3) each. Start date is **May 1, 2021** (negotiable).

The application deadline for both positions is **January 31, 2021.**

Your profile:
Required:
- Master's degree (e.g., MA, MSc, MRes) in a field related to Cognitive Neuroscience (e.g., Psychology, Linguistics, Biology, Audiology, Biomedical Engineering)
- Proficient oral and writing skills in English
- Knowledge of and strong interest in cognitive neuroscience in the fields of aging, (auditory) language, or hearing
- Familiarity with empirical research and neuroscientific methods in humans, especially EEG
- Knowledge in statistical data processing (e.g., using R)
- Ability to learn and think independently and creatively, good communication skills to work in a team, flexibility, and enthusiasm are required

Nice to have:
- Experience with neurophysiological data processing (e.g., Matlab-based analyses using FieldTrip, EEGLab) is a plus
- For PhD project 1: Experience with clinical populations is a plus
- For PhD project 2: Experience with virtual reality or naturalistic audiovisual stimulation is a plus
- (Swiss) German language skills are a plus (for data acquisition with older adults from Switzerland)

How to apply:
To be considered your application must consist of **one single PDF** file with the following structure:
- CV including name and email of two potential referees
- Which position you are applying for (1 or 2)
- Summary of your experiences with relevant research and why you think you are the right person for the respective project and position (~1 page)
- Summary of your preferred research questions within the scope of the respective project outlined above (~half a page)
- All relevant diplomas

Send your PDF application by email to: Nathalie Giroud, nathalie.giroud@uzh.ch with the reference PhDposition[1 or 2]_[NAME]_Jan2021

For further information or an informal chat about the position, lab environment, or training opportunities: Nathalie Giroud, nathalie.giroud@uzh.ch