

UltrasoundDD Conference – Dresden

Theme: Advances, Applications and Future Perspectives in Medical Ultrasound Technology

Venue: CRTD – Center for Regenerative Therapies Dresden

Organizer: Dr. M. Herzog / HybridEcho EKFZ & Prof. Ch. Kupsch / MSE Lab TU Freiberg

Date: September 26, 2025

Morning: Opening

09:00 – 10:00 | Welcome & Opening Keynotes

- 09:00 – 09:10 | Welcome – Dr. M. Herzog / HybridEcho EKFZ
- 09:10 – 9:40 | Advances in HighEnd Ultrasound – Dr. R. Nauber / TU Dresden
- 09:40– 10:00 | From Signals to Meaning in Wearable Ultrasound: Systems, Architectures and Applications – Prof. Ch. Kupsch / MSE Lab TU Freiberg

10:00 – 10:15 | Coffee Break

Late Morning: Short Talks

10:15 – 12:00 | Session I – Application of new Technologies (9 x 10 min)

Chair: T. Trittler, Dr. A. Naas

Examples of clinically applied ultrasound technologies

- Ultrasound Spectroscopy for Quantification
(Prof. H. Heuer / IAVT Dresden)
- Loosening of Joint Prosthesis – Clinical Background and Technical Approach for Ultrasound-based Detection
(Dr. C. Roitzsch / UKD Dresden & J. Lützelberger / HS Coburg)
- UNet-based Segmentation of Ultrasound Muscle Images
(P. Engl / Hochschule Merseburg)
- Innovative Ultrasound Applications with Artificial Intelligence for the Diagnosis of Liver Diseases and Thyroid Tumors
(Dr. W. Khaled / Mindray Medical)
- Applications of US4US in Medicine
(M. Lewandowski / US4US)
- Clinical Benefit and Bioeffect Concerns of Lung Sonography, an Unsolved Controversy
(Dr. F. Wolfram / SRK-Klinikum Gera)
- Ultrasound for Dental Cleaning
(A. Ben Achour / IWU Dresden)

- How to SWoP-C Photoacoustic Technology by a Factor 100
(Dr. P. Leisching / iThera)
- Intracranial Pressure Estimation from Time-of-Flight
(Dr. F. Tetschke / Sonovum)

12:00 – 14:00 | Lunch & Demo Session

Live demonstrations of current systems and prototypes

Location: Exhibitor & Demo Area

14:00 – 14:45 | Spotlight Lectures – Ultrasoundwearables

- 14:00 – 14:20 / Making Ultrasound Wearable: A Look at Current Research and CMUT-Based Innovations for Pregnancy Monitoring – M. J. Almaria Escorcia / University Eindhoven
- 14:25 – 14:45 / Modularity Matters: Wearable Ultrasound System Design Concepts – Dr. Chr. Leitner / ETH Zürich

14:45 – 15:30 | Session II – Technologies on the horizon (4 x 10 min)

Chair: D. Weik, T. Gabriel

Short insights into new projects, start-ups, and disruptive concepts

- Capacitive Micromachined Ultrasound Transducer (cMUT) – industrializing a technology
(Dr. S. Pregl / Infineon Dresden)
- Design, Development and Characterization of Multi-Channel Piezoelectric Micromachined Ultrasonic Transducers (PMUTs)
(S. Mulay / ENAS Chemnitz)
- Real-Time Volumetric Ultrasound Imaging Based on Compressive Sensing and Computational Imaging
(Z. Dou / TU Dresden)
- Surface Acoustic Waves for Biotechnology and Medical Applications
(Dr. A. Winkler / IFW Dresden)

15:30 – 15:40 | Coffee Break

15:40 – 16:40 | Focus Sessions

In two interdisciplinary groups, the new technologies are discussed to develop new layouts for upcoming grants and projects

- Track A: Wearable Ultrasound – Applications, Standards, Funding Potential
Chair: *Prof. Ch. Kupsch / MSE Lab TU Freiberg*
- Track B: High-End Ultrasound – Innovation, Integration and AI Interfaces
Chair: *Dr. Moritz Herzog / HybridEcho EKFZ*

16:40 – 17:00 | Closing Keynote

- 16:40 – 16:55 | Ultrasound – At the interface of Human and Technology
Prof. Dr. Th. Karlas / University Hospital Leipzig
- 16:55 – 17:00 | Farewell
Dr. Moritz Herzog / HybridEcho EKFZ & Prof. Ch. Kupsch / MSE Lab TU Freiberg