ROADLCA 2026 Full Conference Programme

30 September – 2 October 2026 | Palermo, Italy

Oral Papers	Technical Sessions	Parallel Blocks	Rooms	Poster Presentations	Main Venue	Oral Session Basis	Post-Conference Events
110	24	8	3	17	University Main Campus	15-min talks with 3-min 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	08:00-08:30	Welcome & Registration	Aula Magna Ingegneria, Building 7
Day 1	Wed., Sept. 30, 2026	08:30-09:00	Institutional greetings & 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	09:45-11:15	Governments & Academia	ROADLCA best practices, barriers, policies, and implementation worldwide
Day 1	Wed., Sept. 30, 2026	11:15-11:30	Coffee break	
Day 1	Wed., Sept. 30, 2026	11:30-13:00	Industry Panel & Debate	Decarbonizing bitumen and Sustainability Assessment worldwide
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	09:15-09:30	Coffee break	
Day 2	Thu., Oct. 1, 2026	09:30-11:00	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	Date	Time	Activity	Notes
Day 2	Thu., Oct. 1, 2026	14:45-16:00	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	16:15-17:45	Young Member Committee Roundtable Discussion	Polididattico, Building 19 (TBD)
Day 2	Thu., Oct. 1, 2026	19:15-24:00	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	13:15-14:15	Closing Session	CRIPI Roadmap presentation by CRIPI trainee; Panel Discussion: J. Harvey, I. Al-Qadi, G. Flintsch, D. Lo Presti — Aula Magna Ingegneria, Building 7
Post-conference	Fri.-Sun., Oct. 2-4, 2026	TBD	Post-conference social events	Tours: Palermo by Walking, Palermo by Sea, Palermo by Air — 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

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 (5 papers) *Chair:* ***Tony Parry***	**Room B — P1:** Climate Challenge, Buy Clean, and EPD Quality Benchmarks (4 papers) *Chair:* ***Amlan Mukherjee***	**Room C — SOC1:** Social Impact, Equity, and Inclusive LCSA in Pavement Management (4 papers) *Chair:* ***Manuel De Rose***

Day	Date	Time	Room A	Room B	Room C
Day 1	Sept. 30	**16:30-18:00**	**Room A — CL1:** Climate Adaptation, Nature-Based Solutions, and Cross-Modal Decarbonization (5 papers) *Chair:* ***Filippo Giammaria Praticò***	**Room B — MAT1:** Production Energy, Emissions, and Recycled Material Construction Systems (5 papers) *Chair:* ***Christina Plati***	**Room C — CASE1:** Field, Material, and Cross-Modal Case Study Innovations (5 papers) *Chair:* ***Clara Celauro***
Day 2	Oct. 1	**09:30-11:00**	**Room A — MAT2:** Circular Asphalt Materials and Bio-Based/Modified Binders (5 papers) *Chair:* ***Fernando Moreno-Navarro***	**Room B — CL2:** Network and Long-Term Emissions Pathways (5 papers) *Chair:* ***Imad Al-Qadi***	**Room C — MAT3:** Bio-Based and Modified Asphalt Materials (5 papers) *Chair:* ***Kamilla Vasconcelos***
Day 2	Oct. 1	**11:15-12:45**	**Room A — LM2:** Logistics and Material Sourcing in LCA (4 papers) *Chair:* ***Joao Oliveira dos Santos***	**Room B — SOC2:** Community, Health, Circularity, and Resource-Efficient Maintenance (4 papers) *Chair:* ***Egemen Okte***	**Room C — P2:** EPD Ecosystems, Procurement, and Agency Program Design (5 papers) *Chair:* ***Eugene Amarh***
Day 2	Oct. 1	**14:45-16:00**	**Room A — LM3:** Decision Optimization, Logistics, and Material Sourcing in LCA (4 papers) *Chair:* ***Maria del Carmen Rubio Gámez***	**Room B — USE1:** Use Stage, End-of-Life, and Surface Impacts (4 papers) *Chair:* ***Anna Granà***	**Room C — MAT4:** Maintenance, Rehabilitation, and Network Benefits (4 papers) *Chair:* ***Gerardo Flintsch***
Day 2	Oct. 1	**16:15-17:45**	**Room A — P3:** Procurement, Minimum Environmental Criteria, and Program Design (5 papers) *Chair:* ***Alessandro Corradini***	**Room B — CL3:** Decarbonization Programs, Policy, and Carbon Management (5 papers) *Chair:* ***John Harvey***	**Room C — CASE2:** Cross-Modal, Construction, and Heavy-Duty Applications (5 papers) *Chair:* ***Gaetano Di Mino***
Day 3	Oct. 2	**10:00-11:30**	**Room A — LM4:** Material-Specific LCA Methods and Evidence (5 papers) *Chair:* ***Lorenzo Paolo Ingrassia***	**Room B — MAT5:** Durability, Additives, and Long-Life Pavement Benefits (4 papers) *Chair:* ***Francesco Canestrari***	**Room C — CL4:** Circularity, Alternative Materials, and Climate Emissions (5 papers) *Chair:* ***Konstantinos Mantalovas***
Day 3	Oct. 2	**11:45-13:15**	**Room A — LM5:** Digital Tools, Geospatial Platforms, and AI (3 papers) *Chair:* ***David Hernando***	**Room B — MAT6:** Functional, Bridge, and Circular Material Systems (5 papers) *Chair:* ***Mauro Coni***	**Room C — CL5:** Digital Integration, BIM, and Cross-Modal Decarbonization (5 papers) *Chair:* ***Marco Guerrieri***

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)

No.	Poster Title	Authors and Affiliations
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)
17	Construction-Stage Greenhouse Gas Emissions: Case Studies from Constructed Asphalt Paving Projects	Sepehr Mohammadi and Zhanping You

Detailed Technical Oral Program

Regular oral presentations are 15 minutes, with 3 minutes 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 | 5 papers | Session time: 14:45-16:15 / *Chair:* ***Tony Parry***

Time	ID	Paper Title	Authors
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
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
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
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
15:57-16:15	149	Life Cycle Assessment of SBS-Modified Asphalt Mixtures: A Durability-Based Approach	Fernando Moreno-Navarro, Lucia Ortega Álvarez, Germán Ibañez-Gutiérrez, Verónica Zúñiga Sánchez and Mª Carmen Rubio-Gámez

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

Policy / Standards | 4 papers | Session time: 14:45-16:15 / *Chair:* ***Amlan Mukherjee***

Time	ID	Paper Title	Authors
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
15:03-15:21	119	Benchmarking the Global Warming Potential of Asphalt Surface Mixes in West Virginia	Md Reasad Samrat and James Bryce
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
15:39-15:57	176	Calculation of embodied greenhouse gas emissions from state-wide concrete mix design data	Christopher Senseney and Daniel Donado

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

Social / Workforce | 4 papers | Session time: 14:45-16:15 / *Chair:* ***Manuel De Rose***

Time	ID	Paper Title	Authors
14:45-15:03	56	A LIFE CYCLE APPROACH TO ASSESSING SOCIAL IMPACTS IN TRANSPORTATION INFRASTRUCTURE	Marina Soriano, Verônica Castelo Branco and Davide Lo Presti
15:03-15:21	28	Considering Social Impacts in Pavement Management Decisions	Semiha Uhde Yildirim, Egemen Okte and Jessica Boakye
15:21-15:39	17	The Role of Equity in Quantifying the Social Impacts of Pavement Management	Egemen Okte, Jessica Boakye and Florence Dadzoe
15:39-15:57	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

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 / *Chair:* ***Filippo Giammaria Praticò***

Time	ID	Paper Title	Authors
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
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
17:06-17:24	107	GIS-Based Suitability Analysis for Nature-Based Solutions in Climate-Resilient Urban Road Networks	Maryam Khazaee, Luca Bertolini, Fabrizio D'Amico and Alessandro Calvi
17:24-17:42	148	Climate-Driven Temperature Modelling for Network-Level Pavement Asset Management	Davide Chiola, Cristina Tozzo and Riccardo Ricci
17:42-18:00	54	Methodological Approach to Assess Biogenic Carbon Storage in Asphalt Pavements	Joseph Shacat, Peter Bacas and Punyaslok Rath

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

Materials / Construction | 5 papers | Session time: 16:30-18:00 / *Chair:* ***Christina Plati***

Time	ID	Paper Title	Authors
16:30-16:48	91	Evaluating the Thermal Energy Demand of Asphalt Production	Rita Kleiziene and Aleksandras Chlebnikovas
16:48-17:06	139	A comparative study of estimating air emissions during asphalt mix production	Maria Tsakoumaki, Christina Plati and Andreas Loizos
17:06-17:24	74	Life Cycle Assessment for Road Drainage Systems	Lara Diab and Imad Al-Qadi
17:24-17:42	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
17:42-18:00	33	Field Trial: Impact of Aggregate Moisture on Energy Consumption in Asphalt Mixture Production	Paul Schönauer, Michael Gruber and Bernhard Hofko

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

Case Studies | 5 papers | Session time: 16:30-18:00 / *Chair:* ***Clara Celauro***

Time	ID	Paper Title	Authors
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
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
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
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

Time	ID	Paper Title	Authors
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

Day 2 - Oct. 1, 2026 | 09:30-11:00

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

Materials / Circularity | 5 papers | Session time: 09:30-11:00 / *Chair:* ***Fernando Moreno-Navarro***

Time	ID	Paper Title	Authors
09:30-09:48	13	Life Cycle Assessment of LDPE-Modified Asphalt Pavements: Comparison Between Wet and Dry methods	Jatin Sharma, Aakash Singh and Ankit Gupta
09:48-10:06	10	Environmental Performance and Life Cycle Impact Assessment of Asphalt Pavements Incorporating Recycled PET	Nailton Silva Costa Mafra and Marcio Muniz de Farias
10:06-10:24	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
10:24-10:42	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
10:42-11:00	35	Comparing greenhouse gas footprints and circularity performance of asphalt innovations with material replacements	Ximena Becerril Gama

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

Climate / Resilience | 5 papers | Session time: 09:30-11:00 / *Chair:* ***Imad Al-Qadi***

Time	ID	Paper Title	Authors
09:30-09:48	135	Environmental performance of bio-pavements: review of the Life Cycle Assessment methodology	Mercedes Romero-Gámez, María del Carmen Rubio-Gámez and Ana Jiménez del Barco Carrión
09:48-10:06	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
10:06-10:24	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
10:24-10:42	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
10:42-11:00	86	Life cycle assessment of converting disused railways into bicycle paths	Luca Tefa and Marco Bassani

Room C - MAT3: Bio-Based and Modified Asphalt Materials

Materials / Binders | 5 papers | Session time: 09:30-11:00 / *Chair:* ***Kamilla Vasconcelos***

Time	ID	Paper Title	Authors
09:30-09:48	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
09:48-10:06	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
10:06-10:24	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
10:24-10:42	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
10:42-11:00	172	Life Cycle Assessment of Polymer and Rubber Modified Bitumen and Bituminous Emulsions for Sustainable Road Infrastructure.	Patricia Lameda Febles, José Luis Canga and María Termignoni

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

Room A - LM2: Logistics and Material Sourcing in LCA

LCA Methodologies | 4 papers | Session time: 11:15-12:45 / *Chair:* ***Joao Oliveira dos Santos***

Time	ID	Paper Title	Authors
11:15-11:33	19	Aggregates: The invisible giant of infrastructure construction	Léa Fischer and Renaud de Montaignac
11:33-11:51	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
11:51-12:09	122	Logistics-informed freight transport modelling for asphalt mixture LCA: a spatially explicit assessment for Brazil	Igor Sieczkowski Moreira, Susan Mayumi Kock Palu, Lélio Antônio Teixeira Brito and Mônica Regina Garcez
12:09-12:27	23	Reducing Pavement Life-Cycle Emissions through Strategic Material Sourcing and Transport Logistics	Ali Azhar Butt, Somayeh Nassiri and John Harvey

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

Social / Workforce | 4 papers | Session time: 11:15-12:45 / *Chair:* ***Egemen Okte***

Time	ID	Paper Title	Authors
11:15-11:33	67	The social impact of road maintenance activities: a case study in Bari	Nicola Introcaso, Nicola Berloco and Stefano Coropulis
11:33-11:51	110	Assessing the economic, environmental, social and circularity impacts of recycled aggregates in road construction with the RE-MED application	Rachida Idir, Antoinette Abou Jaoude, Konstantinos Mantalovas and Oumaya Yazoghli-Marzouk
11:51-12:09	169	Health Externalities of Low-Noise Pavements Using Life Cycle Assessment Framework	Filippo Giammaria Praticò and Ezgi Eren
12:09-12:27	152	A Laser Profilometer-Based Procedure for Automated Identification of Localized Pavement Distresses and Resource-Efficient Maintenance	Alessandro Corradini and Gianluca Cerni

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

Policy / Standards | 5 papers | Session time: 11:15-12:45 / *Chair:* ***Eugene Amarh***

Time	ID	Paper Title	Authors
11:15-11:33	53	A New Program for EPD Quality Assurance	Peter Bacas, Joseph Shacat, Martin Christie, Troy Hottle, Mark Petruzzi and Sarah Cashman
11:33-11:51	102	Environmental Product Declarations for Stone Mastic Asphalt Mixtures - Variability of Environmental Indicators across Life Cycle Modules	Karolina Pełczyńska
11:51-12:09	38	Progress in Digitizing the EPD Ecosystem	Ben Ciavola
12:09-12:27	15	The Evolving Role of Industry Program Operators Amidst Policy Divergence	Adam Hand, Amlan Mukherjee and Richard Willis
12:27-12:45	173	From EPD to In-Service Performance: Field Validation of a Sustainable Asphalt Wearing Course	Fatima Batista, Vânia Marecos, Gustavo Câmara, Pedro Nunes, Nuno Fernandes and Tiago Ribeiro

Day 2 - Oct. 1, 2026 | 14:45-16:00

Room A - LM3: Decision Optimization, Logistics, and Material Sourcing in LCA

LCA Methodologies | 4 papers | Session time: 14:45-16:00 / *Chair:* ***Maria del Carmen Rubio Gámez***

Time	ID	Paper Title	Authors
14:45-15:03	24	A Multi-Criteria Decision Framework for Informed Pavement Design Selection	Ali Azhar Butt, Changmo Kim and John Harvey
15:03-15:21	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
15:21-15:39	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
15:39-15:57	175	Probabilistic Framework for Sustainable Road Pavement Decision Making Under Uncertainty	Ahmed Abed, Tony Pary, Davide Lo Presti and Mujib Rahman

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

Use Stage / End of Life | 4 papers | Session time: 14:45-16:00 / *Chair:* ***Anna Granà***

Time	ID	Paper Title	Authors
14:45-15:03	96	Development of Material Flow and Circular Footprint Metrics for Reclaimed Asphalt Pavement End-of-Life	Ivan Akonya and Imad Al-Qadi
15:03-15:21	132	Compliance-Based Life-Cycle Cost and Impact Assessment of Pavement Markings	Muhammad Fahad Ali and Ramez Hajj
15:21-15:39	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
15:39-15:57	174	Spatial variability of tyre-road noise in road corridors: a CPX-based case study from Sicily	Konstantinos Mantalovas and Clara Celauro

Room C - MAT4: Maintenance, Rehabilitation, and Network Benefits

Materials / Maintenance | 4 papers | Session time: 14:45-16:00 / *Chair:* ***Gerardo Flintsch***

Time	ID	Paper Title	Authors
14:45-15:03	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
15:03-15:21	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
15:21-15:39	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
15:39-15:57	59	The Emissions and Economic Return-on-Investment (ROI) for Long-Life Asphalt Pavements	Stephen Muench, Mason Millard and Ben Hyver

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

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

Policy / Standards | 5 papers | Session time: 16:15-17:45 / *Chair:* ***Alessandro Corradini***

Time	ID	Paper Title	Authors
16:15-16:33	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
16:33-16:51	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
16:51-17:09	2	Asphalt LCA methodology and case study trials in England, UK	Tony Parry, Anik Gupta, Akinola Babajide-Kassim, Matthew Wayman and Malcolm Simms
17:09-17:27	64	A Framework for Airport- Focused Minimum Environmental Criteria	Alessandro Di Graziano, Eliana Ragusa, Sofia Giaccotto and Salvatore Cafiso
17:27-17:45	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

Room B - CL3: Decarbonization Programs, Policy, and Carbon Management

Climate / Policy | 5 papers | Session time: 16:15-17:45 / *Chair:* ***John Harvey***

Time	ID	Paper Title	Authors
16:15-16:33	52	Project-Level GHG Budgeting: Engineers Best Estimate of 'Carbon'	Peter Bacas and Joseph Shacat
16:33-16:51	95	Driving Decarbonisation: TII's CO2 Performance Ladder Pilot on Ireland's National Roads	Stephen Smyth, Pj Hourigan and Gerard O'Dea
16:51-17:09	127	Embedding Climate Impacts into National Road Standards: The TII Approach	Avril Challoner
17:09-17:27	55	Assessment of European Climate Regulations & Policy	Peter Bacas and Pete Hemingway
17:27-17:45	18	Accelerating Road Infrastructure Decarbonization Through Systematic carbon calculation: Ramboll-ORIS approach	Renaud de Montaignac and Alain Mardo

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

Case Studies | 5 papers | Session time: 16:15-17:45 / *Chair:* ***Gaetano Di Mino***

Time	ID	Paper Title	Authors
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
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
16:51-17:09	50	LCA of Innovative Materials for Railway Sleepers	Marinella Giunta and Mohammed Er Rouisse
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
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

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

Room A - LM4: Material-Specific LCA Methods and Evidence

LCA Methodologies | 5 papers | Session time: 10:00-11:30 / *Chair:* ***Lorenzo Paolo Ingrassia***

Time	ID	Paper Title	Authors
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
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
10:36-10:54	25	Projected Global Road Infrastructure Emissions to 2050 and the Mitigation Potential of RAP and PLC	Iyanuoluwa Filani, Ali Azhar Butt and John Harvey
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
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

Room B - MAT5: Durability, Additives, and Long-Life Pavement Benefits

Materials / Durability | 4 papers | Session time: 10:00-11:30 / *Chair:* ***Francesco Canestrari***

Time	ID	Paper Title	Authors
10:00-10:18	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
10:18-10:36	162	Integrating Asphalt Durability into Life Cycle Assessment of Pavement Systems	Marcela Maria Toscano Krau, Michael P. Wistuba and Alfred Weninger-Vycudil
10:36-10:54	51	Piezoresistive asphalt mixtures for continuous pavement health monitoring	Ludovica Alessi, Federico Gulisano, Damaris Cubilla, Giuseppe Conti, Valerio Gagliardi, Francesco Bella and Juan Gallego
10:54-11:12	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

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

Climate / Circularity | 5 papers | Session time: 10:00-11:30 / *Chair:* ***Konstantinos Mantalovas***

Time	ID	Paper Title	Authors
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
10:18-10:36	71	Mechanical 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
10:36-10:54	177	Environmental Hotspots and Scenarios for Asphalt Roads at Planning Phase	Bruna Pereira de Souza, Roland Meyer and Marzia Traverso
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
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

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

Room A - LM5: Digital Tools, Geospatial Platforms, and AI

LCA Methodologies | 3 papers | Session time: 11:45-13:15 / *Chair:* ***David Hernando***

Time	ID	Paper Title	Authors
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
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
12:21-12:39	134	Surface Rating and Severity Characterisation of roads via AI navigation	Fabio Galatioto and Nabeel Shaikh

Room B - MAT6: Functional, Bridge, and Circular Material Systems

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

Time	ID	Paper Title	Authors
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
12:03-12:21	87	Life Cycle Assessment of Pervious Concrete Pavement with Portland Cement and Geopolymer	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
12:39-12:57	85	Mechanical performance of demanufactured RA aggregates	Andrea Scarponi, Alberto Di Bartolomeo and Francesco Canstrari
12:57-13:15	130	Comparative Life Cycle Assessment of Three Bridge Structural Variants	Agnieszka Wiater and Tomasz Siwowski

Room C - CL5: Digital Integration, BIM, and Cross-Modal Decarbonization

Climate / Digital | 5 papers | Session time: 11:45-13:15 | *Chair:* ***Marco Guerrieri***

Time	ID	Paper Title	Authors
11:45-12:03	21	Seamless Integration of Carbon Assessment with BIM for Infrastructure Sustainability	Laura Traseira, Alain Mardo and Renaud de Montaignac
12:03-12:21	68	Expected States' Performance in Grid Decarbonization and Mobility Electrification	Asad Khan, Lara Diab, Murryam Hafeez and Imad Al-Qadi
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 Buttgereit and Alexander Zeissler
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
12:57-13:15	77	Decarbonizing Freight across Roadway and Marine Transportation	Murryam Hafeez and Imad L. Al-Qadi

Track Summary

Theme / Track Group	Paper Count	Session Count
LCA Methodologies	20	5
Materials / Design / Construction / Maintenance	29	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