

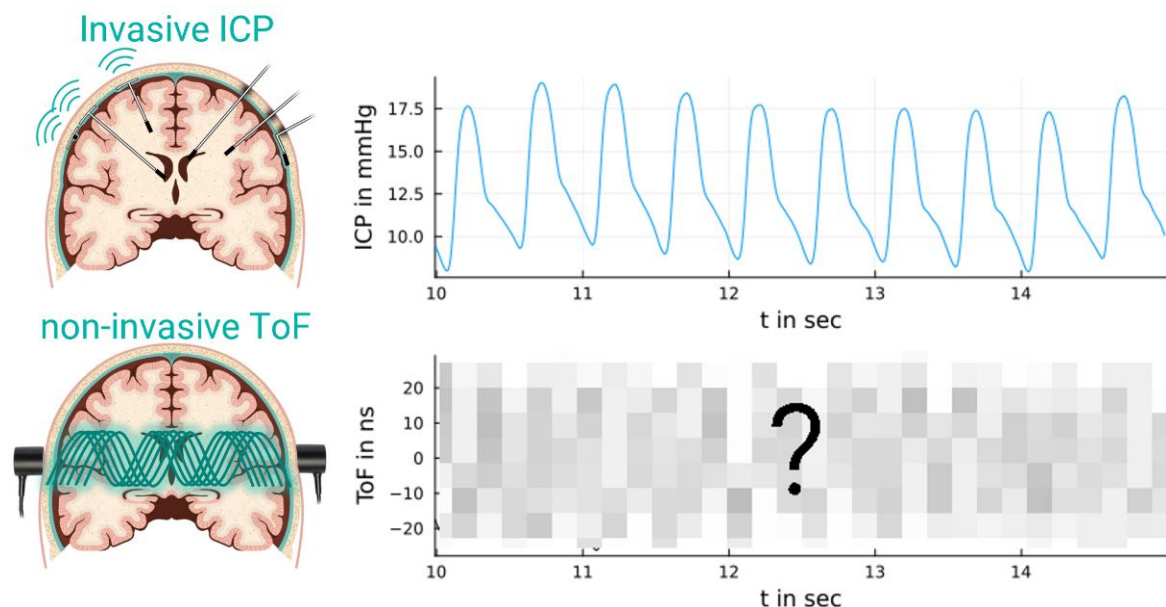
Invitation to Project Seminar Measurement,  
Sensor and Embedded Systems

## Time of Flight ultrasound measurement for brain monitoring in the intensive care unit

### Abstract:

Severe brain injuries such as traumatic brain injury are often accompanied with elevated intracranial pressure (ICP), leading to potential life threatening reduced brain perfusion. Current clinical monitoring of ICP at the intensive care unit utilizes invasive needle probes placed inside the brain.

Non-invasive, transcranial Ultrasound based on Time of Flight measurements is introduced as a potential alternative to invasive monitoring. Technical principles of a clinically ready device are presented and Machine-Learning based analysis of clinical study data is reviewed. The talk also gives insights into the path from the idea to certification of a product from a startup in the field of medical technology.



**Speaker:** Dr. Florian Tetschke, Sonovum GmbH, Leipzig, Germany

**Place:** SPQ 0302

**Date:** 04.12.2025

**Audience:** All interested members of TUBAF