

## Media communiqué

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### 18<sup>th</sup> International Transport and Air Pollution Symposium

## Road traffic exhaust emissions – has the target been reached?

**Our desire for mobility is enormous, but the consequences of this trend are already known – traffic levels are rising, and without countermeasures air pollution would increase sharply. Technologies and practical measures which help to protect human health and preserve the environment and yet do not create economic obstacles are being eagerly sought. At the international «Transport and Air Pollution» symposium to be held on May 18<sup>th</sup> and 19<sup>th</sup> at Empa, specialists will present the latest research work on traffic and air pollution, and make a joint attempt to find practicable solutions to current challenges.**

Today there are vehicles on the road which are so clean that their exhaust gas has fewer pollutants in it than in the atmosphere itself. They already meet emission regulations which will actually only come into force in the next few years, and will only allow near-zero emission levels. Reason to heave a sigh of relief? Not really. Although, for example, the outputs of carbon monoxide (CO) and hydrocarbons (HCs) have reduced significantly due to restrictive regulations, the emissions of other gases produced by road vehicles have continued to remain at high levels.

Measurements along major traffic arteries such as Zurich's western circular route show primarily that the output of nitrogen dioxide (NO<sub>2</sub>) – which is responsible in part for the creation of ozone – has slightly increased. Martin Weilenmann, Empa exhaust gas modeling specialist and organizer of the symposium, knows the reason for this. "Diesel catalysts are responsible for this effect, because under certain conditions they can convert NO into NO<sub>2</sub>," he says. And then there are also the so-called secondary pollutants which result from the effects of sunlight, cooling or other chemical processes on vehicle exhausts, and which continue to reduce the quality of the air we breathe.

### **The solutions pay no heed to national frontiers**

Whether it is an expert in Zurich who measures pollution levels, or a group of scientists in Los Angeles investigating whether acoustic barriers along a motorway are better at protecting local residents from fine particulate emissions than bushes, or perhaps researchers in Lund, Sweden, who determine how spiked tires and road surfaces can be optimized to minimize the creation of health-damaging nanoparticles – all these problems (and many others) which are studied at a local level occur in similar forms the world over. The solutions cannot therefore be allowed to stop at a country's border; they must be implemented at an international level.

In this way all the specialists in the field benefit from the solutions worked out by their colleagues. For instance, what sort of lessons were learned by those responsible for setting up environmentally friendly zones in Copenhagen, from which vehicles with particularly high emission levels were banned? What effect did this measure have on air quality? And what measuring methods and models were best suited for monitoring purposes?

On the 18<sup>th</sup> and 19<sup>th</sup> May, scientists and researchers from all over the world will gather at the International Transport and Air Pollution Symposium at Empa. Experts and specialists in the fields of vehicular emissions and air pollution will exchange experiences, and swap research results and ideas in some 100 presentations and lectures, thereby providing the scientific foundation on which decision makers can base their choice of the most suitable measures to counter air pollution effects due to vehicular traffic. The symposium was first organized in 1986 and has been held annually since then at different international sites. In 2010 it will be held for the first time in Switzerland.

#### **Further information**

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Air quality measurements in Haerkingen, a location which is badly affected by road traffic emissions.



Empa scientists measure exhaust emissions and fuel consumption levels in every-day traffic situations with this lorry.

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