Student thesis / Bachelor thesis / Diploma thesis / Master thesis / SHK / WHK

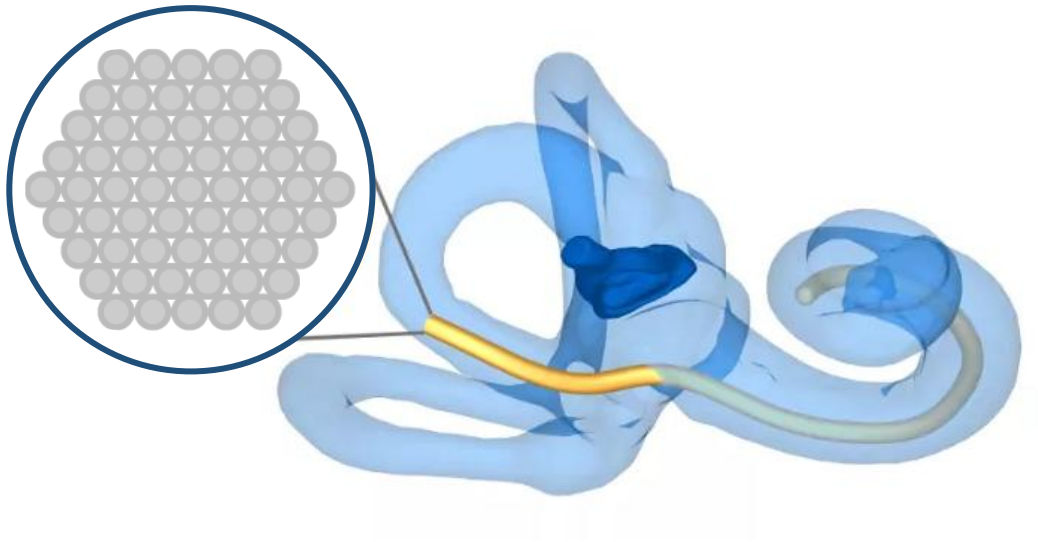
Endoscopic imaging during cochlea implantation

Keywords

endoscopy, OCT, inner ear, surgury monitoring

Motivation

The most used therapy for patients with severe hearing impairment or deafness are cochlea implants. During implantation the surgeons have no real-time imaging available, thus the risk for further damaging the inner ear is high. To overcome this, we propose minimally invasive 3D-imaging inside the inner ear using an endoscope. For this, we plan to combine coherent fiber bundles with white light interferometry. This is an interdisciplinary project together with the University hospital for medical guidance and the Fraunhofer IWS for miniaturization and integrating the technology in a usable product.



FAKULTÄT ELEKTROTECHNIK UND INFORMATIONSTECHNIK

Fraunhofer IWS

EAR RESEARCH CENTER DRESDEN

Tasks

- Build imaging system (Lab work, Hardware side)
- Investigate different OCT approaches (literature research & Lab work)

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