

Press release

Vienna, 24.04.2023

AIT: NOISE PROTECTION IN TRAFFIC FOR MORE QUALITY OF LIFE

Day against noise at the ÖAW: AIT presents acoustics research on noise reduction in the transport sector

Vienna (AIT): A functioning transport system is the backbone of the economy and social life in a society. However, traffic also has a negative impact on the environment, for example through noise and vibrations. In urban areas and along the main traffic routes, traffic is considered a major source of noise. A team of experts at the AIT Center for Low-Emission Transport is therefore working intensively on the question of how the transport infrastructure can contribute to reducing noise emissions.

The researchers combine highly accurate on-site sound measurements with extensive simulations and analyses to numerically model traffic noise. The findings from measurements, simulations and modelling form the basis for new technologies, such as low-noise road surfaces. Together with infrastructure operators and manufacturers of infrastructure components, innovative solutions and efficient noise protection measures are developed, optimised and tested. For example, the AIT is an accredited test centre for on-site and laboratory measurements of noise barriers and for recording the rolling noise of tyres on the road surface. This is measured with the help of a special trailer in moving traffic. Furthermore, binaural measurements and psychoacoustic analyses are carried out to record the human perception of noise.

AIT also offers a comprehensive range of services in the field of acoustics for stationary machines (heat pumps, air conditioning systems, etc.). The portfolio includes acoustic measurements, support in development and sound optimisation and accompanying scientific consulting.

Presentation of AIT acoustics research at the Action Day against Noise

On 26 April 2023, the International Day against Noise, the Institute of Acoustics Research of the Austrian Academy of Sciences invites you to a day of action. The AIT will be represented by a team of acoustics researchers and will present current research projects and solutions for noise reduction and acoustics in traffic and stationary machines at three stations.

- **Noise from traffic: How does noise protection work in the road and rail sector?**
Noise protection measures make an important contribution to reducing traffic noise. But what options are there to reduce the noise of a passing car, for example? And how is noise from cars or trains generated in the first place?

At this station, interested visitors can interactively explore the acoustic effects of noise barriers and low-noise road surfaces and find out how noise is generated in road and rail traffic.

- **Traffic noise 2.0: What does an electric vehicle sound like?**

Electric vehicles emit significantly less noise at low speeds than conventional vehicles with combustion engines due to the elimination of the combustion engine. Since 1 July 2019, an EU regulation has therefore been in force that prescribes an artificially generated acoustic warning noise for electric vehicles. But how audible is an electric vehicle without or with a warning noise in daily road traffic?

Using audio examples, interested parties can test at what point they can acoustically perceive an approaching electric vehicle in various traffic situations.

- **Acoustics of heat pumps: How does a heat pump sound?**

...and how do you make them even quieter?

Heat pumps are measured, developed and optimised in the AIT laboratories. How this works is explained at this station. With the AIT's augmented reality app, a heat pump can be virtually positioned in your own garden and the volume displayed. Come by and try it out!

You can find an overview of all other stations at: www.oeaw.ac.at/isf/tgl23

Anna Huditz, Head of Competence Unit Transportation Infrastructure Technologies at the AIT Center for Low-Emission Transport: "Transport is considered the main cause of noise pollution in Europe. Therefore, it is particularly important to keep the noise emission development of transport infrastructure systems as low as possible through innovative noise protection measures. By participating in the International Noise Abatement Day, we would like to contribute to raising awareness around the issue of noise, as well as present current research results and basic operating principles for more effective noise abatement to the general public."

Day against noise

Wednesday, 26. April 2023, 3:00 to 8:00 p.m.

Institute for Noise Research

Wohllebengasse 12-14

1040 Vienna

Admission free!

Further information:

[AIT Center for Low Emission Transport](#)

[Akustische Optimierung Von Wärmepumpen – AIT Austrian Institute Of Technology](#)

<https://www.ait.ac.at/lkr/>

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