



# 2024 ISIC International Conference

*Sustainability through Technologies*

DoubleTree by Hilton Orlando at SeaWorld

Orlando, FL USA, September 10 – 12, 2024.

## At-A-Glance Agenda

<b>Tuesday, September 10</b>	
08:00 AM – 12:00 PM	NDT & ICT for Asphalt Pavement Construction Workshop
01:00 PM – 05:00 PM	Joint DPS and Stripping TPF TWG Workshop
06:00 PM – 08:00 PM	Ice-Breaker Reception
<b>Wednesday, September 11</b>	
07:00 AM – 08:00 AM	Breakfast (visit exhibits)
08:00 AM – 09:00 AM	Session 1 Welcome, Keynote, and Vendors Introduction
09:00 AM – 09:30 AM	Break and Visit Exhibits
09:30 AM – 12:00 PM	Session 2 Technologies and Sustainability - I
12:00 PM – 01:00 PM	Lunch Break and Visit Exhibit
01:00 PM – 03:30 PM	Session 3 Quality Monitoring and Sustainability - I
03:30 PM – 03:45 PM	Break and Visit Exhibits
03:45 PM – 05:30 PM	Session 4 Digital Twins and BIM - I
06:00 PM – 10:00 PM	Evening Activities (Gatorland) - Offsite
<b>Thursday, September 12</b>	
07:00 AM – 08:00 AM	Breakfast (visit exhibits)
08:00 AM – 10:30 AM	Session 5 Quality Monitoring and Sustainability - II
10:30 AM – 11:00 AM	Break and Visit Exhibits
11:00 AM – 11:50 PM	Session 6 Digital Twins and BIM - II
11:50 PM – 01:00 PM	Lunch Break and Visit Exhibit
01:00 PM – 02:15 PM	Session 7 Digital Twins and BIM – III
02:15 PM – 02:45 PM	Break
02:45 PM – 04:15 PM	Session 8 Sustainability through Technologies Open Panel
04:15 PM – 04:55 PM	ISIC Open Business Meeting
04:55 PM – 05:00 PM	ISIC 2024 Adjourned



**Tuesday, September 10**

**08:00 AM – 12:00 PM**  
**NDT & ICT for Asphalt Pavement Construction Workshop**  
**Room: TBA** **Moderator: Steve Cooper, FHWA, USA**

This is a 4-hour workshop to introduce Non-Destructive Testing (NDT) and Intelligent Construction Technologies (ICT) during asphalt construction. The purposes are to:

- (1) Summarize paver-mounted Thermal Profile (PMTP), Intelligent Compaction (IC), Dielectric Profile System (DPS), and Veta technologies, their capabilities, shortfalls, and appropriate usage at present to support QA while also meeting the Title 23 Code of Federal Regulations Part 637 Subpart B (CFR) compliance requirements. and
- (2) Encourage the attendees to implement NDT and ICT during asphalt construction to improve the quality of construction, safety, asset management/performance, and reduce costs.

It is open to all ISIC 2024 registrants and anyone who may be interested in ICT.

George Chang, Amanda Gilliland, and Subu Sankaranarayanan, Transtec Group

**01:00 PM – 05:00 PM**  
**Joint DPS and Stripping TPF TWG Workshop**  
**Room: TBA** **Moderators: Kyle Hoegh and Eyoab Zegeye, MnDOT, USA**

The is a 4-hour workshop that includes a 2-hour Dielectric Profiling System (DPS) and a 2-hour Stripping Transportation Pooled Fund (TPF) Task Working Group (TWG) meetings.

**06:00 PM – 8:00 PM**  
**Ice Breaker Reception**  
**Room: Exhibit hall**

It is a great networking opportunity to be held at the exhibit hall. All ISIC 2024 attendees and partners are welcome!



## Wednesday, September 11 (AM)

<b>08:00 AM – 09:00 AM</b> <b>Session 1 – Welcome, Keynote, &amp; Vendors Intro</b> <b>Room: TBA</b>	<b>Moderator: Tim Kowalski, Wirtgen America, USA (ISIC Vice President, ISIC NA Chapter – Chair)</b>
Welcome from ISIC NA Chapter	Tim Kowalski (Wirtgen America, USA)
Welcome from ISIC International	George Chang (Transtec Group, USA), Antonio Correia (University of Minho, Portugal), Soheil Nazarian (University of Texas at El Paso, USA)
Keynote - TBA	TBA
Sponsors and Exhibitors' Oral Introduction	All sponsors and exhibitors' representatives
<b>09:30 AM – 12:00 PM</b> <b>Session 2 – Technologies and Sustainability - I</b> <b>Room: TBA</b>	<b>Moderator: Jim Preston, TOPON, USA (ISIC NA Chapter -Treasurer)</b>
Positioning Technologies and Sustainability	Jim Preston (TOPON, USA)
Paving Technologies and Sustainability	Laikram Narsingh ( Wirtgen America, USA), Todd Mansell (Caterpillar, USA)
Compaction Technologies and Sustainability	Tim Kowalski (Wirtgen America, USA)
How Can Construction Contribute to Sustainability	Kevin Garcia (Trimble, USA)
Incorporating 3D Ground Penetrating Radar in Pavement Project Scoping Efforts: Minnesota Department of Transportation Experience	Eyoab Zegeye ( MnDOT, USA), Thomas Calhoon, Steve Henrichs, Dai Shongtao, Jeff Brunner (MnDOT), Jacopo Sala (Kontur)
Autonomous Solutions in Construction	Kevin Garcia (Trimble, USA)
12:00 PM – 01:00 PM Lunch Break and Visiting Exhibits	



## Wednesday, September 11 (PM)

<b>01:00 PM – 03:30 PM</b>	
<b>Session 3 - Quality Monitoring and Sustainability - I</b>	<b>Moderator: Todd Mansell, Caterpillar, USA (ISIC NA Chapter – Vice Chair)</b>
<b>Room: TBA</b>	
Sustainable Road Construction: Harnessing Reclaimed Asphalt Pavement as Base Course	Jian-Shiuh Chen (National Cheng Kung University, Taiwan), Chin Hung Yang
Exploring the Environmental Footprint of Next-Generation Asphalt Pavement with Intelligent Compaction via Life Cycle Assessment	Yunpeng Zhao (FHWA, USA), Jennifer Aponte Rivera, Atish Nadkarni, Maryam Sadat Sakhaeifar, Migdalia Carrion
Use of Installation Data for Streamlined Rigid Inclusion Performance Verification	Mary Nodine (FHWA, USA)
Building Higher Quality Roads with Innovative and High-Speed Data Collection Using DPS/GPR Technologies	Bryce Wuori (Pavewise, USA)
A Case Study in Implementation of Intelligent Construction for Ultra-Thin Bonded Overlays in Connecticut and Development of Rapid Spatial Filtering in Veta	Alexander Bernier (UConn, USA)
Intelligent Highways: Missouri DOT's Success in Intelligent Compaction and Paver-Mounted Thermal Profiling (IC-PMTP) Deployment	Amanda Gilliland (Transtec Group, USA), George Chang, Subu Sankaranarayanan
03:30 PM – 03:45 PM Break and Visit Exhibits	
<b>03:45 PM – 05:00 PM</b>	
<b>Session 4 - Digital Twins and BIM - I</b>	<b>Moderator: Chuck Hixon, Mott McDonald, USA (ISIC NA Chapter – Digital Delivery Coordinator)</b>
<b>Room: TBA</b>	
The Value of Geotechnical Data Throughout the Project Life Cycle	Mary Nodine ( FHWA, USA), Derrick Dasenbrock, Benjamin Rivers
OpenBIM Approach for Integrated Design and Modular Construction: the R2U Project	Miguel Azenha ( University of Minho, Portugal), Manuel Parente, João Aleixo, Evgenii Ermolenko, Ricardo Dias, João Daniel Pereira, João Marcelo Silva, Raquel Silva, Bruno Figuei-redo, João Pedro Mendonça, João Pedro Couto, José Granja
BIM Models for Construction Risks and Benefits	Russ Tamblyn (Trimble, USA), Ed Shappell, Joseph Poskie
Evaluation and Optimization of Building Performance through Visual Programming, Leveraging BIM-Based Shading Coefficient	Thanasak Phittayakorn (Chulalongkorn University, Thailand)
<b>06:00 PM – 10:00 PM</b>	
<b>Evening Activities at the Gatorland</b>	
Offsite Activities	



## Thursday, September 12 (AM)

<b>08:00 AM – 10:05 AM</b> <b>Session 5 – Quality Monitoring and Sustainability - II</b> <b>Room: TBA</b>	<b>Moderator: Amanda Gilliland, Transtec Group, USA (ISIC NA Chapter – Communication Coordinator)</b>
AASHTO Dielectric Profile System (DPS) Implementation	Kyle Hoegh (MnDOT, USA)
AASHTO Material Delivery Management System (MDMS) Implementation	Rebecca Embacher (MnDOT, USA)
Improving Asphalt Paving Construction Quality and Efficiency with Technology	Bryce Wuori (Pavewise, USA)
Advancing Quality Control in Asphalt Construction: An FHWA and MATC Initiative Utilizing Pave Mounted Thermal Profiler and Dielectric Profiling Systems	Ram Kumar Veeraragavan (FHWA, USA), Leslie Myers, Derek Nener-Plante
Bender Element Field Sensor for Quality Assessment of Pavement Construction	Erol Tutumluer (University of Illinois at Urbana-Champaign, USA)
The Use of Carbon Nanomaterials in Cement Stabilized Sand and Its Practical Usage in Health Monitoring of Railways	Mohammad Jawed Roshan (University of Minho, Portugal), António Gomes Correia, Raul Fanguero, Mohammadmahdi Abedi
10:05 AM – 10:30 AM Break and Visit Exhibits	
<b>10:30 AM – 11:50 PM</b> <b>Session 6 – Digital Twins and BIM - II</b> <b>Room: TBA</b>	<b>Moderator: Chuck Hixon, Mott McDonald, USA (ISIC NA Chapter – Digital Delivery Coordinator)</b>
Multi-Objective Optimization of Excavation Pits Using a Geotechnical Digital Twin	Johannes Beck (Helmut Schmidt University, Germany), Sascha Henke
Vessel Berthing Monitoring using Digital Twins	Joao Manso (National CE Laboratory, Portugal), Martin Figueiredo, Rúben Santos, Liliana Pinheiro, João Marcelino, Nuno Marques
11:50 PM – 01:00 PM Lunch Break and Visiting Exhibits	



## Thursday, September 12 (PM)

<b>01:00 PM – 02:15 PM</b> <b>Session 7 – Digital Twins and BIM - III</b> <b>Room: TBA</b>	<b>Moderator Soheil Nazarian, University of Texas at El Paso, USA (ISIC International – Vice President)</b>
<p>BIM-based Digital Twin Framework and Architecture for Building Environment Monitoring</p> <p>Synchronizing AI and Unsaturated Soil Mechanics: A Leap Forward in Ground Assessment</p> <p>Artificial Intelligence-Enabled Pipeline Integrity Management for Detection and Prediction of Corrosion Defects</p>	<p>Taewook Kang (Korea Institute of Civil Engineering And Building Technology), Jin woo Cho, Yunjeong Mo</p> <p>Jayantha Kodikara (Monash University, Australia), Javad Ghorbani</p> <p>Hao Wang (Rutgers University, USA), Bingyan Cui</p>
<b>02:15 PM – 02:45 PM Break and Visit Exhibits</b>	
<b>02:45 PM – 04:15 PM</b> <b>Session 8 – Sustainability through Technologies</b> <b>Open Panel</b> <b>Room: TBA</b>	<b>Moderator: Dave Johnson, Asphalt Institute – AI, USA (ISIC NA Chapter – Secretary)</b>
<p>This is an open panel to wrap up the conferences that focus on sustainability through technologies. We'll share different perspectives from the government and the industry to achieve sustainability goals, such as the Environmental Product Declaration (EPD) through innovative technologies.</p>	<p>ISIC Executive Committee  TBA (FHWA)  TBA (DOTs)  TBA (contractors)  TBA (manufacturers)</p>
<b>04:15 PM – 04:55 PM</b> <b>ISIC Business Meeting</b> <b>Room: TBA</b>	<b>Moderator: George Chang, Transtec Group, USA (ISIC International – President)</b>
<p>The ISIC Open Business meeting will cover the ISIC finance report, the near-term plan, committee rotations and elections, the candidate host for the next ISIC conference, etc.</p>	<p>George Chang (Transtec Group, USA), Antonio Correia (University of Minho, Portugal), Soheil Nazarian (University of Texas at El Paso, USA), Patte Hahn (National Center for Pavement Preservation - NCPP, USA), Tim Kowalski (Wirtgen, USA)</p>
<b>04:55 PM – 05:00 PM</b>	<b>Moderator: Tim Kowalski, Wirtgen America, USA (ISIC Vice President, ISIC NA Chapter - Chair)</b>
<p>Goodbye, and see you at the next ISIC conference!</p>	