PhD position

The Inner Ear Laboratory at the Medical University of Innsbruck is a leading research group in Otology. A position for a PhD studentship is available here to evaluate high-resolution microCT scans of the adult human inner ear. The objective here is to identify variations in cochlear anatomy, which could lead to the improvement of currently existing hearing devices.

Research performed include histological evaluation of human temporal bones using techniques like immunohistochemistry and block surface evaluation including transmission and scanning electron microscopy. The research obtained from this technique could contribute towards a finite element model of the human cochlea. This research would serve to bridge the currently existing gaps in knowledge between biological know how and mathematical awareness of cochlear signal transmission. Ideal candidate should be interested in working at the interphase between neuroscience and computational sciences, which is a completely novel perspective with manifold prospects.

Preferred qualifying degrees include Biomedical Neurosciences/ Biomedical Computing/ Audiology etc. Knowledge in the utilization of computational tools like MATLAB and statistical software like GraphPad Prism or SPSS would be of added advantage.

Objectives of the said project includes

- Histological evaluation of temporal bones specimens using light microscopy, Transmission electron microscopy
- Support computational modelling of the human cochlear nerve with segmented data.
- Estimation of neuronal survival patterns in relation to auditory pathologies.
- Auditory brainstem recordings (ABR) & Distortion product optoacoustic emissions (DPOAE).

Selected candidate will be paid according to the rates prescribed by the Austrian Science Fund (FWF) for PhD students. Please submit your application with two reference letters to evitainnsbruck@gmail.com before the application deadline of 31.01.2019