

Einladung des Instituts für Elektronische Sensorsysteme  
zum **Gastvortrag** am **26.09.2019** um **09:00 Uhr**  
im Hörsaal i4, Inffeldgasse 25D/EG, 8010 Graz

## **Latest environmental regulations for air emissions from vehicles and vessels: Impacts on emission levels and needs for instrumentation**

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Latest regulatory initiatives with the introduction of real drive emissions testing and the introduction of electrified vehicles to address CO<sub>2</sub> targets seem to decrease actual vehicle emissions on the road. However, there remain to be uncertainties especially with regard to NO<sub>x</sub> emissions from diesel vehicles, unregulated pollutants including particle number below 23 nm, and exhaust components that lead to secondary particulate formation in the atmosphere. The focus also extends to vessels as an important source of PM and NO<sub>x</sub> in port cities and coastal areas. The global sulphur cap limit from Jan 2020, the discussion to include Mediterranean and the establishment of the Baltic and North Seas as a Tier III NO<sub>x</sub> environmental control areas from 2021 on have significant repercussions on shipping emissions patterns. The latest technology developments and relevant impacts on emissions are being discussed. Moreover, requirements in terms of new instruments and sensors to effectively monitor emissions performance of vehicles and vessels are presented.

## **Biography**

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Leonidas Ntziachristos is a Professor of Mechanical Engineering at the Aristotle University Thessaloniki and Adjunct Professor at the Physics Department of the Tampere University of Technology. He is also one of the founding members of EMISIA SA, a spin-off company of Aristotle University. His research interests include pollutants formation and control, exhaust aerosol sampling and characterization, and emission models and projections development. Currently, he works on the development of aerosol instrumentation and sensors for diesel exhaust aerosol as well as models for the calculation of air pollutants and greenhouse gases from transport modes. He obtained his PhD in Aristotle University and conducted post-doctoral research at the University of Southern California. He is responsible for the development of COPERT software, on behalf of the European Environment Agency and the EU Joint Research Centre. He co-chairs the transport expert panel of the UNECE Task Force on Emission Inventories and Projections and he is member of the steering committee of the European Research Group on Mobile Emission Sources. He has more than 120 international peer review journal publications (h-index: 38, >4100 citations) and a large number of contributions in conference proceedings and book chapters.