

ROADLCA 2026 Full Conference Program

Updated integrated program based on current trifold brochure, technical oral sessions, and YMC poster presentations

30 September – 2 October 2026 | Palermo, Italy

Oral Papers	Technical Sessions	Parallel Blocks	Rooms	Poster Presentations	Main Venue	Oral Session Basis	Post-Conference Events
111	24	8	3	16	University Main Campus	15-min talks with Q&A/transition time within each session block	2–4 October

Full Program at a Glance

Day	Date	Time	Activity	Notes
Pre-conference	Tue., Sept. 29, 2026	19:00-23:00	Welcome Reception	Light dinner and show @ Orto Botanico, Sala Lanza, Via Lincoln 2, Palermo
Day 1	Wed., Sept. 30, 2026	08:00-09:00	Opening session	Aula Magna Ingegneria, Building 7
Day 1	Wed., Sept. 30, 2026	09:00-09:45	Morning Keynote	Em. Prof. F. Butera, PoliMi, Italy
Day 1	Wed., Sept. 30, 2026	09:45-10:00	Coffee break	
Day 1	Wed., Sept. 30, 2026	10:00-11:15	Governments & Academia	ROADLCA best practices, barriers, policies, and implementation worldwide
Day 1	Wed., Sept. 30, 2026	11:15-13:00	Industry Panel & Debate	Decarbonizing bitumen and Sustainability Assessment
Day 1	Wed., Sept. 30, 2026	13:00-14:00	Lunch Break with Poster Sessions	
Day 1	Wed., Sept. 30, 2026	14:00-14:45	Afternoon Keynote	Prof. John Harvey, University of California Davis, USA
Day 1	Wed., Sept. 30, 2026	14:45-16:15	Parallel Technical Sessions - Block 1	Polididattico, Building 19
Day 1	Wed., Sept. 30, 2026	16:15-16:30	Coffee break	
Day 1	Wed., Sept. 30, 2026	16:30-18:00	Parallel Technical Sessions - Block 2	Polididattico, Building 19
Day 2	Thu., Oct. 1, 2026	08:30-09:15	Morning Keynote	Prof. I. Al Qadi, University of Illinois Urbana-Champaign, USA
Day 2	Thu., Oct. 1, 2026	09:15-11:00	Parallel Technical Sessions - Block 3	Polididattico, Building 19
Day 2	Thu., Oct. 1, 2026	11:00-11:15	Coffee break	
Day 2	Thu., Oct. 1, 2026	11:15-12:45	Parallel Technical Sessions - Block 4	Polididattico, Building 19
Day 2	Thu., Oct. 1, 2026	12:45-13:45	Lunch Break with Poster Sessions	
Day 2	Thu., Oct. 1, 2026	13:45-14:30	Afternoon Keynote	Prof. M. Traverso, University of Aachen, Germany
Day 2	Thu., Oct. 1, 2026	14:30-16:00	Parallel Technical Sessions - Block 5	Polididattico, Building 19
Day 2	Thu., Oct. 1, 2026	16:00-16:15	Coffee break	
Day 2	Thu., Oct. 1, 2026	16:15-17:45	Parallel Technical Sessions - Block 6	Polididattico, Building 19
Day 2	Thu., Oct. 1, 2026	19:00-24:00	Gala Dinner	Villa Igea, Salita Belmonte 43, 90142 Palermo PA (for the first 200 registered)
Day 3	Fri., Oct. 2, 2026	09:00-10:00	Morning Keynote	Dr. S. Magni, University of Milan, Italy
Day 3	Fri., Oct. 2, 2026	10:00-11:30	Parallel Technical Sessions - Block 7	Polididattico, Building 19
Day 3	Fri., Oct. 2, 2026	11:30-11:45	Coffee break	
Day 3	Fri., Oct. 2, 2026	11:45-13:15	Parallel Technical Sessions - Block 8	Polididattico, Building 19
Day 3	Fri., Oct. 2, 2026	13:15-14:00	Closing Session	Aula Magna Ingegneria, Building 7
Post-conference	Fri.-Sun., Oct. 2-4, 2026	TBD	Post-conference social events	With registration at roadlca2026.unipa.it

Note: Parallel oral sessions are held at Polididattico (Building 19); plenary sessions are held at Aula Magna Ingegneria (Building 7).

Venues and Co-located Events

Category	Date / Time	Details
Welcome Reception	29 September, 19:00-23:00	Light dinner and show @ Orto Botanico, Sala Lanza, Via Lincoln 2, Palermo
Main Conference Venue	30 September-2 October	Aula Magna Ingegneria (Building 7) and Polididattico (Building 19), Viale delle Scienze, Palermo
Gala Dinner	1 October, 19:00-24:00	Villa Igea, Salita Belmonte 43, 90142 Palermo PA (for the first 200 registered)
Post-conference social events	2-4 October	With registration at roadlca2026.unipa.it
CRIPi / CA24141 Training Programme	28-29 September and 2 October	Co-located climatic resilience training events at Orto Botanico and University Main Campus.

Technical Session Matrix

The matrix below preserves the exact conference-program time windows and session titles in the trifold brochure.

Day	Date	Time	Room A	Room B	Room C
Day 1	Sept. 30	14:45-16:15	Room A — LM1: LCA Data, Inventories, Uncertainty, and Decision Frameworks (4 papers)	Room B — P1: Climate Challenge, Buy Clean, and EPD Quality Benchmarks (4 papers)	Room C — MAT1: Production Energy, Emissions, and Recycled Material Construction Systems (5 papers)
Day 1	Sept. 30	16:30-18:00	Room A — CL1: Climate Adaptation, Nature-Based Solutions, and Cross-Modal Decarbonization (5 papers)	Room B — SOC1: Social Impact, Equity, and Inclusive LCSA in Pavement Management (4 papers)	Room C — CASE1: Field, Material, and Cross-Modal Case Study Innovations (5 papers)
Day 2	Oct. 1	09:15-11:00	Room A — LM2: Decision Optimization, Logistics, and Material Sourcing in LCA (4 papers)	Room B — P2: EPD Ecosystems, Procurement, and Agency Program Design (5 papers)	Room C — MAT2: Circular Asphalt Materials and Bio-Based/Modified Binders (5 papers)
Day 2	Oct. 1	11:15-12:45	Room A — CL2: Network and Long-Term Emissions Pathways (5 papers)	Room B — MAT2: Bio-Based and Modified Asphalt Materials (5 papers)	Room C — USE1: Use Stage, End-of-Life, and Surface Impacts (4 papers)
Day 2	Oct. 1	14:30-16:00	Room A — LM3: Logistics and Material Sourcing in LCA (4 papers)	Room B — P3: Procurement, Minimum Environmental Criteria, and Program Design (5 papers)	Room C — CL2: Decarbonization Programs, Policy, and Carbon Management (5 papers)
Day 2	Oct. 1	16:15-17:45	Room A — MAT3: Maintenance, Rehabilitation, and Network Benefits (5 papers)	Room B — SOC2: Community, Health, Circularity, and Resource-Efficient Maintenance (4 papers)	Room C — CASE2: Cross-Modal, Construction, and Heavy-Duty Applications (5 papers)
Day 3	Oct. 2	10:00-11:30	Room A — LM5: Material-Specific LCA Methods and Evidence (5 papers)	Room B — MAT4: Durability, Additives, and Long-Life Pavement Benefits (5 papers)	Room C — CL4: Circularity, Alternative Materials, and Climate Emissions (5 papers)
Day 3	Oct. 2	11:45-13:15	Room A — LM4: Digital Tools, Geospatial Platforms, and AI (3 papers)	Room B — MAT7: Functional, Bridge, and Circular Material Systems (5 papers)	Room C — CL6: Digital Integration, BIM, and Cross-Modal Decarbonization (5 papers)

Technical Poster Presentations

Poster sessions are scheduled during the lunch breaks with poster sessions on Day 1 (13:00-14:00) and Day 2 (12:45-13:45).

No.	Poster Title	Authors and Affiliations
1	Influence of Background System Data Choices on Pavement Life Cycle Assessment Results	Lara Diab (University of Illinois Urbana-Champaign); Imad Al-Qadi (University of Illinois Urbana-Champaign)
2	From Technical Maintenance Planning to Sustainability Integration: Towards Life Cycle Sustainability Assessment of Bridges in Germany	Zaid Hashash (Institute of Sustainability in Civil Engineering); Marzia Traverso (Institute of Sustainability in Civil Engineering)
3	Life Cycle Sustainability Assessment of Pavement Rehabilitation Strategies: A Virginia Case Study for Pavement Management	Eugene A. Amarh (Virginia Tech Transportation Institute); Rajab Ali Mehraban (Politecnico di Torino); Lucia Tsantilis (Politecnico di Torino); Pier Paolo Riviera (Politecnico di Torino); Ezio Santagata (Qatar University)
4	Global Warming Potential of Lignin-Based Bitumen Substitutes: Evaluating Replacement Levels and Bio-Oil Synergies	Christina Makoundou (University of Antwerp); Ben Moins (University of Antwerp, Departement Construction Engineering); Wim Van den bergh (University of Antwerp, Departement Construction Engineering); Arianna Angelini (University of Antwerp, Departement Construction Engineering); Georgios Pipintakos (University of Antwerp, Departement Construction Engineering)
5	Integration of User Impacts into Pavement Management: A Massachusetts Case Study	Semiha Uhde Yildirim (University of Massachusetts Amherst); Egemen Okte (University of Massachusetts Amherst); Jessica Boakye (University of Massachusetts Amherst)
6	Environmental performance of road rehabilitation strategies: A case study	Maria Tsakoumaki (National Technical University of Athens); Christina Plati (National Technical University of Athens)
7	The Impact of Specification-Driven Supply Chains on Road Maintenance Sustainability: a Comparative LCA of Hot Mix Asphalt and Microsurfacing	Manuel De Rose (University of Calabria); Rosolino Vaiana (University of Sannio)
8	Dynamic Life Cycle Assessment of Pavement Maintenance Strategies for Climate-Conscious Decision-Making	Bhaskar Pratim Das (Aalto University); Dur E Kamla Siddiqui (Aalto University); Sanandam Bordoloi (Aalto University)
9	Deterministic and Probabilistic LCA of Asphalt Pavements	Dure Kamla Siddiqui (Aalto university); Das Bhaskar (Aalto University); Sanandam Bordoloi (Aalto University)
10	Balancing Performance and Circularity: A Comparative Sustainability Nexus Assessment of Virgin and Recycled PP Fiber	Waseem Ashraf (Technical University of Dresden/United Nations University-FLORES)
11	Laboratory Ageing Protocol for Assessing the Recycling Potential of Asphalt Mixtures with Alternative Materials	Ariane Lúcia Oss-Emer (Laboratory of Construction Engineering (LabIC.UGR), University of Granada, Spain); Bruno Yadin Ramírez Ponce (Laboratory of Construction Engineering (LabIC.UGR), University of Granada, Spain); Ana Jiménez del Barco Carrión (Laboratory of Construction Engineering (LabIC.UGR), University of Granada, Spain); Fernando Moreno-Navarro (Laboratory of Construction Engineering (LabIC.UGR), University of Granada, Spain); M.C. Rubio-Gámez (Laboratory of Construction Engineering (LabIC.UGR), University of Granada, Spain)
12	Rheological Characterization of Natural Bitumen: Caquetá Asphaltites as a Sustainable Pavement Alternative	Maria Jose Gomez Campuzano (Universidad Nacional de Colombia); Carol Andrea Murillo Feo (Universidad Nacional de Colombia); Julio Cesar Vargas Saenz (Universidad Nacional de Colombia); Yuly Tatiana Bustos Blanco (Universidad Nacional de Colombia)
13	Integrated Assessment of Amine and Silane Anti-Stripping Agents for Enhancing Moisture Resilience in Unmodified and Crumb Rubber Modified Asphalt Systems	SONALI SNEHAJAN (Ph D Research Scholar Department of Civil Engineering Indian Institute of Technology Bombay, Mumbai, India 400076); Prof. Dharamveer Singh (Professor Department of Civil Engineering Indian Institute of Technology Bombay, Mumbai, India 400076)
14	Nonlinear Suspension Damping Effects on Roughness-Induced Vehicle Energy Dissipation for Pavement Use-Stage LCA	Feiyu Huang (University of Illinois Urbana-Champaign); Imad Al-Qadi (University of Illinois Urbana-Champaign)
15	Decarbonizing Transport Infrastructure Materials through Upstream Fuel Switching: Life Cycle Assessment of Hydrogen–Ammonia Co-firing in Naphtha Cracking	Duho Kang (Korea Railroad Research Institute); Jae-Dong Noh (Enstar R&C); Cheul Kyu Lee (Korea Railroad Research Institute); Kayoung Shin (Korea Railroad Research Institute)
16	Dynamic Life Cycle Assessment of Naphtha Cracking under Future Energy Transition Scenarios: Implications for Transport Infrastructure Materials	Kayoung Shin (Korea Railroad Research Institute); Duho Kang (Korea Railroad Research Institute); Jae-Dong Noh (Enstar R&C); Cheul Kyu Lee (Korea Railroad Research Institute)

Detailed Technical Oral Program

Regular oral presentations are 15 minutes, with Q&A/transition time scheduled within each session block. Paper-level times below are aligned to the session windows in the conference program.

Day 1 - Sept. 30, 2026 | 14:45-16:15

Room A - LM1: LCA Data, Inventories, Uncertainty, and Decision Frameworks

LCA Methodologies | 4 papers | Session time: 14:45-16:15

Time	ID	Paper Title	Authors	Presenter
14:45-15:03	45	From Specifications to Reality in the life cycle assessment (LCA) of asphalt mixtures: Stochastic Modelling of the Foreground Life Cycle Inventory	Ben Moins, Andrea Vargas-Farias and João Santos	Ben Moins
15:03-15:21	112	Influence of Life Cycle Inventory (LCI) Database Selection on the Global Warming Potential of Asphalt Binders	Pedrina Vitória and Kamilla Vasconcelos	Pedrina Vitória
15:21-15:39	140	Quantifying the Influence of Construction Equipment Data on Pavement Life Cycle Assessment Results	Adeoluwa Gbolade, Richard Steger and Debakanta Mishra	Debakanta Mishra
15:39-15:57	99	A comparative and stochastic life cycle assessment (LCA) of smart paving and intelligent compaction systems under multiple uncertainties	Shaffie Juma, João Santos and Seirgei Miller	Shaffie Juma

Room B - P1: Climate Challenge, Buy Clean, and EPD Quality Benchmarks

Policy / Standards | 4 papers | Session time: 14:45-16:15

Time	ID	Paper Title	Authors	Presenter
14:45-15:03	118	Life Cycle Assessment and EPD-Based Evaluation of Pavement Materials under FHWA's Climate Challenge: A Statewide Case Study from Virginia	Eugene Amarh, Alexandria Johnson, Brian Diefenderfer and Gerardo Flintsch	Eugene Amarh
15:03-15:21	119	Benchmarking the Global Warming Potential of Asphalt Surface Mixes in West Virginia	Md Reasad Samrat and James Bryce	Md Reasad Samrat
15:21-15:39	57	Life Cycle Assessment of Four Washington State Department of Transportation Asphalt Pavements for the FHWA Climate Challenge	Steve Muench, Milad Zokaei Ashtiani, Eryn Lum, Karen Strauss and Kim Schofield	Milad Zokaei Ashtiani
15:39-15:57	176	Calculation of embodied greenhouse gas emissions from state-wide concrete mix design data	Christopher Senseney and Daniel Donado	Christopher Senseney

Room C - MAT1: Production Energy, Emissions, and Recycled Material Construction Systems

Materials / Construction | 5 papers | Session time: 14:45-16:15

Time	ID	Paper Title	Authors	Presenter
14:45-15:03	91	Evaluating the Thermal Energy Demand of Asphalt Production	Rita Kleiziene and Aleksandras Chlebnikovas	Rita Kleiziene
15:03-15:21	139	A comparative study of estimating air emissions during asphalt mix production	Maria Tsakoumaki, Christina Plati and Andreas Loizos	Christina Plati
15:21-15:39	74	Life Cycle Assessment for Road Drainage Systems	Lara Diab and Imad Al-Qadi	Lara Diab
15:39-15:57	62	Employing Changepoint Detection Algorithm for IRI Monitoring in Correspondence of Road Surface Maintenance	Sham Mirou, Riccardo Ceriani, Matteo Pettinari, Margherita Pazzini, Valeria Vignali, Andrea Simone and Claudio Lantieri	Sham Mirou
15:57-16:15	33	Field Trial: Impact of Aggregate Moisture on Energy Consumption in Asphalt Mixture Production	Paul Schönauer, Michael Gruber and Bernhard Hofko	Paul Schönauer

Day 1 - Sept. 30, 2026 | 16:30-18:00

Room A - CL1: Climate Adaptation, Nature-Based Solutions, and Cross-Modal Decarbonization

Climate / Resilience | 5 papers | Session time: 16:30-18:00

Time	ID	Paper Title	Authors	Presenter
16:30-16:48	20	AI-Driven Adaptation Measures Selection: enhancing Infrastructure resilience to climate change	Danilo Ebbinghaus Carrari, Hugo Pley-Leclercq and Renaud de Montaignac	Danilo Ebbinghaus Carrari
16:48-17:06	97	Cool Pavements as a Strategy to Reduce Urban Heat and Environmental Impacts: An LCA Perspective	Ana María Rodríguez-Alloza and Daniel Garraín	Ana María Rodríguez-Alloza
17:06-17:24	107	GIS-Based Suitability Analysis for Nature-Based Solutions in Climate-Resilient Urban Road Networks	Maryam Khazaei, Luca Bertolini, Fabrizio D'Amico and Alessandro Calvi	Maryam Khazaei
17:24-17:42	148	Climate-Driven Temperature Modelling for Network-Level Pavement Asset Management	Davide Chiola, Cristina Tozzo and Riccardo Ricci	Davide Chiola
17:42-18:00	54	Methodological Approach to Assess Biogenic Carbon Storage in Asphalt Pavements	Joseph Shacat, Peter Bacas and Punyaslok Rath	Joseph Shacat

Room B - SOC1: Social Impact, Equity, and Inclusive LCSA in Pavement Management

Social / Workforce | 4 papers | Session time: 16:30-18:00

Time	ID	Paper Title	Authors	Presenter
16:30-16:48	56	A LIFE CYCLE APPROACH TO ASSESSING SOCIAL IMPACTS IN TRANSPORTATION INFRASTRUCTURE	Marina Soriano, Verónica Castelo Branco and Davide Lo Presti	Marina Soriano
16:48-17:06	28	Considering Social Impacts in Pavement Management Decisions	Semiha Uhde Yildirim, Egemen Okte and Jessica Boakye	Semiha Uhde Yildirim
17:06-17:24	17	The Role of Equity in Quantifying the Social Impacts of Pavement Management	Egemen Okte, Jessica Boakye and Florence Dadzoe	Egemen Okte
17:24-17:42	164	A climate responsive and socially inclusive Life Cycle Sustainability Assessment framework for flexible pavements	Marco Pasetto, Augusto Cannone Falchetto, Giovanni Giacomello and Bhaswati Bora	Bhaswati Bora

Room C - CASE1: Field, Material, and Cross-Modal Case Study Innovations

Case Studies | 5 papers | Session time: 16:30-18:00

Time	ID	Paper Title	Authors	Presenter
16:30-16:48	26	Toward Practical and Sustainable Implementation: Preliminary Findings of Dense Grade Rubberized Asphalt Mixes for Local Agencies	Tanoogna Mallarapu, Ali Azhar Butt, Angel Mateos and John Harvey	Tanoogna Mallarapu
16:48-17:06	31	The application of environmental cost indicator system for bio-based materials in the construction sector: Preliminary case study results of bio-binder for asphalt mixtures in the Netherlands	Christian Gerald Daniel, Jacqueline Duerden, Ric Hoefnagels, Blanca Corona and Martin Junginger	Christian Gerald Daniel
17:06-17:24	40	Performance-Based Assessment for High-Recycled Content Asphalt Pavements in California	Hanif Mohammed, John Harvey, Ali Azhar Butt, Rongzong Wu and Saeed Pourtahmasb	Hanif Mohammed
17:24-17:42	168	Potential Use of Coal Mine Overburden As a Sustainable and Suitable for Use As Base and Subbase Construction Material on the Haul Pavement Road	Ainalem Nega, Daba Gedafa and Sebastian Quintero	Ainalem Nega
17:42-18:00	163	Reconstruction of Taxiway F at Franjo Tuđman Airport in Zagreb: Technical Evaluation of the Use of Recycled Pavement Materials	Iva Brkić, Tatjana Rukavina and Josipa Domitrovic	Iva Brkić

Day 2 - Oct. 1, 2026 | 09:15-11:00

Room A - LM2: Decision Optimization, Logistics, and Material Sourcing in LCA

LCA Methodologies | 4 papers | Session time: 09:15-11:00

Time	ID	Paper Title	Authors	Presenter
09:15-09:36	24	A Multi-Criteria Decision Framework for Informed Pavement Design Selection	Ali Azhar Butt, Changmo Kim and John Harvey	Ali Azhar Butt
09:36-09:57	80	Integrated Pavement Design and Maintenance Robust Optimization: A Computationally Efficient Approach for Environmental and Economic Sustainability	Paul Leopold, João Santos and Alvaro Garcia-Hernandez	Paul Leopold
09:57-10:18	101	Embedding Life-Cycle Assessment and Cost Analysis into Performance-Driven Pavement Design through an AI-Enabled Mechanistic-Empirical Framework	Haoran Li, Hessam Azarijafari and Randolph Kirchain	Haoran Li
10:18-10:39	175	Probabilistic Framework for Sustainable Road Pavement Decision Making Under Uncertainty	Ahmed Abed, Tony Pary, Davide Lo Presti and Mujib Rahman	Ahmed Abed

Room B - P2: EPD Ecosystems, Procurement, and Agency Program Design

Policy / Standards | 5 papers | Session time: 09:15-11:00

Time	ID	Paper Title	Authors	Presenter
09:15-09:36	53	A New Program for EPD Quality Assurance	Peter Bacas, Joseph Shacat, Martin Christie, Troy Hottle, Mark Petruzzi and Sarah Cashman	Peter Bacas
09:36-09:57	102	Environmental Product Declarations for Stone Mastic Asphalt Mixtures - Variability of Environmental Indicators across Life Cycle Modules	Karolina Pelczyńska	Karolina Pelczyńska
09:57-10:18	38	Progress in Digitizing the EPD Ecosystem	Ben Ciavola	Ben Ciavola
10:18-10:39	15	The Evolving Role of Industry Program Operators Amidst Policy Divergence	Adam Hand, Amlan Mukherjee and Richard Willis	Amlan Mukherjee
10:39-11:00	173	From EPD to In-Service Performance: Field Validation of a Sustainable Asphalt Wearing Course	Fatima Batista, Vânia Marecos and Gustavo Câmara	Fatima Batista

Room C - MAT2: Circular Asphalt Materials and Bio-Based/Modified Binders

Materials / Circularity | 5 papers | Session time: 09:15-11:00

Time	ID	Paper Title	Authors	Presenter
09:15-09:36	13	Life Cycle Assessment of LDPE-Modified Asphalt Pavements: Comparison Between Wet and Dry methods	Jatin Sharma, Aakash Singh and Ankit Gupta	Ankit Gupta
09:36-09:57	10	Environmental Performance and Life Cycle Impact Assessment of Asphalt Pavements Incorporating Recycled PET	Nailton Silva Costa Mafra and Marcio Muniz de Farias	Nailton Silva Costa Mafra
09:57-10:18	27	Implications of the Availability Adjusted Mix Design (AAMD) method for recycled asphalt mixtures in pavement sustainability: a life cycle approach	Douglas Martins Mocelin, Gracieli Bordin Colpo, Gabriel Garcia de Abreu Lima, Reginaldo Jesus, Danielle Soares Laurindo and Mônica Regina Garcez	Mônica Regina Garcez
10:18-10:39	70	Quantifying RAP Processing Effectiveness Using a White-Black Gradation Divergence Index	Athira Mangalath Shine, S. Dinesh Kumar, Donia Savio, M.R Nivitha, Sabine Leischner and J. Murali Krishnan	Athira Mangalath Shine
10:39-11:00	35	Comparing greenhouse gas footprints and circularity performance of asphalt innovations with material replacements	Ximena Becerril Gama	Ximena Becerril Gama

Day 2 - Oct. 1, 2026 | 11:15-12:45

Room A - CL2: Network and Long-Term Emissions Pathways

Climate / Resilience | 5 papers | Session time: 11:15-12:45

Time	ID	Paper Title	Authors	Presenter
11:15-11:33	25	Projected Global Road Infrastructure Emissions to 2050 and the Mitigation Potential of RAP and PLC	Iyanuoluwa Filani, Ali Azhar Butt and John Harvey	Iyanuoluwa Filani
11:33-11:51	3	Assessing Sweden's Greenhouse Gas Emissions from Road Maintenance using Environmental Product Declarations (EPDs) and Network Lifecycle Optimization	Kristin Eklöf, Jonas Ekblad, Roozbeh Rashedi and Linda Löwhagen	Kristin Eklöf
11:51-12:09	58	Asphalt Mixture Production Outlook to 2050: National Forecasting and Scenario Modeling of Carbon Reduction Strategies in the US	Milad Zokaei Ashtiani, Meghan Lewis, Rachelle Habchi and Kate Simonen	Milad Zokaei Ashtiani
12:09-12:27	93	Environmental Management System and Lifecycle Carbon Accounting for Road Pavement Works Programme	Raymond McGowan, Stephen Smyth, Gerard O'Dea, Kieran Feighan and Alan O'Connor	Raymond McGowan
12:27-12:45	86	Life cycle assessment of converting disused railways into bicycle paths	Luca Tefa and Marco Bassani	Luca Tefa

Room B - MAT2: Bio-Based and Modified Asphalt Materials

Materials / Binders | 5 papers | Session time: 11:15-12:45

Time	ID	Paper Title	Authors	Presenter
11:15-11:33	46	Life cycle assessment of bio-binders for asphalt road mixtures	Michael Wistuba, Thomas Pohl, Stefan Werkovits, Hinrich Grothe, Lucas Mortier, Johannes Büchner, Frederik Kollmus, Stefan Trifunovic and Isidora Citric	Michael Wistuba
11:33-11:51	66	Cradle-to-Gate Life-Cycle Assessment of a Bio-Based Binder Produced via Sludge Pyrolysis	Kussai Alrini, Nie Tian, Piergiorgio Tataranni, Federica Zimbardi, Andrea Facchin, Cristian Torri and Cesare Sangiorgi	Kussai Alrini
11:51-12:09	100	Synergy of circular and bio-based solutions: Life Cycle Assessment of Asphalt Mixtures containing a High amount of Reclaimed Asphalt Pavement and Bio-Based Extenders and Modifiers	Christina Makoundou, Shaffie Juma, Ben Moins and Wim Van Den Bergh	Christina Makoundou
12:09-12:27	124	Early-Age Mechanical and Chemical Property Evolution in Bio-Modified Warm Mix Asphalt	Vinicius Cordeiro, Ignacio Nilo Ruiz Riancho, Pengfei Liu and Alvaro Garcia Hernandez	Vinicius Cordeiro
12:27-12:45	172	Life Cycle Assessment of Polymer and Rubber Modified Bitumen and Bituminous Emulsions for Sustainable Road Infrastructure.	Patricia Lamedas Febles, José Luis Canga and María Termignoni	Patricia Lamedas Febles

Room C - USE1: Use Stage, End-of-Life, and Surface Impacts

Use Stage / End of Life | 4 papers | Session time: 11:15-12:45

Time	ID	Paper Title	Authors	Presenter
11:15-11:33	96	Development of Material Flow and Circular Footprint Metrics for Reclaimed Asphalt Pavement End-of-Life	Ivan Akonya and Imad Al-Qadi	Ivan Akonya
11:33-11:51	132	Compliance-Based Life-Cycle Cost and Impact Assessment of Pavement Markings	Muhammad Fahad Ali and Ramez Hajj	Ramez Hajj
11:51-12:09	133	Evaluating the Urban Cooling Potential of High Albedo Pavement Materials under Realistic Urban Conditions	Yong Xu, Cedric Vuye, Yudong Jin and Seyed Reza Omranian	Yong Xu
12:09-12:27	174	Spatial variability of tyre-road noise in road corridors: a CPX-based case study from Sicily	Konstantinos Mantalovas and Clara Celauro	Konstantinos Mantalovas

Day 2 - Oct. 1, 2026 | 14:30-16:00

Room A - LM3: Logistics and Material Sourcing in LCA

LCA Methodologies | 4 papers | Session time: 14:30-16:00

Time	ID	Paper Title	Authors	Presenter
14:30-14:48	19	Aggregates: The invisible giant of infrastructure construction	Léa Fischer and Renaud de Montaignac	Léa Fischer
14:48-15:06	72	Life Cycle Assessment of Road Sub-base Layers with Waste Materials: How Transportation Distances Regulate the Environmental Viability of Circular Economy Strategies	Rosolino Vaiana and Manuel De Rose	Manuel De Rose
15:06-15:24	122	Logistics-informed freight transport modelling for asphalt mixture LCA: a spatially explicit assessment for Brazil	Igor Sieczkowski Moreira, Susan Mayumi Kock Palu, Lélío Antônio Teixeira Brito and Mônica Regina Garcez	Igor Sieczkowski Moreira
15:24-15:42	23	Reducing Pavement Life-Cycle Emissions through Strategic Material Sourcing and Transport Logistics	Ali Azhar Butt, Somayeh Nassiri and John Harvey	Ali Azhar Butt

Room B - P3: Procurement, Minimum Environmental Criteria, and Program Design

Policy / Standards | 5 papers | Session time: 14:30-16:00

Time	ID	Paper Title	Authors	Presenter
14:30-14:48	39	Development of a low carbon procurement program at a transportation agency: A snapshot from the Illinois Department of Transportation (IDOT).	Lianna Miller and Kelly Senger	Lianna Miller
14:48-15:06	65	Identifying sustainability trends and indicators in road construction - Findings from an international and interdisciplinary research project	Knut Johannsen, Nora Braun, Nicolás Carreño, Jared Sonnicksen, Emil Marcy and Paul Reich	Knut Johannsen
15:06-15:24	2	Asphalt LCA methodology and case study trials in England, UK	Tony Parry, Anik Gupta, Akinola Babajide-Kassim, Matthew Wayman and Malcolm Simms	Tony Parry
15:24-15:42	64	A Framework for Airport- Focused Minimum Environmental Criteria	Alessandro Di Graziano, Eliana Ragusa, Sofia Giaccotto and Salvatore Cafiso	Alessandro Di Graziano
15:42-16:00	117	The application of the Minimum Environmental Criteria for the pavement structure in tunnels	Cristina Tozzo, Leonardo Urbano, Sara Cosentino, Gianluca Salvatore Spinazzola, Sara Frisiani and Matteo Pierani	Cristina Tozzo

Room C - CL2: Decarbonization Programs, Policy, and Carbon Management

Climate / Policy | 5 papers | Session time: 14:30-16:00

Time	ID	Paper Title	Authors	Presenter
14:30-14:48	18	Accelerating Road Infrastructure Decarbonization Through Systematic carbon calculation: Ramboll-ORIS approach	Renaud de Montaignac and Alain Mardo	Renaud de Montaignac
14:48-15:06	95	Driving Decarbonisation: TII's CO2 Performance Ladder Pilot on Ireland's National Roads	Stephen Smyth, Pj Hourigan and Gerard O'Dea	Stephen Smyth
15:06-15:24	127	Embedding Climate Impacts into National Road Standards: The TII Approach	Avril Challoner	Avril Challoner
15:24-15:42	55	Assessment of European Climate Regulations & Policy	Peter Bacas and Pete Hemingway	Peter Bacas
15:42-16:00	52	Project-Level GHG Budgeting: Engineers Best Estimate of 'Carbon'	Peter Bacas and Joseph Shacat	Peter Bacas

Day 2 - Oct. 1, 2026 | 16:15-17:45

Room A - MAT3: Maintenance, Rehabilitation, and Network Benefits

Materials / Maintenance | 5 papers | Session time: 16:15-17:45

Time	ID	Paper Title	Authors	Presenter
16:15-16:33	41	Cold Recycling as a Sustainable Alternative for Bottom-Up Distress: A Life-Cycle Comparison with Conventional Pavement Maintenance	Stephanus Louw, Ali Azhar Butt and David Jones	Stephanus Louw
16:33-16:51	83	Environmental and Economic Assessment of Road Pavement Rehabilitation Works Using Warm Mix Asphalt and Reclaimed Asphalt Pavement	José Silvestre, José Neves and João Simões	José Silvestre
16:51-17:09	120	Environmental Impact Assessment of Alternative Pavement Maintenance Strategies: Integration of EAR and E-PMS	Fabio Maria Colasanti, Cristina Tozzo, Giulio Paoloni and Nicoletta Gasbarro	Fabio Maria Colasanti
17:09-17:27	94	A 10-Year Carbon Lookback: Quantifying GWP Savings from Proactive Pavement Maintenance on Ireland's National Road Network	Raymond McGowan, Stephen Smyth, Gerard O'Dea, Kieran Feighan and Alan O'Connor	Raymond McGowan
17:27-17:45	59	The Emissions and Economic Return-on-Investment (ROI) for Long-Life Asphalt Pavements	Stephen Muench, Mason Millard and Ben Hyver	Stephen Muench

Room B - SOC2: Community, Health, Circularity, and Resource-Efficient Maintenance

Social / Workforce | 4 papers | Session time: 16:15-17:45

Time	ID	Paper Title	Authors	Presenter
16:15-16:33	67	The social impact of road maintenance activities: a case study in Bari	Nicola Introcaso, Nicola Berloco and Stefano Coropulis	Nicola Introcaso
16:33-16:51	110	Assessing the economic, environmental, social and circularity impacts of recycled aggregates in road construction with the RE-MED application	Antoinette Abou Jaoude, Rachida Idir, Konstantinos Mantalovas and Oumaya Yazoghli-Marzouk	Antoinette Abou Jaoude
16:51-17:09	169	Health Externalities of Low-Noise Pavements Using Life Cycle Assessment Framework	Filippo Giammaria Praticò and Ezgi Eren	Filippo Giammaria Praticò
17:09-17:27	152	A Laser Profilometer-Based Procedure for Automated Identification of Localized Pavement Distresses and Resource-Efficient Maintenance	Alessandro Corradini and Gianluca Cerni	Alessandro Corradini

Room C - CASE2: Cross-Modal, Construction, and Heavy-Duty Applications

Case Studies | 5 papers | Session time: 16:15-17:45

Time	ID	Paper Title	Authors	Presenter
16:15-16:33	12	Mechanical Performance and Life Cycle Assessment of Lightweight Cellular Concrete in Pavement Applications	James Rombi, Marta Salis, Andrea Serpi, Simone Coppo, Mauro Coni and Francesca Maltinti	James Rombi
16:33-16:51	136	Railway vs Road Infrastructures: A Comparative Life Cycle Assessment of Raw Material Production and Construction Phases	Giulia Del Serrone, Gennaro Riccio and Laura Moretti	Gennaro Riccio
16:51-17:09	50	LCA of Innovative Materials for Railway Sleepers	Marinella Giunta and Mohammed Er Rouisse	Marinella Giunta
17:09-17:27	158	A Life Cycle Assessment Based Methodological Framework for GHG Inventorization of Metro Civil Construction in India	Faiz Jamal, Arun Babu and Sharif Qamar	Faiz Jamal
17:27-17:45	123	Performance of Polyurethane Mixtures for Long-Life and Heavy-Duty Traffic Applications	Jinyu Xu, Meng Yuan, Wuju Wei, Xuejun Yue, Chao Han, Yong Xia and Ning Chen	Meng Yuan

Day 3 - Oct. 2, 2026 | 10:00-11:30

Room A - LM5: Material-Specific LCA Methods and Evidence

LCA Methodologies | 5 papers | Session time: 10:00-11:30

Time	ID	Paper Title	Authors	Presenter
10:00-10:18	22	A Life Cycle Assessment of Crumb Rubber Modifier Production Using California's Energy Profile	Ali Azhar Butt, Hanif Mohammed and Angel Mateos	Ali Azhar Butt
10:18-10:36	108	Life Cycle Inventory and Performance Benefits of Aramid Fiber-Reinforced Asphalt in Finnish Recycling Applications	Bhaswati Bora and Augusto Cannone Falchetto	Augusto Cannone Falchetto
10:36-10:54	135	Environmental performance of bio-pavements: review of the Life Cycle Assessment methodology	Mercedes Romero-Gómez, María del Carmen Rubio-Gómez and Ana Jiménez del Barco Carrión	Mercedes Romero-Gómez
10:54-11:12	78	LCA of sustainable paving technologies with sensitivity analysis of maintenance timing and service life	Cristina Oreto, Rosa Veropalumbo, Giovanni Alfano and Francesca Russo	Cristina Oreto
11:12-11:30	14	Integrating semantic approaches for Lifecycle Sustainability Assessment of Railways. A Mapping review	Maria Luisa Tumminello, Elżbieta Macioszek, Anna Grana and Gaetano Di Mino	Elżbieta Macioszek

Room B - MAT4: Durability, Additives, and Long-Life Pavement Benefits

Materials / Durability | 5 papers | Session time: 10:00-11:30

Time	ID	Paper Title	Authors	Presenter
10:00-10:18	149	Life Cycle Assessment of SBS-Modified Asphalt Mixtures: A Durability-Based Approach	Fernando Moreno-Navarro, Lucia Ortega Alvarez, Germán Ibañez-Gutiérrez, Verónica Zúñiga Sánchez and M ^a Carmen Rubio-Gómez	Fernando Moreno-Navarro
10:18-10:36	161	From Laboratory Performance to Life Cycle Benefit: A Durability Break-Even LCA of Anti-Strip Additives in Asphalt	Aaditya Ojha, Shadi Saadeh and Unmona Aditi	Aaditya Ojha
10:36-10:54	162	Integrating Asphalt Durability into Life Cycle Assessment of Pavement Systems	Marcela Maria Toscano Krau, Michael P. Wistuba and Alfred Weninger-Vycudil	Marcela Maria Toscano Krau
10:54-11:12	51	Piezoresistive asphalt mixtures for continuous pavement health monitoring	Ludovica Alessi, Federico Gulisano, Damaris Cubilla, Giuseppe Conti, Valerio Gagliardi, Francesco Bella and Juan Gallego	Federico Gulisano
11:12-11:30	103	Life Cycle Assessment of Self-Sensing Pavements: A Comparative Study with Traditional Strain-Gauge Monitoring Systems	Andrea Serpi, Federico Gulisano, Giuseppe Conti, Mauro Coni and Juan Gallego	Andrea Serpi

Room C - CL4: Circularity, Alternative Materials, and Climate Emissions

Climate / Circularity | 5 papers | Session time: 10:00-11:30

Time	ID	Paper Title	Authors	Presenter
10:00-10:18	47	CONSEQUENTIAL LIFE CYCLE ASSESSMENT OF PITCH VALORIZATION PATHWAYS IN THE ROAD CONSTRUCTION SECTOR	Jessica Souza, Alan Ezaoui, Sabine Le Bec and Nicolas Hiroux	Jessica Souza
10:18-10:36	71	LaMechanical properties and climate impact of asphalt mixtures with partial and full bitumen replacement by bio-oil	Jonas Ekblad, Kenneth Vikström, Gustav Brändström and Robert Lundström	Jonas Ekblad
10:36-10:54	177	Decarbonizing Transport Infrastructure Materials through Upstream Fuel Switching: Life Cycle Assessment of Hydrogen-Ammonia Co-firing in Naphtha Cracking	Kayoung Shin, Cheul Kyu Lee and Duho Kang	Bruna Pereira de Souza
10:54-11:12	138	LCA of bituminous conglomerates_ role of binders RAP and innovative additives in reducing climate changing emissions	Giulia Guzzini, Andrea Lizzio and Isabella Ottonelli	Giulia Guzzini
11:12-11:30	170	Evaluation of the environmental sustainability of bitumen stabilised materials - towards an internationally harmonised LCA approach	Nicolás Carreño and Mehdi Kalantari	Nicolás Carreño

Day 3 - Oct. 2, 2026 | 11:45-13:15

Room A - LM4: Digital Tools, Geospatial Platforms, and AI

LCA Methodologies | 3 papers | Session time: 11:45-13:15

Time	ID	Paper Title	Authors	Presenter
11:45-12:03	150	Application of Life Cycle Assessment to Road Design: A Case Study Integrating an Intelligent Digital Materials Database	Davide Randazzo Mignacca, Salvo Volo and Davide Lo Presti	Davide Lo Presti
12:03-12:21	115	Eco Road: A Cloud-Based Geospatial Platform for Holistic Sustainability Assessment of Road Infrastructure Using Recycled Aggregates	Mohanad Elsayed, Essam Hashem, Nicola Mouranon, Jacem Marzouk, Mohamed Elsayed and Omnya Mourad	Essam Hashem
12:21-12:39	134	Surface Rating and Severity Characterisation of roads via AI navigation	Fabio Galatioto and Nabeel Shaikh	Fabio Galatioto

Room B - MAT7: Functional, Bridge, and Circular Material Systems

Materials / Bridges and Functional Systems | 5 papers | Session time: 11:45-13:15

Time	ID	Paper Title	Authors	Presenter
11:45-12:03	61	LCA and Functional Circularity: Performance-based Circular Strategies for Porous Asphalt Mixtures with Secondary Raw Materials	Konstantinos Mantalovas, Francesco Graziano, Rosalia Teresi, Maria Cristina Mangano, Gianluca Saràc and Clara Celauro	Konstantinos Mantalovas
12:03-12:21	87	Life Cycle Assessment of Pervious Concrete Pavement with Portland Cement and Geopolymer	Hao Wang	Hao Wang
12:21-12:39	8	Life Cycle Assessment of Recycled and Rubberized Warm Mix Asphalts: Integrating Environmental Performance and Maintenance Strategies	Chiara Riccardi, Pietro Leandri, Massimo Losa and Hongjun Dong	Chiara Riccardi
12:39-12:57	85	Mechanical performance of demanufactured RA aggregates	Andrea Scarponi, Alberto Di Bartolomeo and Francesco Canstrari	Andrea Scarponi
12:57-13:15	130	Comparative Life Cycle Assessment of Three Bridge Structural Variants	Agnieszka Wiater and Tomasz Siwowski	Agnieszka Wiater

Room C - CL6: Digital Integration, BIM, and Cross-Modal Decarbonization

Climate / Digital | 5 papers | Session time: 11:45-13:15

Time	ID	Paper Title	Authors	Presenter
11:45-12:03	21	Seamless Integration of Carbon Assessment with BIM for Infrastructure Sustainability	Laura Traseira, Alain Mardo and Renaud de Montaignac	Laura Traseira
12:03-12:21	68	Expected States' Performance in Grid Decarbonization and Mobility Electrification	Asad Khan, Lara Diab, Murryam Hafeez and Imad Al-Qadi	Asad Khan
12:21-12:39	137	Real-time condition prediction of asphalt layers to determine the impact of traffic and climate on road assets	Uwe Reinhardt, Wolf Uhlig, Alexander Buttgeroit and Alexander Zeissler	Uwe Reinhardt
12:39-12:57	157	Decarbonizing Bridge Superstructures: A Parametric Life Cycle Assessment Model for Low-Carbon Design Optimization	Shih-Hsien Yang, Han-Ruen Yueh, Bo-Kai Chiu and Tsu-Yu Lin	Shih-Hsien Yang
12:57-13:15	77	Decarbonizing Freight across Roadway and Marine Transportation	Murryam Hafeez and Imad L. Al-Qadi	Murryam Hafeez

Track Summary

Theme / Track Group	Paper Count	Session Count
LCA Methodologies	20	5
Materials / Design / Construction / Maintenance	30	6
Climate Change and Resiliency	25	5
Policy, Standards, and Certification	14	3
Use Stage and End of Life	4	1
Social Aspects and Workforce	8	2
Case Studies and Best Practices	10	2