

Press Release

Vienna, 26 April 2022

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 transport infrastructure can help to reduce noise emissions.

The researchers combine highly accurate on-site noise measurements with extensive simulations and analyses to numerically model traffic noise. The findings from measurements, simulations and modeling 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, optimized and tested. For example, AIT is an accredited test center for on-site and laboratory measurements of noise barriers and for recording the rolling noise of tires on the road surface. This is measured with the aid of a special trailer in moving traffic. Furthermore, binaural measurements and psychoacoustic analyses are carried out to record the human perception of noise.

Presentation of AIT Acoustics Research at the Action Day against Noise

On April 27, 2022, the International Day against Noise, the Institute for Noise Research of the Austrian Academy of Sciences invites you to a day of action. Under this year's motto "Hört sich gut an", research projects on the topic of noise and sound will be presented with free admission. The AIT is represented by a team led by acoustics researcher Martin Czuka and will present current research projects and solutions for noise reduction and acoustics in the transport sector at three stations.

- **Noise from traffic: How is noise generated by road and rail traffic?**

A moving car or a passing train causes noise that everyone has heard at least once. But what are the main mechanisms responsible for the typical sound of road or rail traffic noise?

At this station, interested parties can interactively explore the different noise sources of road and rail traffic.

- **Noise protection between noise source and neighbor:**
How do noise barriers work and how are they checked? Noise barriers make an important contribution to noise protection in traffic. They block the direct propagation path between the noise source and the adjacent residents and ideally reflect only a small amount of sound back toward the roadway or track. But how can the noise-reducing properties of noise barriers be efficiently verified?
At this station, interested parties have the opportunity to interactively explore the effect of noise barriers and learn how the acoustic properties of noise barriers can be objectively verified.
- **Traffic noise 2.0: What does an electric vehicle sound like?**
Electric vehicles emit significantly less noise at low speeds than conventional vehicles with internal combustion engines due to the elimination of the combustion engine. Since July 1, 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 traffic?
Using audio examples, interested parties can test at what point they can acoustically perceive an approaching electric vehicle in various traffic situations.

An overview of all other stations can be found at: www.oeaw.ac.at/isf/tgl22

Anna Huditz, Head of Competence Unit Transportation Infrastructure Technologies at the AIT Center for Low-Emission Transport: "Traffic 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, April 27, 2022, 9:30 a.m. to
5:30 p.m. Institute for Sound Research
Wohllebengasse 12-14
1040 Vienna
Admission free!

Further information

[AIT Center for Low Emission Transport](http://www.ait.ac.at/low-emission-transport)

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

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