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## **Seminar über Biomedizinische Photonik**

**Referent/in:** PD Dr. Michael Jaeger, Department Biomedical Photonics, IAP, University of Bern

**Titel:** Tutorial on handheld ultrasound echo and speed-of-sound imaging

Ultrasound (US) imaging is widely used as a diagnostic tool in clinics, emergency units, and GP offices, due to its low cost, portability, flexible handheld probe guidance, real-time display, and safety. On the downside, it has limited sensitivity and/or specificity for certain disease types. To improve its diagnostic power, recent research focuses on developing novel US-based modes that show complementary diagnostic information through the combined display of multiple physical properties. In this seminar, I will give a crash course on echo US imaging theory, to show that there exist redundancies in echo US signals. I will then show that these redundancies allow one to detect the spatial distribution of speed-of-sound, opening promise for a novel US modality for diagnosing changes in tissue composition. The presentation concludes with preliminary results from a clinical pilot study.

**Zeit:** Mittwoch, 2. März 2022, 10:15

**Ort:** Room A97, ExWi, Sidlerstrasse 5, 3012 Bern