



9th EATA Conference 2021 Program



Day 1: 7th of June 2021

09:15 – 09:30 Welcome and Gathering

09:30 – 10:30 Opening Ceremony

- 09:30 Chair of the EATA2021 Conference, *Bernhard Hofko*
- 09:40 Head of TU Wien, *Rectoress Sabine Seidler*
- 09:55 Dean of the Faculty of Civil Engineering, *Ronald Blab*
- 10:05 President of EATA, *Herve Di Benedetto*
- 10:20 Greetings from our Gold Sponsor OMV, *Markus Spiegl*

10:30 – 12:00 Session 1: Ageing

Chair: Manfred Partl

- 10:30 Ageing effects on the linear and nonlinear viscoelasticity of bituminous binders
Tsantilis, L.; Underwood, B.; Miglietta, F.; Riviera, P.; Baglieri, O.; Santagata, E.
- 10:50 Clustering Aged Bitumens Through Multivariate Statistical Analyses Using Phase Angle Master Curve
Siroma, R.; Nguyen, M.; Hornych, P.; Lorino, T.; Chailleux, E.
- 11:10 Fatigue Damage Monitoring and Analysis of Aged Asphalt Concrete Using Acoustic Emission Technique
Benaboud, S.; Takarli, M.; Pouteau, B.; Allou, F.; Dubois, F.; Hornych, P.; Nguyen, M.
- 11:30 Utilizing Fluorescence Spectroscopy and Optical Microscopy to Investigate Bitumen Long-Term Ageing
Mirwald, J.; Hofko, B.; Grothe, H.

12:00 – 13:00 Lunch Break

13:00 – 15:00 Session 2: Recycling and Rejuvenation

Chair: Gabriele Tebaldi

- 13:00 Behaviour of binder blends: experimental results and modelling from LVE properties of pure binder, RAP binder and rejuvenator
Forton, A.; Mangiafico, S.; Sauzéat, C.; Di Benedetto, H.; Marc, P.
- 13:20 Monitoring the evolution of the structural properties of warm recycled pavements with Falling Weight Deflectometer and laboratory tests
Ingrassia, L.; Cardone, F.; Ferrotti, G.; Canestrari, F.





9th EATA Conference 2021 Program



- 13:40 Evaluating the role of recycling rate and rejuvenator on the chemo-rheological properties of reclaimed polymer-modified binders
Margaritis, A.; Pipintakos, G.; Jacobs, G.; Hernando, D.; Bruynen, M.; Bruurs, J.; Vandenberg, W.
- 14:00 Multiscale evaluation of the effect of recycled polymers on the long-term performance of bituminous materials
Tauste, R.; Moreno-Navarro, F.; Sol-Sánchez, M.; Rubio Gamez, C.
- 14:20 Anti-aging additives: proposed evaluation process based on literature review
Camargo, I.; Dhia, T.; Loulizi, A.; Hofko, B.; Mirwald, J.
- 14:40 Pyrolytic oil from waste tyres as a promising encapsulated rejuvenator for the extrinsic self-healing of bituminous materials
Norambuena, J.; Arteaga-Pérez, L.; Concha, J.; Gonzalez-Torre, I.

15:00 – 15:30 Break: Sponsor Session Saint-Gobain Adfors

15:30 – 17:30 Session 3: Bituminous Binder I

Chair: Laurent Porot

- 15:30 Experimental and numerical investigation on the rheological behaviour of bituminous composites via DSR testing
Ziade, E.; Fakhari-Tehrani, F.; Beghin, A.; Petit, C.; Absi, J.; Millien, A.; Reynaud, P.
- 15:50 Rheological and performance characterization of the bitumen recovered from different emulsions for cold mixtures
Carpani, C.; Bocci, E.; Bocci, M.
- 16:10 Rheological characterisation of cold bitumen emulsion slurries
Mignini, C.; LoPresti, D.; Airey, G.; Graziani, A.
- 16:30 Micromechanics-based Complex Modulus Prediction of Crumb Rubber Modified Bitumen Considering Interparticle Interactions
Wang, H.; Zhang, H.; Liu, X.; Scarpas, A.; Erkens, S., Zhen L.
- 16:50 Fatigue performance of asphalt pavements with highly polymer modified asphalt binders
Zofka, A.; Blażejowski, K.; Ostrowski, P.
- 17:10 Fundamental and empirical relationships between asphalt binder cracking indicators
Haji, R.; Young, S.

17:30 End of Day 1





9th EATA Conference 2021 Program



Day 2: 8th of June 2021

09:00 – 10:30 Session 4: Bituminous Binder II

Chair: Katerina Varveri

- 09:00 Reversible molecular structuring and thixotropy in bitumen
Nahar, S.; Leegwater, G.
- 09:20 Characterisation of complex polymer modified bitumen with rheology parameters
Porot, L.; Vansteenkiste, S.; Makowska, M.; Carbonneau, X.; Zhu, J.; Damen, S.; Plug, K.
- 09:40 Chemometrical performance and composition prediction of bituminous binders based on MIR and TD-NMR analyses
Schneider, S.; Schmidtke, C.; Putzien, S.; Dietzsch, M.; Emig, S.; Meyer, L.; Nestle, N.; Šandor, A.; Kriegenhöfer, K.; Hafner, K.
- 10:00 Quantitative relationship of fundamental rheological properties of bitumen with the empirical Ring and Ball softening point
Zhu, J.; Lu, X.; Langfjell, M.; Gudmarsson, A.

10:30 – 11:00 Break: Sponsor Session Infratest

11:00 – 12:00 Abstract Session 1: Bituminous Binders

Chair: Emmanuel Chailleux

- Change in Properties of Bitumen using Rejuvenators with Aromatics and Saturates Components Due to Repeatedly Recycling
Kawakami, A.; Nitta, H.; Kawashima, Y.; Tayu, F.; Yabu, M.
- Effect of anti-ageing agents on rheological and chemical properties of asphalt binder
Guo, M.; Liu, H.; Liang, M.
- Effects of chopped basalt fibres on the rheological properties of high viscosity bitumen (HVB) at high temperatures
Wu, X.; Kou, C.; Kang, A.; Xiao, P.; Wu, Z.
- Effects of Physical Hardening on the Rheological Property and Thermal Stress of Asphalt Binders and their Crystallization Kinetics Analysis
Xu, J.; Yang, Q.; Lin, J.; Wang, D.
- Investigation of the GFRP powder reinforced bitumen and its performance
Hong, B.; Lin, J.; Fan, Z.; Yang, Q.; Li, T.; Lu, G.; Wang, D.
- Natural bitumen Selenizza® SLN – an optimal additive for the implementation of high-performance asphalt mixes
Tartari, E.
- Study on the composite modification mechanism of bitumen with combined carbon nanotube and graphene
Yang, Q.; Fan, Z.; Lin, J.; Wang, D.; Oeser, M.





9th EATA Conference 2021 Program



Testing Conditions for Asphalt Binder Testing Using Dynamic Shear Rheometer with 4 mm Diameter Parallel Plate Geometry

Büchner, J.; Sigwarth, T.; Wistuba, M.

Effect of activation of polymer modified bitumen in RAP on resistance to permanent deformation

Liphardt, A.; Konieczna, K.; Król, J.

Methodology of an empirical description of filler activity in bituminous mastics

Stoklásek, S.; Dasek, O.; Všianský, D.; Varaus, M.

A comparative study of bitumen microscale morphology using atomic force microscopy and laser scanning confocal microscopy

Blom, J.; Hasheminejad, N.; Vuye, C.

Analysis of cracking mechanisms by the example of a test track using finite element simulation and design life calculation

Blasl, A.; Zeißler, A.; Wellner, F.

Influence of ultraviolet radiation on the rheological properties and the structure of non-modified bitumen

Schwettmann, K.; Nytus, N.; Stephan, D.; Radenberg, M.

Field aged and laboratory aged polymer-modified asphalt binder – investigation with fluorescence spectroscopy

Koyun, A.; Büchner, J.; Grothe, H.; Wistuba, M.

Swelling and absorption of crumb rubber aggregates incorporated in bituminous mixtures

Mahmoudi, Y.; Mangiafico, S.; Sauzéat, C.; Di Benedetto, H.; Pouget, S.; Loup, F.; Faure, J.-P.

Thermodynamic sorption and kinetic transport of water in bitumen

Ma, L.; Varveri, A.; Jing, R.; Erkens, S.

Influence of Temperature on Global and Local Elastoplastic Properties of Bituminous Stabilized Material

Preti, F.; Dave, E.; Sias, J.; Romeo, E.; Tebaldi, G.

Modelling Asphalt Binder Fatigue at Multiple Temperatures Using Complex Modulus and the LAS Test

Bahia, H.; Chen, H.

Phase-compatibility of Bitumen defined through Deconvolution of Modulated Differential Scanning Calorimetry Response

Tabatabaee, H.; Sylvester, T.; Calcanas, C.

Preliminary Assessment of Linear Amplitude Sweep (LAS) Testing using Automated Digital Image Analysis

Aurilio, R.; Aurilio, M.; Baaj, H.

12:00 – 13:00 Lunch Break





9th EATA Conference 2021 Program



13:00 – 13:30 Sponsor Session – OMV

13:30 – 15:00 Session 5: Mastic

Chair: Andrea Graziani

- 13:30 Towards a unified performance-based characterisation of Bitumen and Mastic using the DSR
Rochlani, M.; Leischner, S.; Canon Falla, G.; Wellner, F.
- 13:50 Accelerated Fatigue Test for investigating Asphalt Mastic in Dynamic Shear Rheometer
Kim, Y.; Sigwarth, T.; Büchner, J.; Wistuba, M.
- 14:10 Introducing a new test protocol to evaluate the rate of damage accumulation in mastics at intermediate temperatures
Roberto, A.; Romeo, E.; Tebaldi, G.; Montepara, A.
- 14:30 Effect of filler properties on the hygrothermal ageing of bituminous mastics
Varveri, A.; Jing, R.; Tarsi, G.; Erkens, S.

15:00 – 15:30 Break

15:30 – 17:30 Session 6: Asphalt Mix I

Chair: Cesare Sangiorgi

- 15:30 The Viscoelastic Characterisation of Asphalt Mixtures Using the Indentation Test
Fadil, H.; Chen, F.; Jelagin, D.; Partl, M.
- 15:50 Study of air void topology of asphalt with focus on air void constrictions
Schuck, B.; Teutsch, T.; Alber, S.; Ressel, W.; Steeb, H.; Ruf, M.
- 16:10 Assessing and predicting fatigue damage of road pavement using ASGs and deflection measurements: a full-scale test
Barriera, M.; Van Rompu, J.; Pouget, S.; Blanc, J.; Chailleux, E.; Lebental, B.
- 16:30 Compaction methods of Cold Recycled Asphalt Mixtures and their effects on pavement analysis
Meneses, J.; Vasconcelos, K.; Bernucci, L.; Hajj, E.
- 16:50 Mechanism-Based Evaluation of Compactability of Asphalt Mixtures
Yan, T.; Marasteanu, M.; Le, J.
- 17:10 Characterization of Aggregate Interlocking in Hot Mix Asphalt by Mechanistic Performance Tests
Polaczyk, P.; Ma, Y.; Xiao, R.; Hu, W.; Jiang, X.; Huang, B.

17:30 End of Day 2





9th EATA Conference 2021 Program



Day 3: 9th of June 2021

09:00 – 11:00 Session 7: Asphalt Mix II

Chair: Christiane Raab

- 09:00 Determination of creep compliance of asphalt mixtures at intermediate and high temperature using creep-recovery test
Nguyen, H.; Do, T.; Tran, V.; Phan, T.; Pham, T.; Nguyen, M.
- 09:20 Analytical Modelling of Thixotropy Contribution during T/C Fatigue Tests of Asphalt Concrete with the VENoL Model
Coulon, L.; Koval, G.; Chazallon, C.; Roux, J.
- 09:40 Performance of EME2 Mixtures Produced Using Warm Asphalt Technology
Woldekidan, M.; Gaarkeuken, B.
- 10:00 Damage investigation of thin flexible pavements to Longer Heavier Vehicle loading through instrumented road sections and numerical calculations
Saliko, D.; Erlingsson, S.
- 10:20 A new proposal to assess shear fatigue resistance of asphalt pavement interfaces
Miro, R.; Ortiz-Ripoll, J.; Martinez, A.; Botella, R.; Pérez-Jiménez, F.; López-Montero, T.
- 10:40 Optimisation and field assessment of poroelastic wearing course bond quality
Jaskula, P.; Rys, D.; Szydlowski, C.; Stienss, M.; Mejlun, L.; Jaczewski, M.; Ronowski, G.

11:00 – 11:30 Break

11:30 – 13:00 Abstract Session 2: Asphalt Mix

Chair: Adam Zofka

Durability Assessment of RAP Asphalt Mixture using SATS Conditioning Procedure
Iwama, M.; Hayano, K.

Study on test parameters and design optimization of high modulus asphalt mixture
Chang, R.; Gong, Y.; Erhu, Y.; Zhenyu, Z.; Kaiyan, L.

Effect of short term oven conditioning and incorporation of 60% reclaimed asphalt on performance of warm mix asphalt
Rathore, M.; Haritonovs, V.; Zaumanis, M.

A preliminary experimental application of cigarette filters as stabilizing fibres for Asphalt Concretes
Tataranni, P.; Sangiorgi, C.

Fatigue Laboratory Test on Asphalt Reinforcement Systems
Mannsbart, G.; RuizRubio, A.





9th EATA Conference 2021 Program



Effects of Recycled Concrete Aggregate (RCA) Fraction Replacement on Cracking, Rutting and Surface Texture of Semi-Dense Asphalt (SDA)

Mikhailenko, P.; Piao, Z.; Kakar, R.; Bueno, M.; Poulidakos, L.

Modelling Self-Heating of Asphalt Concrete Under Mechanical Fatigue Loading with Heterogeneous Microstructure

Benaboud, S.; Allou, F.; Dubois, F.; Takarli, M.

Laboratory study on Warm Mix Asphalt based on binder, mastic and mixture testing

Cheraghian, G.; Klüter, I.; Büchner, J.; Büchler, S.; Wistuba, M.

Determination of dynamic modulus of cylindrical asphalt specimens using resonant acoustic spectroscopy

Kollmus, F.; Trifunović, S.; Grönniger, J.; Wistuba, M.

Temperature controlled asphalt pavement to improve the permanent deformation resistance.

Inestroza Mercado, A.; Hess, R.

How to avoid road damage with the help of modern transport technology already at the time of asphalt installation

Fliegl, M.

Hot Mix Asphalts modifiers: SBS-copolymer, plastomeric compound, and graphene-enhanced asphalt modifier

Viscione, N.; Eskandarsefat, S.; Venturini, L.; Veropalumbo, R.; Russo, F.

Study on sustainable road structure: mechanical and environmental approach

Król, J.; Bankowski, W.; Kowalski, K.; Holt Andersen, B.; Komkova, A.; Casado Barrasa, R.

Effect of aramid fibers on the mechanical characteristics of porous asphalt mixtures

Gupta, A.; Gonzalez, P.; Castro-Fresno, D.; Hernandez, J.

Long-term structural performance of crumb rubber modified asphalt layers

Moreno-Navarro, F.; Sol-Sánchez, M.; Tauste, R.; Rubio Gamez, C.

Experimental investigation on fatigue life performance of asphalt rubber and reacted and activated rubber modified mixtures using dissipated energy approach

Boudnani, Z.; Glaoui, B.; Merbouh, M.; Silva, F.; Barreira Sousa, J.

Effectiveness rejuvenation in Porous asphalt

Moenielal, M.; van Vliet, D.; van Aalst, W.; van der Kemp, J.W.F; Varveri, A.; The, P.

Engineered crumb rubber technology for “dry-process” rubberized asphalt pavement

Schüwer, N.; de León, L.A.; Martin, J.; Megert, S.

Characterization of bituminous mortar as input to multiscale modelling of asphalt

Canon Falla, G.; Rochlani, M.; Leischner, S.; Wellner, F.

Effects of Surfactants on Formulation, Cohesion Build-up and Moisture Resistance of Cold Mix Asphalt in Relationship with Emulsion Breakup and Mineral Substrates Chemical Reactivity

Konate, Y.; Ziyani, L.; Dony, A.; Poirier, J.; Chateau, X.; Konin, A.

Reflective Cracking and Serviceability Performance of Asphalt Overlays on Distressed Concrete Pavements through Field Test Sections

Haslett, K.; Dave, E.; Sias, J.

An Initiative to Make the U.S. Asphalt Pavements Greener and Safer

Arabzadeh, A.; Podolsky, J.; Staver, M.; Williams, R.; Hohmann, A.; Hernandez, N.; Cochran, E.



9th EATA Conference 2021 Program



Preliminary field and laboratory investigation on the use of Non-Contact Digital Ski sensor as pavement-smoothing technology in the South Korea expressway network
Moon, K.H.; Cannone Falchetto, A.; Cho, J.

An investigation on the mechanistic-empirical design of asphalt overlay on concrete pavement based on different rheological models
Moon, K.H.; Cannone Falchetto, A.; Cho, J.

13:00 – 13:30 Lunch Break

13:30 – 15:30 Session 8: Additives and Modifications

Chair: Eshan Dave

- 13:30 Evaluation of Engineering, Economical and Environmental Suitability of Waste Filler Incorporated Asphalt Mixes and Pavements
Choudhary, J.; Kumar, B.; Gupta, A.
- 13:50 Investigation on the use of a novel chemical bitumen additive with reclaimed asphalt and at lower mix production and construction temperatures: A case study
Carreño Gómez, N.; Oeser, M.
- 14:10 Environmental assessment of warm mix asphalt incorporating steel slag and high reclaimed asphalt for wearing courses
Georgiou, P.; Loizos, A.
- 14:30 Development of a rational design procedure based on fatigue characterisations and environmental evaluations of asphalt pavement reinforced with glass fibre grid
Nguyen, M.; Horny, P.; Le, X.; Dauvergne, M.; Lumière, L.; Chazallon, C.; Sahli, M.; Mouhoubi, S.; Doligez, D.; Godard, E.
- 14:50 Environmental potentials of asphalt mixtures fabricated with red mud and fly ash
Siverio Lima, M.; Padilha Thives, L.; Haritonovs, V.; Tautschnig, A.; Queiroz, C.; Buttgerit, A.; Gschösser, F.
- 15:10 Comparison of the rheological and thermal behaviour of a neat asphalt binder and a wood-based binder for pavement surface layer
Espinosa, L.; Gadler, F.; Vasconcelos, K.; Mota, R.; Bernucci, L.

15:30 Closing Ceremony

- 15:30 President of EATA, *Herve Di Benedetto*
- 15:45 Chair of EATA2021, *Bernhard Hofko*
- 16:00 Chair of the next EATA Conference, *Adam Zofka*

