

# 2025 INTERNATIONAL CONFERENCE FOR ROAD ENGINEERS

by **Korean Society of Road Engineers**

## Program Book

September 23 to 26, 2025

Booyoung Hotel & Resort Jeju, Korea





# Welcome Message



**Cheolwoo PARK**

Chair of ICRE 2025  
and President of KSRE



**Hanseon CHO**

Chair of the  
Organizing Committee

It is with great pleasure that we host the 2025 International Conference for Road Engineers (ICRE 2025). The ICRE 2025 is held from September 23 to September 26, 2025 at wonderful Jeju Island in Korea. This event is organized by the Korean Society of Road Engineers (KSRE) and is sponsored by the Ministry of Land, Infrastructure and Transport of Korea, Jeju Special Self-Governing Province, Korea Expressway Corporation, Korea Institute of Civil Engineering and Building Technology, and Korea Transport Institute. Specialists and experts from all over the world in the field of road engineering participate in this conference. The ICRE 2025 is designed to provide a forum for road and transportation engineers to share knowledge about state-of-the-art research technologies and experiences. General topics include pavement, road infrastructure, highway, and transportation. The ICRE 2025 is filled with presentations, workshops, technical tours, an exhibition of industry suppliers, as well as opportunities for social gatherings. We sincerely thank you for your participation and we hope you enjoy the conference.

# Conference Committee

## Conference Chair

**Cheolwoo PARK** *Chairman* Kangwon National University

## Chair of the Organizing Committee

**Hanseon CHO** The Korea Transport Institute

**Do-Gyeong KIM** University of Seoul

## Local Scientific & Organizing Committee

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- Dae-Wook PARK Kunsan National University
- Yeon-Su SONG Bau Consultant
- Ho-Cheol PARK Myongji University
- Jin-Tae KIM Korea National University of Transportation
- Junyoung PARK Korea Expressway Corporation Research Institute
- Yuhwa LEE Korea Institute of Civil Engineering & Building Technology
- Jong-Hoon LEE The Korea Transport Institute

### Academic Committee

- Byoung Hooi CHO Kyung Hee University
- Seunghyeon LEE University of Seoul
- Shin-Hyung CHO Hongik University
- Shin Haeng JO SG Corporation
- Jun LEE The Korea Transport Institute
- Jae-Joon LEE The Korea Transport Institute
- Sangyum LEE Induk University

## Program Committee

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• Jae-Hong JUNG	HJ Shipbuilding & Construction Co., Ltd.
• Youngsoo JANG	Hyundai Development Company
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• Yoonsung CHOI	Yunseong Industrial Development Co., Ltd
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• Yeong-min KIM	Korea Institute of Civil Engineering & Building Technology

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• Cheolmin BAEK	Korea Institute of Civil Engineering & Building Technology
• Seunghyun HAN	Korea Institute of Civil Engineering & Building Technology
• Hoe Kyoung KIM	Donga University
• Oh Sun KWON	Korea Expressway Corporation Research Institute

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• Won-kyong JUNG	Korea Construction Quality Test Institute
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• Myoung-Hwan CHO	Dohwa Engineering Co., Ltd.
• Min-Kyu CHOI	Dasan Consultants Co., Ltd.

## Special Session Committee

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• Hyung-Bae KIM	Korea Expressway Corporation Research Institute
• Jaehyun SO	Ajou University
• Seung Tae LEE	Kunsan National University
• Seunghee PARK	Sungkyunkwan University
• Dong-Hyung YOOK	Gangneung-Wonju National University
• Soon Yong PARK	Seoul Institute
• Ji-Whan AHN	Korea Institute of Civil Engineering & Building Technology
• Sang-Yeop KIM	Jeonbuk Institute
• Chandle CHAE	The Korea Transport Institute

## Tue. September 23

17:00~18:30

**Welcome Reception**

## Wed. September 24

12:00~	<b>Registration</b>			
13:15~13:30	<b>Opening Ceremony of Exhibition Booth</b>			
13:30~14:00	<b>Opening Speech</b>			
	• Cheolwoo PARK	President / Korean Society of Road Engineers		
	<b>Welcome Speech</b>			
13:30~14:00	• Young-Hun Oh	Governor of Jeju Special Self-Governing Province		
	<b>Congratulatory Speech</b>			
	• Young-Chan Kim	President, Korea Transport Institute		
	• Myeong-Su Son	Member of the National Assembly		
14:00 ~14:40	• Seong-Gon Wi	Member of the National Assembly		
	• Keon-Tae Park	Technical Vice President, Korea Expressway Corporation		
	<b>Keynote Speech</b>			
	“Adaptive Machine Learning for Real-Time Microscopic Traffic Simulation Under Disruptions: From Theory to Deployment in Ho Chi Minh City Corridors”			
	• Dong Ngoduy	Associate Professor / Monash University, Australia		
14:40~15:20	<b>Keynote Speech</b>			
14:40~15:20	“Blow-up of Jointed Concrete Pavements”			
	• Seung Woo Lee	Professor / Gangneung-wonju University, Korea		
15:20~16:00	<b>Poster Session</b>	<b>Coffee Break</b>		
16:00~18:00	<b>Emerald A</b>	<b>Emerald B</b>	<b>Board Room1</b>	<b>Board Room3</b>
	<b>Oral Presentation 〈Session A〉</b>	<b>Oral Presentation 〈Session B〉</b>	<b>〈Special Session 1〉</b>	<b>〈Special Session 2〉</b>
	Advanced & Sustainable Construction Materials	Transportation Engineering and Safety	Improvement the Road Infrastructure Investment Evaluation System	The Role of Transportation in Disaster Situation for the Establishment of a Disaster Prevention transport System
18:00~19:00	<b>Banquet</b>		<b>Sapphire room</b>	

## Thu. September 25

09:00~09:40	<div style="background-color: #f4a460; padding: 2px; display: inline-block; margin-bottom: 5px;"><b>Keynote Speech</b></div> <p>“Advancements in Pavement Preservation in the USA.”</p> <p>• <b>DingXin Cheng</b> Professor / California State University, USA</p>		
09:40~10:20	<div style="background-color: #f4a460; padding: 2px; display: inline-block; margin-bottom: 5px;"><b>Keynote Speech</b></div> <p>“Early-age behaviour of Partially Continuous Reinforced Concrete Pavement: A full scale field investigation”</p> <p>• <b>Xiao Zhang</b> Professor / Taiyuan University of Technology, China</p>		
10:30~12:30	<b>Emerald A</b> Oral Presentation 〈Session C〉 AI & Digital Technologies for Road Engineering	<b>Emerald B</b> Oral Presentation 〈Session D〉 Asphalt Concrete Pavement	<b>Board Room1</b> 〈Special Session 3〉 Strategies for Road Traffic Improvement to Support Commuting in Seoul Metropolitan Area
12:30~13:30	<b>Luncheon</b> <span style="background-color: #00b0f0; padding: 2px 10px; color: white;">Diamond Restaurant, Hotel 1F</span>		
13:30~15:00	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="background-color: #f4a460; padding: 2px; display: inline-block; margin-right: 10px;"><b>Keynote Speech</b></div> <div style="background-color: #008080; color: white; padding: 2px; display: inline-block;"><b>Emerald A</b></div> </div> <p>“Study on the Pavement Performance of Red Mud-Fly Ash Stabilized Coal Gangue Mixtures for Road Base Applications”</p> <p>• <b>Yang Gao</b> Professor / Taiyuan University of Technology, China</p>		
15:00~15:30	<b>Emerald A</b> Oral Presentation 〈Session E〉 Cement Concrete Pavement-I	<b>Emerald B</b> Oral Presentation 〈Session F〉 Traffic Operations and Smart Mobility	<b>Board Room3</b> 〈Special Session 5〉 Strategies for maximizing Co-Benefits in PPP Highway
15:30~17:30	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="background-color: #4b0082; color: white; padding: 2px 10px; margin-right: 10px;"><b>Poster Session</b></div> <div style="background-color: #4b0082; color: white; padding: 2px 10px;"><b>Coffee Break</b></div> </div>		
15:30~17:30	<b>Emerald A</b> Oral Presentation 〈Session G〉 Cement Concrete Pavement-II	<b>Emerald B</b> Oral Presentation 〈Session H〉 Smart & New Pavement Technologies	

## Fri. September 26

09:00~14:00	<div style="background-color: #f08080; padding: 10px; display: inline-block;"> <b>Technical Tour of Jeju Island</b> </div>
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## Plenary Keynote Speech



14:00~ 14:40 September 24<sup>th</sup>, Wednesday **Emerald A**

### **Dong Ngoduy**

Associate Professor, Monash University, Australia

“Adaptive Machine Learning for Real-Time Microscopic Traffic Simulation Under Disruptions: From Theory to Deployment in Ho Chi Minh City Corridors”



14:40~ 15:20 September 24<sup>th</sup>, Wednesday **Emerald A**

### **Seung Woo Lee**

Professor, Gangneung-wonju University, Korea

“Blow-up of Jointed Concrete Pavements”

## Oral Presentation

Session

**A**

### **Advanced & Sustainable Construction Materials**

16:00~ 18:00, September 24<sup>th</sup>, Wednesday **Emerald A**

Session Chair : Junghun Lee / Director, Roadkorea Inc.

- A1.** Research on Physical, Mechanical Properties and Durability of Nanobubble Concrete Using Carbon allotropes Material  
— ChangSeok Song, TaeHo Ha, KyongKu Yun
- A2.** Analysis of Freeze-Thaw Resistance of Concrete Mixed with Nanobubbles and Silica Types  
— DongUk Jeon, ChangSeok Song, KyongKu Yun
- A3.** Applicability of CLSM to fly ash mortar and hardening monitoring technique using stress waves  
— Ho Young Lee, Ju Hoon Kim, Jin woo An, BooHyun Nam, ByoungHooi Cho

- A4.** Effects of CO<sub>2</sub>-Nano Bubble Water and Natural Fibers on Rebound Reduction and Shrinkage Behavior in Shotcrete  
— MinGyu Gwak, TaeHo Ha, ChangSeok Song, KyongKu Yun
- A5.** Evaluation of material properties of mortar using CO<sub>2</sub> and O<sub>2</sub> nanobubbles with ultrafine mineral admixtures  
— DaeYoung Jang, TaeHo Ha, ChangSeok Song, KyongKu Yun
- A6.** Basic research on securing durability and adhesion performance of bridge slab bottom section repair using dry shotcrete  
— DongHyoek Kim, MinGyu Gwak, Changseok Song, KyongKu Yun

## Session

## B

## Transportation Engineering and Safety

16:00 ~ 18:00, September 24<sup>th</sup>, Wednesday **Emerald B**

**Session Chair :** **Jongwoo Lee** / Associate Research Fellow, Korea Transport Institute  
**Shin-Hyung Cho** / Assistant Professor, Hongik University

- B1.** Road Users' Survey on Passenger Cars Only High-Speed Expressways  
— Zion Park, Yusung Min, Gunwoo Lee, Cheol Oh, Minchul Kim, Hyeongmin Lee
- B2.** Estimating Vehicle Emissions in Urban Underground Roads  
— Yusung Min, Joonha Kim, Jiwon Kim, Gunwoo Lee, Jaeyeob Shim
- B3.** Incorporating Residual Value into Road Project Feasibility Study Guidelines  
— Joonha Kim, Byongchan Shin, Gunwoo Lee, Jaeyeob Shim, Jaeguk Kim
- B4.** Measuring Users' Willingness to Pay for High-speed Expressway in Korea  
— Zion Park, Byongchan Shin, Gunwoo Lee, Cheol Oh, Jungsik Kong, Kyuyeol Lee
- B5.** Simulation Analysis of Temperature Distribution in Concrete Structure under Fire Conditions  
— Topendra Oli, Abidemi Bashiru Folorunsho, Changheon Lee, Cheolwoo Park, Seungwon Kim
- B6.** A Network Structural Analysis of Congested Roadways in Seoul  
— Minyeong Lee, Jonghoon Lee

## Special Session

# 1

## Improvement the Road Infrastructure Investment Evaluation System

16:00 ~ 18:00, September 24<sup>th</sup>, Wednesday **Boardroom 1**



Presiding by **Ki-Young Lee**

Research Fellow, Korea Expressway Corporation, Korea



**Jong-Hoon Lee**

Associate Research Fellow, Korea Transport Institute, Korea

“Issue for Feasibility Study in Road Projects”



**Chan-Dle Chae**

Senior Research Fellow, Korea Transport Institute, Korea

“Enhancing Social Benefit Unit Values and Exploring Additional Indicators”



**Gun-Woo Lee**

Associate professor, Hanyang University, Korea

“Improving the Investment Evaluation Guidelines for Underground Roads”

**Welcome Banquet**

18:00~19:00, September 24<sup>th</sup>, Wednesday  
**Sapphire Room**

## Special Session

### 2

## The Role of Transportation in Disaster Situation for the Establishment of a Disaster Prevention transport System

16:00PM ~ 18:00, September 24<sup>th</sup>, Wednesday **Boardroom 3**



Presiding by **JeJin Park**

Associate Professor, Chonnam National University, Korea

Theme : The Role of Transportation in Disaster Situation for the Establishment of a Disaster Prevention transport System



**Jun Lee**

Research Fellow, Korea Transportation Institute, Korea

“Demonstration of Disaster Evacuation Simulator Program”



**SangJo Lee**

Researcher, Korea Transportation Institute, Korea

“The Case of Wildfires and The Connection of Emergency Transportation System”



**ChangHun Kim**

Researcher, Korea Transportation Institute, Korea

“Characteristics of Risk Factors and Human Factors for Railroad Workers”



Discussion by **Baek Nam**

Technical Director, LGU+, Korea

(Research Keywords) Autonomous Vehicle, ITS

## Plenary Keynote Speech



09:00~09:40 September 25<sup>th</sup>, Thursday **Emerald A**

### **DingXin Cheng**

Professor, California State University, USA

“Advancements in Pavement Preservation in the USA”



09:40~10:20 September 25<sup>th</sup>, Thursday **Emerald A**

### **Xiao Zhang**

Professor, Taiyuan University of Technology, China

“Early-age behaviour of Partially Continuous Reinforced Concrete Pavement: A full scale field investigation”

## Oral Presentation

Session

**C**

### **AI & Digital Technologies for Road Engineering**

10:30~12:30, September 25<sup>th</sup>, Thursday **Emerald A**

Session Chair : **Ki hoon Moon** / Principal Researcher,  
Korea expressway corporation research division

- C1.** Pavement Concrete Strength Prediction using Advanced Ensemble Learning and Explainable AI (XAI)  
— Yonathan Alemu Yami, Eskndir Getachew Denu, Ivan Jan Urbino, Yoon-Ho Cho
- C2.** Response Surface Optimization and Microstructural Property of CH, SBC, and SC Activated Solid Waste Based Materials  
— Xiaohui Chang, Xiao Zhang, Jiayao Shi
- C3.** Advanced Pavement Evaluation Using the Traffic Speed Deflectometer  
— Magnus Jorgensen
- C4.** Reliability of ChatGPT-Generated Data for Machine Learning Prediction of Biochar Concrete Compressive Strength  
— Abidemi Bashiru Folorunsho, Hyungseok Kim, Minseo Baek, Cheolwoo Park, Seungwon Kim

- C5.** Multimodal Sensing-Based Automated Highway Pavement Monitoring Using Non-Dedicated Vehicle Sensors  
— Bomi Kim, Yichan An, Jinwoo Lee
- C6.** A Graphomer3D Model with Supergraph for Asphalt Binder Property Prediction  
— Taeyoung Yun, Seunghyun Roh
- C7.** A computer-vision study on automatic pothole detection and area estimation using deep learning model  
— Junwoo Shin, Adheena Salim Anitha, Boohyun Nam, Byounghooi Cho

## Session

### D

## Asphalt Concrete Pavement

10:30 ~ 12:30, September 25<sup>th</sup>, Thursday **Emerald B**

**Session Chair : Jongsub Lee** / Principal Researcher,  
Korea Expressway Corporation Research Institute

- D1.** Performance evaluation of asphalt mixture containing recycled glass grid asphalt pavement  
— Islam Md Sohikul, Jung-Woo Seo, Chae-Been Lee, Sang-Heok Moon, Dae-Wook Park
- D2.** Evaluating the Effectiveness and Economic Viability of Double-Layer Porous Asphalt Pavement for Noise Reduction and Safety Enhancements  
— MD Nasim Sarkar, Byeong Chae Kim, Kyu-Dong Jeong, Sang-Hyeok Moon, Dae-Wook Park
- D3.** Integrated Evaluation of Performance and Life Cycle Costs of Polymer-Modified Guss Asphalt  
— MD Nasim Sarkar, Si-Hwan Kim, Chae-Been Lee, Dae-Wook Park
- D4.** Investigation the performance of glass fiber integrated with interlayer grid  
— Islam Md Sohikul, Tam Minh Phan, Hye-Ju Ma, Nguyen Quoc Anh, Dae-Wook Park
- D5.** EcoCap and the Evolution of Circular Binder Technologies in Asphalt Engineering  
— Seokhong Lee, Brent Steiger
- D6.** Effect of Air Void Content on the Physical Properties of Low-Noise and Porous Asphalt Mixtures  
— Hyuk-Joo Kim, Jin-Hoon Jeong
- D7.** Development and Application of Advanced Trackless Emulsified Asphalt for Tack Coat  
— Hyunjoon Choi, Soonman Cha, Junseong Jang

## Special Session

### 3

## Strategies for Road Traffic Improvement to Support Commuting in Seoul Metropolitan Area

10:30 ~ 12:30, September 25<sup>th</sup>, Thursday **Boardroom 1**



Presiding by **Jeong-Bok Yu**

Senior Research Fellow, Korea Transport Institute, Korea



**Jong-Hoon Lee**

Associate Research Fellow, Korea Transport Institute, Korea

“Current Status and Issues of Underground Roads in Seoul Metropolitan Area”



**Han-Byul Jang**

Research Fellow, Korea Transport Institute, Korea

“Current Status and Challenges of Road Construction and Maintenance Investments by the Central and Local Governments”

## Special Session

### 4

## Digital Twin-based Urban Demonstration and Policy Evaluation for Autonomous Driving

10:30 ~ 12:30, September 25<sup>th</sup>, Thursday **Boardroom 3**



**Chan-dle Chae**

Senior Research Fellow, The Korea Transport Institute, Republic of Korea

“Digital Twin Implementation in Hwaseong City under the National Autonomous Driving Innovation Project”



**So-jin Han**

Researcher, The Korea Transport Institute, Republic of Korea

“Digital Twin Utilization Plans for Autonomous Vehicle Traffic Management and Policy Evaluation”

## Plenary Keynote Speech



13:30~14:00 September 25<sup>th</sup>, Thursday **Emerald A**

### Yang Gao

Professor, Taiyuan University of Technology, China

“Study on the Pavement Performance of Red Mud-Fly Ash Stabilized Coal Gangue Mixtures for Road Base Applications”

## Oral Presentation

### Session

# E

### Cement Concrete Pavement-I

14:00~15:30, September 25<sup>th</sup>, Thursday **Emerald A**

Session Chair : **Beom Jun Jeon** / Research Fellow, The Seoul Institute

- E1.** Sensitivity Analysis of the PGBA Model for Pavement Blow-up Prediction  
— Hui Rak Ahn, Young Kyu Kim, Kyung Bae Lee, Seung Woo Lee
- E2.** Reanalysis of the Design Logic for KPRP-Based Jointed Concrete Pavement and Proposal for Future Improvements  
— Heewon Kwon, Ki Hoon Moon, Ki Yung Song, Jin-Hoon Jeong
- E3.** Field Investigation of Damage Types in Precast Concrete Pavements at Central Bus Stops  
— Geon Lee, Soon Ho Baek, Kang In Lee, Sang Jin Kim, Han Jin Oh, Gyeonghoon Ma, Seong-Min Kim
- E4.** Experimental Analysis of Curling Behavior of Continuously Reinforced Concrete Pavement at Central Bus Stop  
— Kang In Lee, Soon Ho Baek, Sang Jin Kim, Sang Cheol Park, Seong-Min Kim
- E5.** Effect of Surface Texture on IRI Measurements Using Line Scan and Point Spot Laser Profilers  
— Hojun Yoo, Soonmin Kwon, Jaehoon Lee, Sungwoo Ryu, Junghun Lee, Heeyoung Park

## Oral Presentation

Session

F

### Traffic Operations and Smart Mobility

13:30 ~ 15:00, September 25<sup>th</sup>, Thursday, **Emerald B**

Session Chair : **Soon-Yong Park** / Research Fellow, The Seoul Institute  
**Jong-Hoon Lee** / Associate Research Fellow, Korea Transport Institute

- F1. Assessing Socioeconomic Influences on the Waiting Time of Mobility Services for Vulnerable Populations : A Spatial Analysis of Administrative Districts  
— Jieun Kwon, Do-kyeong Kim
- F2. Development and Evaluation of V2I-based Vehicle Idling Control System  
— Junhwi Lee, Soyun Kim, Jihyo Jung, Hoe Kyoung Kim
- F3. Spatial Analysis of Urban Cycling Networks: A Univariate LISA Approach  
— Jiwon Kim, Zion Park, Joochan Lee, Gunwoo Lee
- F4. Utilization of Real-Time Signal Information for Crosswalk Navigation by Sidewalk Robots  
— Minsu Kwon, Seungchul Lee
- F5. Approach to Correcting Latency in Real-Time Traffic Signal Information  
— Lee Seungcheol, Kwon Soonil
- F6. Analysis of Traffic Law Violation Characteristics in Relation to the Provision of Real-Time Traffic Signal Information  
— Lee Seungcheol, Kwon Soonil, Kim Yongjun

## Special Session

### 5

## Strategies for maximizing Co-Benefits in PPP Highway

13:30~15:00, September 25<sup>th</sup>, Thursday **Boardroom 3**



Host **Hyun-jung Lee**

Research Specialist, KOTI,  
Korea



Presenter **Yun-ji Cho**

Research Specialist, KOTI, Korea

“Study on the development of a  
ex-post evaluation methodology  
for PPP roads”



Presenter **Eun-su Jun**

Associate Research Fellow,  
KOTI, Korea

“Climate Change Mitigation and  
Adaptation Measures in PPP  
Highway”



Moderator

**Jee-hyung Park**

Senior Research Fellow, KOTI,  
Korea



Panellist

**Han-byeol Jang**

Research Fellow, KOTI, Korea



Panellist

**Bumjoon Bae**

Assistant Professor,  
Pusan National University,  
Korea



Panellist

**Dong-hyung Yook**

Assistant Professor,  
Gangneung-Wonju National  
University, Korea



Panellist

**Woohyun Chung**

Head, Preliminary Feasibility  
Study Unit, Korea Development  
Institute, Korea

## Oral Presentation

Session

G

### Cement Concrete Pavement-II

15:30~17:30, September 25<sup>th</sup>, Thursday, **Emerald A**

Session Chair : **Jeonghee Nam** / Research Fellow  
Korea Institute of Civil Engineering & Building Technology

- G1.** Analysis of Differential Shrinkage Behavior in Large-Scale Concrete Specimens  
— Jae-Hoon Lee, Seung Ho Hong, Keon Park, Jin-Hoon Jeong
- G2.** Performance Analysis of Korean Pavement Research Program(KPRP) Continuously Reinforced Cement pavement(CRCP) Considering Zero Stress Temperature and Climate Change  
— Jong-Yun Lee, Ki Hoon Moon, Keon Park, Jin-Hoon Jeong
- G3.** Mitigating Early-Age Cracking in GFRP-Reinforced Concrete Using Fiber Reinforcement  
— Abidemi Bashiru Folorunsho, Changheon Lee, Cheolwoo Park, Seungyeon Han, Seungwon Kim
- G4.** Evaluating the Effectiveness of Admixtures in Controlling Plastic Shrinkage Cracks  
— Abidemi Bashiru Folorunsho, Minsung Kim, Yeryoung Han, Cheolwoo Park, Seungwon Kim
- G5.** Improvement of Elements of Precast Continuously Reinforced Concrete Pavement  
— Soon Ho Baek, Kang In Lee, Sang Jin Kim, Seok Hyeon Kim, Seong-Min Kim
- G6.** Concept of Temporary Traffic Overbridge System for Concrete Pavement Construction  
— Sang Jin Kim, Soon Ho Baek, Kang In Lee, Geon Lee, Seong-Min Kim
- G7.** Evaluation of Durability of Latex-Modified Concrete treated with Next Generation Concrete Surface  
— JoonMo Lee, TaeHo Ha, KyongKu Yun

## Oral Presentation

### Session

# H

## Smart & New Pavement Technologies

15:30 ~ 17:30, September 25<sup>th</sup>, Thursday, **Emerald B**

Session Chair : **SungWoo Ryu** / Principal Researcher, Korea Expressway Corporation

- H1.** Influence of Water Film Thickness on Pavement Friction and the Design of Stopping Sight Distance and Radius of Curvature  
— Yein Choi, Youngkyu Kim, Seungwoo
- H2.** A Comparative Analysis of FAA Airport and Korean Road Asphalt Guidelines for Informing Standards in Domestic Civilian Airports  
— Seung Yeon Shin, Ki Yung Song, Seok Cheol Son, Jin-Hoon Jeong
- H3.** Analysis of the Impact of Different Definitions of Gradient (GR) on the Estimation of Vehicle-Pavement Interaction (PVI)  
— Hyuk-Ju Kang, Seung-Hwan Han, Keon Park, Jin-Hoon Jeong
- H4.** Estimation of Highway Geometric Features from Digital Elevation Models and Node-Link Data  
— Ji Ho Choi, Ki Yung Song, Seok Cheol Son, Gyeong Hyeon Noh, Se Yeon Kim, Jin-Hoon Jeong
- H5.** Carbon Emission Assessment of Asphalt Pavements by GHG Protocol Scopes  
— Jong-Yoon Choi, Seung-Hwan Han, Keon Park, Jin-Hoon Jeong
- H6.** Design and Construction for Symbolical and Central Ring-Road In Saemangeum Region  
— Ji Nam Yoon, Jeong Keun Oh, Myung In Choi, Dowan Kim
- H7.** Performance Assessment of Road Dust Suppressants on PM10 Re-suspension under Varying Surface and Environmental Conditions  
— Hojun Yoo, Jeongyeon Cho, Sungjin Hong, Junga Kim, Intai Kim

# Poster Presentation

Place **Woojung Hall Lobby**

10:00, September 24<sup>th</sup>, Wednesday~17:30, September 25<sup>th</sup>, Thursday

Session Chair : **Intae Kim** / Professor, Myongji University

**Byoung Hooi Cho** / Professor, Kyung Hee University

**Han Jin Oh** / Research Fellow, The Seoul Institute

## New technologies, methods and techniques in road engineering

- P1.** Performance Evaluation of a Simulated Pavement Surface Icing Environmental Facility  
— Deoksoon An, Donghyuk Jung, Sunglin Yang
- 
- P2.** Scenario-Based Analysis of the Applicability of Mobile Asphalt Plant for Different Road Maintenance  
— Yeongmin Kim, Carlo Elipse
- 
- P3.** Development of an Automated Aggregate Gradation System for the Establishment of Smart Asphalt Laboratory  
— Carlo Elipse, Jewon Kim
- 
- P4.** Persuing a proactive expressway management strategy by means of thermal sensing technology  
— Ki Hoon Moon, Deuck Su Sohn
- 
- P5.** Application of AI technology on pavement: persuing for automated HPMS(Highway Pavement Management System)  
— Ki Hoon Moon, Deuck Su Sohn
- 
- P6.** Evaluation of the pore structure of hardened cement paste treated with a strontium-based solution using MIP and micro-CT scanning  
— Byoung Hooi Cho, Ho Young Lee, Chaewon Lee, Geon Lee, Boo Hyun Nam

## Asphalt Concrete Pavement

- P7.** Evaluation of Thermal Performance of ePCMs Incorporated Asphalt Mixtures in Subzero Climates  
— Xinghan Jin, Jongwon Lee, Cheolmin Baek
- 
- P8.** Sustainable Road Solutions: Localization of Warm Mix Asphalt Using RAP for Road Construction in Vietnam  
— Byungsik Ohm, Carlo Elipse
- 
- P9.** Application of HIPR Technology and Multimodal Dispersion Control for the Production of High-Solid-Content Asphalt Emulsions  
— Jongwon Lee, Sunclin Yang
- 
- P10.** Assessment of Pavement Type-Dependent Road Noise on Korea Expressway  
— Kim Kyungnam, Kim Jinhwan, Kwon Ohseon, Lee Jongseob, Lee Youngju
- 
- P11.** Evaluation of Reflective Cracking Resistance in Asphalt Overlay  
— Kim Kyungnam, Kim Jinhwan, Kwon Ohseon, Lee Jongseob
- 
- P12.** Evaluation of the Applicability of Steel Slag in Asphalt Mixture  
— Kim Kyungnam, Kim Jinhwan, Kwon Ohseon, Lee Jongseob, Kwon Soonmin
- 
- P13.** Noise Prediction Based on the Service Life of Porous Asphalt Pavement Applied to Korea Expressway  
— Kim Kyungnam, Kim Jinhwan, Kwon Ohseon, Lee Jongseob, Lee Youngju
- 
- P14.** Thermal stress computation through two different approaches: Hopkins & Hamming's algorithm and Power-law function application  
— Ki Hoon Moon, Deuck Su Sohn
- 
- P15.** Performance Evaluation and Field Applicability of Asphalt Mixtures Containing Ferronickel Slag (FNS) Aggregates  
— Yeontae Kim, Booil Kim, Suhyung Lee
- 
- P16.** Multiple Award Schedule (MAS) Contracts through the Standard of Private Sector (SPS) for Crushed Stone Mastic Asphalt mixture (SMA)  
— Shin Isu, Park Chan Su, Lee Jong Seop, Park Joo Hong

# Poster Presentation

## Cement Concrete Pavement

- P17.** Analysis of Hydration Reaction of Alginate with Cement as a Substitute for Latex Concrete  
— Changheon Lee, Topendra Oli, Seungwon Kim, Cheol woo Park
- 
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— Kang In Lee, Soon Ho Baek, Sang Jin Kim, Geon Lee, Beom Su Jeong, Seong-Min Kim
- 
- P19.** Preliminary Study on the Development of Permeable Block Pavement Utilizing Ferronickel Slag  
— Jeonga Kim, Suhjung Lee, Sanghyuk Lee, Yeontae Kim, Wonok Baek
- 
- P20.** Development of Maintenance Strategies for Precast Concrete Pavement at Urban Bus Stops on Median Bus Lanes  
— Han Jin Oh, Keesei Lee, Gyeonghoon Ma, Wonjae Kim, Soon Ho Baek, Kang In Lee, Seong-Min Kim
- 
- P21.** Evaluation of Equivalent Linear Temperature Gradients Induced by Differential Drying Shrinkage in Jointed Concrete Pavements  
— Sangwoo Kim, Keon Park, Seok Cheol Son, Jin-Hoon Jeong
- 
- P22.** A Field Applicability Study for the Application of Steel Slag Aggregate in Lean Concrete Base Layers for Highway Pavements  
— Jun Young Park, Hong Sam Kim, Jin Cheol Kim
- 
- P23.** Service Level Analysis of Asphalt Overlays on JCP using Expressway LTPP Database  
— Hojun Yoo, Soonmin Kwon, Jaehoon Lee, Sungwoo Ryu, Junghun Lee, Heeyoung Park
- 
- P24.** An Experimental Study on the Longitudinal Construction Joint Movement of Concrete Pavement near the Expansion Transverse Joint  
— Tae-Seok Yoo
- 
- P25.** Measurement of Longitudinal Construction Joint Connection between JCP Shoulder and CRCP Mainline  
— Tae-Seok Yoo, Seong-Min Kim
- 
- P26.** Distress Analysis of Bus Stop Precast Concrete Pavement Using PMS Data  
— Sang Jin Kim, Soon Ho Baek, Kang In Lee, Geon Lee, Han Jin Oh, Keesei Lee, Seong-Min Kim

## Transportation Engineering

- P27.** Developing a Methodology for Estimating Passenger Origin–Destination (O/D) Flows Using Mobile Communication Data  
— Minyoung Kwon, Jaehwan Yang
- 
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— Hansol Gi, Eungcheol Kim, Sang-gyun Ryu
- 
- P29.** Analysis of Factors Influencing Travel Speed Reduction in Exclusive Median Bus Lanes  
— Jae Hyeon Jeon, Jae Hwan Yang
- 
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— Woojin Kang
- 
- P31.** Effects of Red Signal Remaining Time Information on Driver Reaction and Start–Up Behavior at Signalized Intersections  
— Eunjin Choi, Hyangmi Han, Donghyuk Woo
- 
- P32.** Modeling and Simulation for L4 Autonomous Vehicle Field Testing  
— Soon Yong Park

# Poster Presentation

## Transportation Safety

**P33.** A Study on the Effectiveness of the Seoul C-ITS Pilot Project

— Junhyoung Yeon, Youngje Jeong

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**P34.** Introduction to Skid Resistance Potential for Pavement Management

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---

**P35.** Risk Assessment of Ice-Related Accidents on Road Facilities

— Hyun-Ho Jin, Seok Cheol Son, Keon Park, Ju Yeon Park, Su Won Song, Jin-Hoon Jeong

---

**P36.** Cluster-Based Analysis of Driving Risk Patterns Among Bus Drivers Using DTG Data

— Chaerim Lee, Do-Gyeong Kim

---

**P37.** A Study on the Performance Evaluation Results of Roadside Barrier for Sidewalk

— Jinho Kwak, Changseok Lee, Mooyoul Jeon

---

**P38.** Reliability of Buffer Distance between Protective Vehicles and Work Activity

— Sung-hun Chung, Jun-gyo Park, Min-wook Gang, Heung-un Oh

---

**P39.** Engineering Strategies for Enhancing Safety in Underground Roadways through Facility Limit Extension and Tunnel Segmentation

— Keehong Lee, Mooyoung Choi, Jinam Yoon, Youngpil Kim, Inhee Jang

---

**P40.** Safety Improvement Approaches for Signalized Intersections During Right-of-Way Change Intervals

— JaeJoon Lee

## Modeling, Data Analysis and AI in road engineering

- P41.** Dual-Stage Pipeline for Road Patching Object Localization and Segmentation  
— Jun Sang Yoo, Kyung Bae Lee, Jong Ho Kim, Hyung Chul Moon
- 
- P42.** Analysis of the Impact of Topographic and Climatic Factors on Pothole Occurrence Using GIS-Based Spatial Analysis  
— Min Cheol Park, Gyeonghoon Ma, Jin Wook Lee, Dae geun Park
- 
- P43.** Urban Flood Risk Topic Extraction and Road Infrastructure Vulnerability Assessment via LDA-Based Topic Modeling of Disaster Text Messages  
— Min Seok Kim, Chunjoo Yoon, Jaehong Park, Young Rok Kim, Jung Gon Sung
- 
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— Youngwoo Choi, Do-Gyeong Kim
- 
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- 
- P46.** ANN-Based Temperature Prediction of Concrete Pavement Layers Using Hourly Meteorological Data at Incheon International Airport  
— Jun-Hyeok Koh, Ki Yung Song, Seok Cheol Son, Jin-Hoon Jeong
- 
- P47.** Development of a Pavement Condition Analysis System Based on FWD Measurements Using Artificial Intelligence(AI)  
— Won-kyong Jung, Hyun-seok Kim, Yun-ho Choi, Soon-min Kwon, Jae-hoon Lee, Jong-sup Lee
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- P48.** Development of a Concrete Maturity Model Using Artificial Intelligence(AI)  
— Won-kyong Jung, Hyun-seok Kim, Yun-ho Choi, Chan-jung Kim, Deuk-won Lee
- 
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— Yeontae Kim, Heemun Park, Sanghyuk Lee
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— Huyen Tram Nguyen, Jaehun Ahn
- 
- P51.** Failure Zone Detection and Explainability in Machine Learning-Based Pavement Condition Prediction  
— Sungjin Hong, Jeongyeon Cho, Kyungyoung Yu, Myongjin Oh, Intai Kim
- 
- P52.** Remote Sensing Approaches for Asphalt Pavement Condition Assessment and Management  
— Yeontae Kim
- 
- P53.** A Dual-Modality Approach for Black Ice Detection Using RGB Histogram and Thermal Evaluation  
— Julius Marvin Flores, Sangyum Lee

# Poster Presentation

## Others

- P54.** Urban Street Design Concept for Automated Vehicle-Based Mobility Services  
— Jieun Park, Byoungheun Shin, Doh Kyoum Shin
- 
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— Cho Jinwoo, Lee Minwoo
- 
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– From transportation to tourism to combat regional extinction–  
— Cho Jinwoo, Lee Min woo
- 
- P57.** GIS-Based Weather Pattern Analysis for Efficient Snow Removal in Seoul  
— Gyeonghoon Ma, Han Jin Oh, Keesei Lee, Daegeun Park, Jin Wook Lee, Min Cheol Park
- 
- P58.** Analysis of De-icing Agent Usage Characteristics in Seoul According to Temperature, Snowfall, and Weather Conditions  
— Han Jin Oh, Keesei Lee, Daegeun Park, Gyeonghoon Ma, Sung Ho Bae, Dong Hang Lee, Wooyoung Yeoum
- 
- P59.** Citizen Perception-Based Analysis for the Improvement of Seoul's Road Infrastructure Management  
— Han Jin Oh, Min Cheol Park, Keesei Lee, Daegeun Park, Jun Yong Park
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- P60.** A Study on Roadside Noise Measurement Methods According to Pavement Types  
— Gukgon Song, Seokkyeong Bae, Wooyeong Cho, Jinhwan Caleb Kim
- 
- P61.** Spatial Analysis of Sound Pressure Levels in CPX Tire-Road Noise Measurement  
— Gukgon Song, Seokkyeong Bae, Wooyeong Cho, Jinhwan Caleb Kim
- 
- P62.** Field Application and Performance Evaluation of a Portable Impact-Echo System on an In-Service Expressway Bridge  
— Tae-soo Kim, Junghun Lee, Heeyoung Park, Jindeok Jeong, Jinho Lee, Donghoon Shin
- 
- P63.** Development of K-SWIFT Field Test Method for Evaluating the In-Situ Permeability of Permeable Concrete Block Pavements  
— Won-kyong Jung, Dae-geun Park, Min-cheol Park, Gyeong-hoon Ma
- 
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— Kiyoung Lee, Minwoo Lee
- 
- P65.** Current Status of High-Speed Weigh-In-Motion Performance Evaluation and Direction of System Improvement  
— Youngmin Yoon, Buyoung Yun, Kyungchan Jang, Hyunjun Kim, Yongsung Cho
- 
- P66.** Investigation of the Characteristics of Major Noise Sources of Tire Pavement Interaction Noise  
— Jae Hoon Kim
- 
- P67.** A Study on the Proposal of a New 2030 Road Business Model according to the Change of Future Automobile  
— Jiho Park, Kiyoung Lee, Yong-won Kim
- 
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