"OPTIMIZED TYRES AND ROAD SURFACES TO REDUCE TRAFFIC NOISE AND ENERGY CONSUMPTION"

INTERNATIONAL SEMINAR, OSLO, 2. June 2016

Location: Forskningsparken (Oslo Science Center), Gaustadalléen 21, Meeting room: FAROS. Participation is free of charge.

Preliminary program (Titles may change and presentation added)

Time	Topic	Speaker
0830-0900	Registration	
0900-0910	Welcome and demo of traffic noise/decibels	Truls Berge, SINTEF (N)
0910-0930	Norwegian policy to reduce CO_2 and traffic noise from the transport area	TBC (Ministry of Transport)
0930-0940	Overview of the LEO project	Jurek Ejsmont, TUG (PL)
0940-1010	LEO – results of noise measurements	Truls Berge, SINTEF
1010-1030	Coffee/tea	
1030-1100	LEO – results of rolling resistance measurements	Jurek Ejsmont, TUG
1100-1145	ROSANNE project	Ulf Sandberg, VTI (S)
1145-1215	The composite wheel	Hans-Erik Hansson (S)
1215-1300	Lunch	
1300-1345	PERSUADE and DISTANCE projects	Luc Goubert, BRRC (B)
1345-1415	Tripple AAA-tyres – cost/benefit	Erik de Graaff, M+P (NL)
1415-1445	COOEE and ROSE projects	Lasse G. Andersen, DRD (DK)
1445-1500	Coffee/tea	
1500-1530	Questions/discussion	

The LEO project

In the period 2013-2016 SINTEF (Norway) and TUG (Technical University Gdansk) cooperated in the project LEO (Low Emission Optimized tyres and road surfaces for electric and hybrid vehicles, https://leo.mech.pg.gda.pl/). This project has been financed within the Polish-Norwegian research program CORE 2013 (NCBiR).

As part of the dissemination program for the project LEO, an international seminar is planned in Oslo, Thursday, June 2nd 2016. Location: Oslo Science Park, Gaustadalléen 21, Room "Faros".

In LEO, measurements have been performed with selected combinations of tyres and road surfaces, including tyres especially developed for electric cars. The main objective has been to investigate combinations of tyres and road surfaces than can give a reduction of road traffic noise, and in addition reduced energy consumption. For cars with ICE power train, this could reduce CO_2 emission and increased driving range for electric vehicles and plug-in hybrids in electric mode. Measurements have been made both in Poland and in Norway, including measurements on a poroelastic road surface (low-noise test surface (Krakow) laid in the EU project PERSUADE). This surface can give a reduction of tyre/road noise in the range of 8-10 dB, compared to conventional dense surfaces. In addition to tyre/road noise, rolling resistance have been measured with different tyres on a wide range of road surfaces, including some laboratory drum measurements

The results from the project will show the potential to reduce the annoyance from road traffic noise by source reducing measures and the potential reduction in energy consumption from the transport section, by optimizing tyres and road surfaces.

The seminar:

In addition to results from LEO (presented by TUG and SINTEF), we have invited some internationally well-known experts. Several have many years of experience in research on traffic noise, tyre behavior and rolling resistance and should be able to give interesting presentations of current research.

Dr. Ulf Sandberg, Swedish National Road and Transport Research Institute (VTI), Sweden: Sandberg will present results from the ongoing EU project ROSANNE (http://rosanne-project.eu/).The main objectives of this project is to develop and harmonize measuring methods for skid resistance, noise and rolling resistance properties of road surfaces, as an input to ISO and CEN standards work. Sandberg is one of the leading experts worldwide on road traffic noise and is the author of the "Tyre/Road Noise Reference Book", together with Jurek Ejsmont (project leader of LEO at TUG). He has also been heavily involved in PERSUADE, and led projects on the Composite Wheel, as described in other presentations.

Dr. Luc Goubert, Belgian Road Research Center (BRRC). Goubert was the project leader of the EU project PERSUADE (http://persuade.fehrl.org/), finalized in 2015. In this project, poroelastic road surfaces were developed and tested. The focus has been on durability, noise reduction and safety. In addition, Goubert has been involved in several international projects, some financed by CEDR (association of European Road Directorates). Dr. Goubert will also present the main results from the CEDR project DISTANCE, a joint project with SINTEF, TRL (UK) and ANAS (I) (http://distanceproject.eu/).

Erik de Graaff, M+P consulting engineers (NL) has been long time working on national and international projects related to tyres and road vehicles. He has been involved in harmonizing and standardization of international regulations for tyres and vehicles (UNECE/GRB) and responsible for several investigations regarding tyre/road noise. Recently, he was a co-author of a report about the cost/benefits of using triple AAA tyres (EU labelling). He will be presenting results from this work at the seminar.

Hans-Erik Hansson, Euroturbine (Sweden): Is currently involved in the further development of the so-called "Composite Wheel". This wheel has a completely different design compared to a normal tyre and has a great potential to reduce tyre/road noise and rolling resistance. He will show a prototype of the wheel at the seminar.

Dr. Lasse Grinderslev Andersen, Danish Road Directorate (Denmark): Presentation of the projects COOEE and ROSE. The project COOEE (CO_2 emission reduction by exploitation of rolling resistance modelling of pavements, 2012-2014) was a joint project with the Road Directorate, NCC Roads, University of Roskilde and Technical University of Denmark (http://www.cooee-co2.dk/). The project ROSE (Roads Saving Energy) started in March 2016 and Anderson is leading the work package implementing the results in the DRD pavement managing system. Andersen took is Ph.D. within the COOEE project on modelling of rolling resistance.

Prof. Jurek Ejsmont, TUG (Poland). Esjmont is the project leader of two of the work packages in LEO. He and his institute has been and is involved in several European projects like PERSUADE, ROSANNE and SILENCE. TUG has laboratory facilities to measure noise and rolling resistance of tyres on drums and trailer to measure noise and rolling resistance on roads.

Truls Berge, SINTEF (Norway). Berge is the project leader of two work packages in LEO. Berge has in over 30 years worked at SINTEF, on research within road traffic noise. Low noise road surfaces, tyres and vehicles has been the main area of work. He is a member of several international committees and has been the project leader of several work packages in international projects such as DISTANCE, SILENCE and NordTyre.

A representative for the Department of Transport has been invited to present national strategies to reduce the climate emissions and the noise annoyance from road traffic. The speaker has not yet been named.

A speaker from Hong Kong Polytechnic University, Dr. Randolph Leung, may also participate. He is currently involved in projects related to methods and equipment to measure road traffic noise in Hong Kong. However, his participation may be depending on if visits to other institutes in Europe can be combined with the seminar.

A preliminary program is enclosed. There will be time for questions and discussion at the end of the seminar. All presentations will be available on the LEO web site.

In addition to invited speaker, a wide range of institutions/organizations will be invited; along with media. This will be representatives from the national transportation and environmental departments, environmental and tyre/vehicle related organizations.

Hopefully, also representatives from Poland, including NCBiR, will be able to attend, by invitation.

The seminar will be given in English and all presentations will be available on the web-site of the LEO project.

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