Draft of detail program

GMT	TRACK 1	TRACK 2	TRACK 3
MONDAY(JULY 12)_Day 1			
09:00-09:20	Opening session		
	Moderator: Prof. Sandra Erkens, Delft University of Technology		
09:25-11:45	**Session number: 1**	**Session number: 2**	**Session number: 3**
	Green and sustainable pavement materials – Part 1	Recycling technology – Part 1	Functional pavement design – Part 1
	Moderator: Shifeng Wang Shanghai Jiao Tong University shfwang@sjtu.edu.cn	Moderator: Mingliang Li Research Institute of Highway Ministry of Transport li@rioh.cn	Moderator: Zhen Leng Hong Kong Polytechnic University zhen.leng@polyu.edu.hk
	• Mix design of base course of high ratio content iron tailings sand recycled mixture *(Y. Dong, H. Zhang, Y. Dong, Y. Hou & J. Tian)* • Evaluation of asphalt binder anti-aging performance based on rheological and chemical properties (*M. Guo, M. Liang, Y. Fu & H. Liu*) • Utilisation of recycle concrete aggregate in bituminous paving mixes: an economic evaluation *(J. P. Giri, M. Panda & U. C. Sahoo)* • Simple evaluation of NOx degradation by nano-TiO2 coatings on road pavements under natural light *(M. Fang, Y. Cheng & L. Zhan)* • Application of green calcium sulphoaluminate cement to prepare foamed concrete for road embankmen *(H. Yuan, Z. Ge, R. Sun, Y. Guan, Y. Huo & H. Zhang)* • Properties and applicability of pervious concrete for paving flags *(I. N. Grubeša, I. Barišić, B. Bačun & S. Juradin)* • Research on shrinkage control technology of lightweight ultra-high performance concrete *(J. Fu, Z. Wang , Y. Min & Q. Ding)*	• Effect of Portland Pozzolanic Cement filler on waste mixed plastic modified bituminous mix *(S. Karmakar, T. K. Roy & U. Naveen)* • Influence of reaction time on interaction mechanism of rejuvenator composed by crumb rubber and waste cooking oil *(X. Yi, R. Dong, M. Zhao, C. Shi & J. Yang)* • The use of gyratory compaction to assess the workability of asphalt mixtures *(A. Margaritis, T. Tanghe, J. D. Visscher, S. Vansteenkiste & A. Vanelstraete)* • The rheological properties of terminal blend hybrid asphalt before and after aging *(S. Wang & W. Huang)* • Vehicle load simulator induced cracking in semi-dense asphalt with RCA filler *(P. Mikhailenko, M. Arraigada, Z. Piao & L.D. Poulikakos)* • Method for reducing RAP agglomeration and variability, increasing RAP content: fine separation (H. Zhan, N. Li, W. Tang, Z. Wang, X. Yu &H. Ma) • Study on the influence of red mud on the durability of asphalt mixture and its modification *(J. Zhang, C. Guo, J. Wang, K. Wang, C. Ma, M. Liang & Z. Yao)*	• Fatigue models for airfield concrete pavement: review and discussion *(J. Yuan, W. Li, X. Jia, Z. Zhou & L. Ma)* • Exploration on overlay tester test analysis for anti-cracking ultra-thin layer mixes *(J. Tian,Y. Dong,Y. Hou, X. Tong & J. He)* • Asphalt pavement unified mechanical potential damage model for top-down cracks and rutting distress *(J. Song, J. Shi, H. Wang & X. Li)* • Research on freeze-thaw fatigue of asphalt mixture based on ADE theory *(W. Zhan, S. Gao, Y. Yu, D. Xiao & J. Wang)* • Reliability analysis of asphalt mixture and pavement based on MC method (Y. Sun, Z. Zheng, L. Li & J. Wang) • Case study: crack propagation in situ vs. service life prediction *(A. Blasl, A. Zeißler & F. Wellner)* • Study on the influence of coarse aggregate blends of different sizes and proportions on the homogeneity of asphalt mixtures *(W. Yu, C. Xing, D. Wang & G.Lu)*
11:50-13:00	Keynote Address: Prof. Hussain Bahia, University of Wisconsin-Madison Keynote Address: Prof. Lijun Sun, Tongji University		
	Moderator: Prof. Sandra Erkens, Delft University of Technology		
13:05-15:45	**Session number: 4**	**Session number: 5**	**Session number: 6**
	Green and sustainable pavement materials – Part 2	Recycling technology – Part 2	Functional pavement design – Part 2
	Moderator: Feipeng Xiao Tongji University fpxiao@tongji.edu.cn	Moderator: Gordon Airey The University of Nottingham gordon.airey@nottingham.ac.uk	Moderator: Miomir Miljković University of Niš miomir.miljkovic@outlook.com
	• Asphalt modified by finely dispersed sidewall tire rubber with excellent low temperature performance *(X. Yu, Y. Xie & S. Wang)* • Wide spectral response titanium dioxide for degrading vehicle exhaust in asphalt pavement *(Z. Hu, T. Xu, P. Liu & M. Oeser)* • Effect of three-component polyurethane adhesive on the interlaminar bonding performance of poro-elastic road surface *(J. Li, M. Li, J. Li, W. Ren & H. Wu)* • Characterization of asphalt binder using tackiness properties *(S. N. Suresha & V. H. Kumar)* • Investigation on the temperature field distribution of porous asphalt mixture with steel slag aggregates heated by microwave (Y. Wang, X. Chen, Z. Liu &Q. Dong) • Rheological behavior of asphalt binder based on time-temperature superposition principle: a molecular dynamics simulation study *(X. Zhu, W. Zhang, P. Wu, L. Zhou, C. Yan & Z. Du)* • Effects of SARA fractions on low-temperature properties of crumb rubber modified binders *(T. Wang & F. Xiao)*	• Evaluation of low temperature performance of oil modified asphalt using the glass transition temperature *(J. Xu, C. Xing, Z. Fan, B. Hong, D. Wang & G. Lu)* • Resource recycling of the industrial solid waste in induction asphalt mixture *(C. Fu, K. Liu, Q. Liu & P. Liu)* • The effect of emulsified rejuvenator on the workability of plant RAP mixtures *(W. Tang, N. Li, H. Zhan, X. Yu, G. Ding & X. Zou)* • Utilization of RAP for the construction of CTB containing thin bituminous pavement layer and chemical stabilizer *(R. S. Chhabra, G. D. Ransinchung R. N., S. Vallabhaneni, K. M. Remella & A. Singh)* • Equivalence testing of iCCL and BBR low-temperature continuous grade *(H. Azari & A. Mohseni)* • Rheological and chemical properties of bitumen during hot in-place recycling *(J. Wang, F. Xiao & X. Qian)* • The influence of long-term aging on the chemical properties of bitumen *(S. Ren, X. Liu, P. Lin & S. Erkens)* • Rheological and chemical characterization on the polymer modified bitumen with different rejuvenators *(P. Lin, X. Liu, S. Ren, S. Erkens & S. Nahar)*	• Rutting depth prediction model of airfield composite pavement *(L. Man, J. Ling, L. Ren, Z. Wang & J. Gao.)* • The benefit of joint heaters for asphalt surface construction *(G. White)* • Study on the seasonal variation and deterioration behavior of the skid resistance performance of asphalt pavement *(Y. He, D. Wang, C. Xing, C. Wang, Q. Tan & B. Hong)* • Field evaluations of nuclear and non-nuclear gauges as alternates to destructive coring for airport asphalt density testing *(G. White & F. Alrashidi)* • Effect of climate region on field oxidative ageing of asphalt pavements using multiphysics modelling approaches *(E. Omairey & Y. Zhang)* • Passing rate difference analysis on dense and stone matrix gradations of asphalt mixtures *(Z. Zhao, J. Li, X. Xiao, Z. Li & F. Xiao)* • Pavement coding method providing high-precision positioning for vehicles *(L. Zhao, H. Zhao, D. Gao & J. Cai)* • Noise absorption and fatigue behavior of prefabricated pavement textures assisted with 3D printing technology. *(S. Wei, Y. Wang & X. Chen)*

TUESDAY(JULY 13)_ Day 2			
	Session number: 7	**Session number: 8**	**Session number:9**
	Warm & cold mix asphalt materials – Part 1	Pavement preservation, maintenance and rehabilitation – Part 1	Smart pavement materials and structures – Part 1
	Moderator: Yuhong Wang Hong Kong Polytechnic University yuhong.wang@polyu.edu.hk	Moderator: Dawei Wang Harbin Institute of Technology dawei.wang@hit.edu.cn	Moderator: Xue Luo Zhejiang University xueluo@zju.edu.cn
09:25-11:45	• Two comprehensive cracking resistance indexes of asphalt mixtures using non-notched semi-circular bending tests *(D. Xu, F. Ni, Z. Zhao & D. Zheng)* • Investigation on influencing factors of moisture susceptibility of warm mix asphalt based on surface free energy *(L. Liu, L. Liu, Y. Yu & L. Sun)* • Viscoelastic finite element modeling of flexible pavement patching *(Y. Lu & R. M. Hajj)* • Computer molecular dynamics simulation study on the asphalt molecular model construction based on time-of-flight mass spectrometry *(K. Hu, C. Yu, D. Wang, Y. Chen & S. Han)* • Study on blending degree of virgin and aged asphalt in hot recycled mixture based on aggregates surface properties *(S. Chen, X. Cai, L. Chen, K. Wu, J. Xie, H. Xiao & H. M. Z. Hassan)* • Laboratory performance assessment of low temperature asphalt mixtures with high recycled materials contents (P. Georgiou & A. Loizos) • Calculation derivation and test verification of indirect tensile strength of asphalt pavement interlayers at low temperatures *(Q. Zhang, Z. Fang, Y. Xu & Z. Ma)*	• Field assessment of rigid pavement stabilization using cementitious grout: case study *(H. Zhao, C. Li, L. Ma & Z. Tao)* • Study on nonlinear behavior of soil-cement based on CTS model *(W. Zhan, X. Yan, Z. Hu, Y. Yu & J. Wang)* • A method for prediction and maintenance planning of multi-lane pavement *(X. Tong, Y. Hou, Y. Dong, Y. Zhang & J. Tian)* • Study on decay behavior of asphalt pavement slip resistance performance *(X. Lin)* • Pavement roughness level classification based on logistic and decision tree machine learnings *(H. Han, T. Zhang, Q. Dong, X. Chen & Y. Wang)* • Towards more realistic accelerated laboratory aging of asphalt samples *(G. White & A. Abouelsaad)* • Effects of curing time on performances of high-viscosity modified asphalt *(M. Li, H. Lu, J. Xu, J. Li & H. Wu)*	• Numerical modelling of fatigue cracking in asphalt mixture using cohesive elements *(A. Chen, G. D. Airey, N. Thom, L. Wan & Y. Li)* • Experimental analysis of piezoelectric transducers applications for energy harvesting pavement *(H. Zhao, C. Li & L. Ma)* • Investigation on bulk material compaction and mixing via real-time sensing technology *(C. Wang, P. Liu, C. Schulze, M. Oeser & J. Friederichs)* • A novel weigh-in-motion system for traffic loads using F-P cavity fiber optical technology *(Z. Bian, H. Zhao, K. Peng & Z. Wang)* • Application of one-third scale accelerated pavement testing (APT) to study the high temperature performance of China Qingchuan rock asphalt modified asphalt *(Y. Ye, C. Zhuang & Y. Wang)* • Research on ice interfacial and mechanical behavior of ski jumping inruns *(Y. Sun, C. Wu & C. Sun)* • Implementation of engineering procurement construction contracting in civil aviation infrastructure pilot projects practice in China *(C. Zhou)*
11:50-13:00	Keynote Address: Prof. Baoshan Huang, University of Tennessee Keynote Address: Prof. Louay Mohammad, Louisiana State University		
	Moderator: Prof. Tom Scarpas, Khalifa University		
	Session number: 10	**Session number: 11**	**Session number: 12**
	Warm & cold mix asphalt materials – Part 2	Pavement preservation, maintenance and rehabilitation – Part 2	Smart pavement materials and structures – Part 2
	Moderator: Evangelos Manthos Aristotle University of Thessaloniki emanthos@civil.auth.gr	Moderator: Zhanping You Michigan Technological University zyou@mtu.edu	Moderator: Yuqing Zhang Aston University y.zhang10@aston.ac.uk
13:05-15:45	• Use of recycled concrete aggregate in cold bituminous emulsion mix *(S. Jain & B. Singh)* • Low-temperature performance test method and improvement measures of emulsified asphalt cold recycling mixture *(Z. Han, Y. Meng, T. Jin, L. Liu & L. Sun)* • Moisture susceptibility evaluation of RAP based foamed bituminous mix *(L. Gupta, R. Kumar, A. Kumar)* • Effect of foaming water on the rheological properties of foamed asphalt binder and compactability of stabilized RAP in cold recycling *(W. Ma, D. Wang & R. West)* • Micro recovery, aging, and performance grading of emulsified asphalt using UPTiM *(A. Mohseni & H. Azari)* • Research on diffusion process of new and old asphalt based on SEM (X. Tian, X. Lu, H. Hu, C. Guo & G. Li) • Low-temperature fracture behaviour of synthetic polymer-fibre reinforced warm mix asphalt *(C. G. Daniel, X. Liu, P. Apostolidis, S.M.J.G. Erkens & A. Scarpas)*	• Verification of the rigid layer depth setting model based on the consistency of backcalculated subgrade modulus *(Y. Hu, L. Sun & G. Zang)* • Research on the trackside concrete reinforcement scheme of small radius curve at junction section of modern tram *(Z. Wang & Z. Lei)* • Predicting the pavement performance: a comparison on traditional and multivariate time series model *(W. Jiang & Q. Dong)* • Research on information management of Airport pavement quality based on BIM and GIS integration *(Z. Liu, X. Gua & L. Wang)* • Study on comprehensive evaluation of pavement condition based on comprehensive integration weighting method and cloud model *(M. Xiao &L. Fan)* • Study on the instantaneous healing characteristic of asphalt under cyclic loading *(L. Zhou, W. Huang, Q. Lv & L. Sun)* • Preliminary field and laboratory investigation on the use of non-contact digital ski sensor as pavement-smoothing technology in the South Korea expressway network *(A. C. Falchetto &K. H. Moon)* • Transport policies in Nigeria: a state of the art review *(M. U. Kolo, A. Dayyabu, A. Oluwatosin & S. U. Chidawa)*	• *A surface induced, Internet of Things (IoTS) powered porous pavement system* *(Y. Wang)* • Utilization of PEG/SiO2 phase change composite to regulate open-graded friction course temperature *(J. Chen & X. Shi)* • Lightweight design for smart precast concrete pavement based on topology optimization method *(H. Chen, H. Zhao & X. Fu)* • Characterization of aggregate packing using digital image analysis *(V.T. Thushara, U. Chakkoth & J. M. Krishnan)* • Strain sensing behavior of epoxy composites with nano/micro hybrid CNT/GNP and CNT/CB for asphalt road in situ strain monitoring *(M. Liang, Z. Qiu, L. Su & Y. Rong)* • Recycling of waste glass fiber reinforced polymer (GFRP) power as alternative filler for asphalt mastics *(J. Lin, B. Hong, T. Li, D. Wang, Z. Fan & S. Leischner)* • Estimate of VOCs release amount from asphalt pavement within its full life cycle *(X. Chang & Y. Xiao)* • Quantifying the accuracy of roller segmented compactor in simulating field compaction *(P. D. Cheyyar Nageswaran, S. R. Miller, F. Bijleveld & N. Poeran)*

WEDNESDAY(JULY 14)_Day 3			
	Session number: 13	**Session number: 14**	**Session number: 15**
	Eco-efficiency pavement materials – Part 1	Mechanical characterization	Pavement monitoring and big data analysis – Part 1
	Moderator: Tao Ma Southeast University matao@seu.edu.cn	Moderator: Yue Xiao Wuhan University of Technology xiaoy@whut.edu.cn	Moderator: Xingyi Zhu Tongji University zhuxingyi66@tongji.edu.cn
09:25-11:45	• Study on performance of reclaimed rubber modified asphalt by lubricant by-products *(P. Kong, G. Xu, J. Yang & X. Chen)* • An overview of the heat exchanging asphalt layer prototype: a case study *(T. Ghalandari, L. Verheyden, N. Hasheminejad, R. Baetens, W. Van den bergh & C. Vuye)* • Experimental study on basic properties of basalt fiber reinforced concrete *(L. Yu, X. Li & L. Bao)* • Research on strength and microstructure of fibre foamed concrete *(T. Qiu, C. Xing, Y. Tan, J. Xu, X. Liu, L. Wang, Y. Wang, C. Chen & L. Zhao)* • Influence of red mud filler on the fatigue behaviour of bituminous mastic (M. Chaudhary, N. Saboo, A. Gupta & M. Miljković) • Effect of carbon nanofibers on mechanical and microstructural properties of geopolymer based on lunar regolith simulant *(R. Zhang, S. Zhou, Z. Yang & F. Li)* • A temperature-independent methodology for bitumen modification evaluation based on DSR measurement *(Q. Liu, H. Wang, J. Wu, M. Oeser)*	• Energy-based characterization of the fatigue crack density evolution of asphalt binders through controlled-stress fatigue testing *(C. Shi, X. Cai, T. Wang, X. Yi & J. Yang)* • Damage mechanism in asphalt binder time sweep test from the perspective of failure appearance *(Z. Zhang, Q. Liu, P. Liu & M. Oeser)* • Wetting deformation characteristics of granite residual soils and the micro-mechanism *(Z. Wang, J. Ling, Z. Bian & L. Man)* • Evaluation of rutting performance of high modulus asphalt mixture based on the modulus index *(H. Zhang, M. Zhang, Y. Guan ,G. Huang, Y. He, J. Zhang)* • Modeling and characterizing the mesomechanical behavior of asphalt mixture with random aggregate distribution: a coupled topological-numerical method *(C. Du, P. Liu & M. Oeser)* • Research on morphological characteristics of coarse aggregates based on image processing *(R. Jiang, X. Zhou, M. Ran, Z. Zhao, Y. Yan & J. Guan)* • Non-linear modeling of the influence of rest period on healing behavior of asphalt concrete mixtures *(N. Roy, V. Chowdary, U. Saravanan & J. M. Krishnan)*	• A thermal digital twin for condition monitoring of asphalt roads *(L. Barisic, E. Levenberg, A. Skar, A. Boyd & P. Zoulis)* • Big data in roads and pavements: insights from a bibliometric study and a critical review of recent publications *(S. Bhat & S. N. Suresha)* • 3D texture reconstruction of asphalt pavement based on MATLAB *(Q. Chen, F. Peng & M. Zhang)* • 3D textural fractal characterization and its correlation with the skid resistance of asphalt pavement *(W. Xiong, A. Liu & M. Zhang)* • Damage fracture characterization of asphalt mixtures under freeze-thaw cycles based on acoustic emission monitoring *(L. Fu, W. An & X. Chen)* • Microscale morphology observation of bitumen: A comparison of atomic force and confocal laser scanning microscopy. *(J. Blom & H. Soenen)* • Research on prediction model of asphalt pavement subsidence development based on Back Propagation Neural Network *(M. Xiao & S. Qian)*
11:50-13:00	Keynote Address: Dr. Lily Poulikakos, Empa Keynote Address: Prof. Hongduo Zhao, Tongji University Moderator: Dr. Xueyan Liu, Delft University of Technology		
	Session number: 16	**Session number: 17**	**Session number: 18**
	Eco-efficiency pavement materials – Part 2	Safety technology for smart roads	Pavement monitoring and big data analysis – Part 2
	Moderator: Pengfei Liu RWTH Aachen University liu@isac.rwth-aachen.de	Moderator: Katerina Varveri Technical University of Delft a.varveri@tudelft.nl	Moderator: Eyal Levenberg Technical University of Denmark eylev@byg.dtu.dk
13:05-15:25	• A preliminary approach for comparative life cycle assessment of flexible and rigid pavements - a case study *(B. S. S. Varun, J. Choudhary & A. Gupta)* • Reduction of accumulated plastic deformations in bases courses *(L. Vollmert)* • The fatigue life extension prospect of calcium alginate capsules in porous asphalt *(S. Xu, X. Liu, A. Tabaković & E. Schlangen)* • Influence of the characteristics of the aggregate on the fatigue performance of the epoxy asphalt mixture *(G. Zeng, H. Huang & M. Zhou)* • Investigation of fog seal with waterborne thermosetting materials in airport pavement *(L. Xu & F. Xiao)* • Microstructural and rheological analysis of crumb rubber modified bitumen *(J. B. Borinelli, J. Blom, G. Jacobs, D. Hernando, W. van den bergh & C. Vuye*) • Towards lower enviromental-impact of asphalt materials with lower VOCs release *(Y. Xiao*)	• Monitoring-based maintenance decision-making models for subgrade settlement *(Z. Duan, C. Gui &Y. Hou)* • Analysis of compensatory driving behavior under fog weather conditions *(Y. Zhang, Z. Guo, B. Zhu, Z. Fan & H. Zhang)* • Three-dimensional flow simulation of Open Graded Friction Course's permeability *(S. Zhang, O. Elkhateeb & H. Feng)* • Development of a tire-pavement friction model incorporating the water effect *(J. Cai, H. Zhao, X. Qian, Z. Du & L. Zhao)* • Research on load effect based on bridge pavement repairing of the old bridge *(M. Xiao, S. Qian & C. Wang)* • Evaluating the driving safety of highway based on the differential water film analysis *(X. Gong, Y. Geng, Y. Ma & X. Chen)* • Measurement, modeling and validation of skid resistance of asphalt concrete pavement: Laboratory to field literature review *(A. Kumar, A. Gupta & K. Anupam)*	• A multi-objective optimization model on taxiing mode selection and aircraft stands allocation for closely spaced parallel runway *(J. Ling, Y. Fang, X. Li & G. Wang)* • Taxiing aircraft monitoring through pavement vibration sensing *(Z. Bian, K. Peng, H. Zhao & M. Zeng)* • Effectiveness rejuvenation in Porous asphalt *(M. Moenielal, D. van Vliet, W.L.C. van Aalst, J.W.F. van der Kemp, P. The & A. Varveri)* • Classification of roughness for asphalt pavement resurfacing treatments based on SVM-KNN machine learning algorithm using LTPP data *(L. Wang, T. Zhang, Q. Dong & W. Jiang)* • Morphology characterization of aggregate with 3D curvature analysis *(F. Wang & Y. Xiao)* • Evolution rule of dynamic response of asphalt pavement under lateral movement test by MLS66 *(C. Wu, Y. Huang, B. Zheng, R. Cao, X. Gu & H. Ren)* • Investigating vibration characteristics at concrete pavement joints using distributed optical fiber sensors *(Z. Bian, M. Zeng, H. Zhao, H. Chen & K. Cheng)*
15:30-15:50	Closing session Moderator: Dr. Xueyan Liu, Delft University of Technology; Xingyi Zhu, Tongji University		
THURSDAY(JULY 15)_Day 4			
09:25-12:25	Workshop 1: Vehicle-road interaction and driving safety: towards a Connected, Coordinated and Automated Road Transport Organizer: Prof. L. Sun & Prof. J. Ling Affiliation: Tongji University, China	Workshop 2: Shaping a sustainable future for asphalt pavements Organizer: Prof. A. Cannone Falchetto & Dr. D. Wang Affiliation: Aalto University, Finland & Technical University of Braunschweig , Germany	Workshop 3: Fast Moving Loading Big Data and Standards of Mobile Load Simulator(MLS) Organizer: Yuchen Wang, Affiliation:
12:30-15:30	Workshop 4: Changes in binder properties and the role of additives Organizer: Dr. S.N. Nahar & Dr. X.Liu Affiliations: TNO & Delft University of Technology, the Netherlands	Workshop 5: Smart pavement – vehicle monitoring, tools and technics for functional pavement. Organizer: Prof. T. F. Fwa & Dr. A. Kumar Affiliation: Chang'an University, China & Delft University of Technology, the Netherlands	