3-DAY LECTURE INVITATION
SOUND QUALITY OF AUDIO SYSTEMS
MODELING, MEASUREMENT & CONTROL

By Dr. Wolfgang Klippel & KLIPPEL engineers
March 4-6, 2024

TECHNISCHE UNIVERSITÄT DRESDEN

Benefit from the over 30 years of fundamental research by Dr. Klippel and apply this knowledge to your own field of work to improve the way you design and/or manufacture your loudspeaker.

The 2024 lecture on “Sound Quality of Audio Systems” is presented by Dr. Wolfgang Klippel, professor at the Institute of Acoustics and Speech Communication. It will give you a deep understanding of measurement and diagnostic techniques used in telecommunication, automotive, multi-media, and professional applications to design small, light and cost-effective loudspeakers. Linear, nonlinear and time-variant systems with lumped and distributed parameters model the generation of signal distortion. The course makes the relationship between symptoms and physical causes of the distortion more transparent. Practical sections will give each participant further opportunities for learning by doing.

HIGHLY RECOMMENDED FOR

- Students and teachers of the electro-acoustics
- Engineers of the audio industry active in R&D, manufacturing, quality control

MAIN TOPICS

- Electro-acoustical modelling
- Measurements and analysis
- Interpretation and diagnostics
- Digital loudspeaker control

NEW THIS YEAR: IEC standards

WHEN: March 4-6, 2024 (9:00 - 17:00)

WHERE: Dresden University of Technology, Görges-Bau (Room: GÖR 226), Helmholtzstr. 9, 01069 Dresden, Germany

LANGUAGE: English
FEE: 500 € (VAT incl.) – Free of charge for students and university staff!

FOR MORE INFORMATION & QUESTIONS
Please contact Jasmin Klaue:
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REGISTER NOW!

The online registration is open until Febr. 18, 2024.

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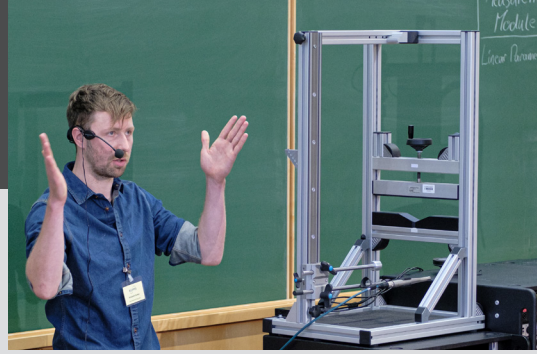
	Day 1 – March 4, 2024	Day 2 – March 5, 2024	Day 3 – March 6, 2024
8:15 – 8:50	Welcome of Attendants		
9:00 – 12:00	**Lecture Part 1 + Practical Demos** Linear Lumped Parameters – Modeling & Measurement	**Lecture Part 6 + Practical Demos** Nonlinear Modeling	**Lecture Part 10 + Practical Demos** Diagnostics on Irregular Nonlinear Distortion - Loudspeaker Defects (Rub, Buzz, ...)
	Coffee Break	Coffee Break	Coffee Break
	Lecture Part 2 + Practical Demos Distributed Mechanical Modeling with Distributed Parameters - Modal Vibration Analysis & Measurement	**Lecture Part 7 + Practical Demos** Measurement of Nonlinear Parameters	**Lecture Part 11 + Practical Demos** Time-Variant Properties (Heating, Ageing, Endurance, Maximum SPL)
12:00 – 13:00	Lunch Break	Lunch Break	Lunch Break
13:00 – 17:00	**Lecture Part 3 + Practical Demos** Sound Radiation, Measurement and Room Interaction	**Lecture Part 8 + Practical Demos** Relationship between Physical Causes and Nonlinear Symptoms	**Lecture Part 12 + Practical Demos** Nonlinear Adaptive Control of Loudspeakers and Headphones
	Coffee Break	Coffee Break	Coffee Break
	Lecture Part 4 + Practical Demos Diagnostics in Small Signal Domain	**Lecture Part 9 + Practical Demos** Diagnostics Loudspeaker Nonlinearities	**Lecture Part 13 + Practical Demos** Perceptive and Cognitive Evaluation **Lecture Part 14** Creating Successful Audio Products



HOUSE-PARTY AT KLIPPEL HEADQUARTERS
Monday, March 4 at 18:00
Mendelssohnallee 30, 01309 Dresden

Do not miss this opportunity for further networking and knowledge exchange with finger food, drinks, and live music. Bring your instrument along for a spontaneous jam session. Explore our in-house exhibition and get to know our engineers. Measure your speaker and interpret the results with KLIPPEL experts.

Everyone is welcome.
No prior sign-up required.

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