



December 15 and 16, 2021
Asphalt Innovation Symposium 2021

University of Antwerp
EMIB – Road Engineering Research Section

(Final Program)

Day 1 (Virtual)
December 15, 12:30 - 17 CET

Plenary session 1 (En) by Prof. Dr. Wim Van den bergh

- 12:45 – 13:15 Opening ceremony and welcome
- 13:15 to 13:30 Getting acquainted with the Whova platform

Parallel session 2A (En) - Collaborative research with EMIB

Chairs: Prof. Dr. Wim Van den bergh and Dr. Reza Omranian

- 13:30 to 15:00 **Introduction and importance of network**, Prof. Dr. Wim Van den bergh (University of Antwerp)
- Sustainable base layer by BSM: first Flemish experiences**, M.Sc. Ecem Nur Barisoglu, M.Sc. Hosam Almalehy, Prof. Dr. Wim Van den bergh (University of Antwerp)
- Beyond smart pavements: Multi-functional connected infrastructure**, Prof. Dr. Nizar Lajnef (Michigan State University)
- Resource utilization of biomass materials in asphalt pavement: current situation and potential**, Prof. Dr. Liang He (CQJTU)
- Diving into the latest results from our test tracks in port of Antwerp**, Dr. David Hernando (University of Antwerp)
- Q&A**

Parallel session 2B (En) - Bitumen: From Chemistry to application

Chair: Prof. Dr. Johan Blom and M.Sc. Georgios Pipintakos

- 13:30 to 15:00 **Influence of filler on the behaviour of mastic in linear amplitude sweep**, Prof. Dr. Miomir Miljkovic (University of Niš)
- How important is air void for ageing gradient in asphalt pavements?**, Dr. Eman Lafta Omairey (Aston University)
- Coupling AFM and CLSM to investigate the effect of ageing on the bee structures of bitumen**, M.Sc. Georgios Pipintakos (University of Antwerp)
- Quantified chemical fingerprinting and real-time oxidation dynamics of asphalt binders using vocus Proton Transfer Reaction (PTR-TOF) mass spectrometry**, Dr. Anand Sreeram (University of Texas at Austin)
- Q&A**

15:00 to 15:30 **Break**

Parallel session 3A (En) - Digitalization and Sustainability

Chairs: Prof. Dr. Zhi Cao and Dr. David Hernando

15:30 to 17:00 | **Digital Twinning of Pavements: Application for Training, Construction and Innovation**, Prof. Dr. Faridaddin Vahdatikhaki (University of Twente)
Leaching characteristics of permeable pavement materials and the influence on urban road runoff, Prof. Dr. Hui Li (Tongji University)
Asphalt 4.0, Dr. Juan José Potti (EAPA)
Advances in the State-of-Practice of Asphalt Mixture LCA: Towards Net Zero, Prof. Dr. Amlan Mukherjee (Michigan Technological University)
Q&A

Parallel session 3B (En) – Challenging the performance of asphalt pavements I

Chairs: Prof. Dr. Cedric Vuye, Dr. Navid Hasheminejad

15:30 to 17:00 | **Application of nano/microparticles on asphalt mixes to promote photocatalysis and superhydrophobicity**, Dr. Iran Gomes (UMinho)
Development and testing of encapsulated oil as an additive to prevent asphalt ravelling. Preliminary results. Prof. Dr. Alvaro García (University of Nottingham)
Viscoelastic property predictions of crumb rubber modified bitumen using micromechanics models, Dr. Haopeng Wang (University of Nottingham)
A multi-criteria decision-making model to rank recycled plastic-modified bituminous blends considering laboratory performance and environmental impact indicators , Prof. Dr. João Santos (University of Twente)
Q&A

Day 2 (Virtual)
December 16, 9:00 – 17:15 CET

Plenary session 4 (En) – Innovation in Road Engineering Research and Industry

Chairs: Prof. Dr. Wim Van den bergh and Prof. Dr. Cedric Vuye

9:00 to 10:30	<p>What's new in town?, Prof. Dr. Wim Van den bergh (University of Antwerp)</p> <p>The strategy towards sustainability in asphalt industry 4.0, Dr. Breixo Gómez Mejjide (EAPA)</p> <p>Bitumen ageing and the fountain of youth - a dream of reality, Dr. Johannes Mirwald (TU Vienna)</p> <p>Ongoing research and needs for next-generation pavements, Dr. Emmanuel Chailleux and Dr. Pierre Hornych (Université Gustave Eiffel)</p> <p>Q&A</p>
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10:30 to 11:00	Break
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Parallel session 5A (Du) - Innovaties van de Vlaamse Asfaltsector

Chairs : Prof. Dr. Wim van den bergh

11:00 to 12:30	<p>Haven van Antwerpen zet in op ROAD_IT tools: een eerste evaluatie, Ing. Johan Braspeninckx (Havenbedrijf Antwerpen)</p> <p>Efficiënte asfaltproductie binnen handbereik, ir. Kris Mallefroy (Stadsbader)</p> <p>Nieuwe Westweg: een living lab voor toekomstige asfaltverhardingen, Prof. Dr. Wim Van den bergh (University of Antwerp)</p> <p>Impact schommelingen AG bij hergebruik: gevoeligheidsstudie aan de hand van PradoWeb en prestatieproeven, Ing. Tine Tanghe (OCW)</p> <p>Q&A</p>
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Parallel session 5B (En/Du) - Innovative studies on virgin and modified bitumen

Chairs : Prof. Dr. Johan Blom and Dr. Reza Omranian

11:00 to 12:30	<p>New insights for the bee structures of bitumen, Prof. Dr. Johan Blom (University of Antwerp)</p> <p>Characterization of Hydrophobic-treated recycled paper mill sludge via chemical surface modifications for application as an asphalt modifier, Prof. Dr. Mohd Rosli Mohd Hasan (Universiti Sains Malaysia)</p> <p>The properties of recovered binders from various field sites, Dr. Hilde Soenen (Nynas)</p> <p>Q&A</p>
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12:45 to 13:30	Speed networking event
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Parallel session 6A (Du) – Innovaties door Green Public Procurement

Chairs: Prof. Dr. Wim Van den bergh and Dr. David Hernando

- 13:45 to 15:15 | **De CO2-prestatieladder: een introductie**, M.Sc. Jonathan De Clerck (CO2logic)
- De CO2-Prestatieladder: eerste ervaringen voor en door COPRO-certificatie**, Ing. Kim De Jonghe - (COPRO)
- CO2-prestatieladder – praktijkcase Willemen Infra**, M.Sc. Franky Van den Berghe (Willemen Infra)
- Pilootproject GPP Vlaanderen: opzet en ervaringen**, ir. Dirk Van Troyen (AWV)
- Q&A**

Parallel session 6B (Du/En) – Sponsor session

Chairs: Prof. Dr. Cedric Vuye and Dr. Navid Hasheminejad

- 13:45 to 15:15 | This session will be dedicated to our sponsors to introduce themselves and present their innovations to the audience.

15:15 to 15:45 | **Break**

Final session 7 (En/Du) - Challenging the performance of asphalt pavements II

Chair: Prof. Dr. Cedric Vuye and Prof. Dr. Zhi Cao

- 15:45 to 16:45 | **Automated vehicles' impact on pavement rutting performance**, Dr. Ali Yeganeh (Hasselt University)
- The EU Tyre Label: why it does not reduce the traffic noise in Europe so far and what we can do about this**, Dr. Luc Goubert (BRRC)
- Kan een duurzame en circulaire asfalt toplaag ook nog geluidarm zijn?**, M.Sc. Bert Peeters & M.Sc. Ronal Van Loon (M+P)
- 16:45 to 17:15 | **Final discussion and closing ceremony**, Prof. Dr. Wim Van den bergh