

# International Symposium on Pavements for Carbon Neutral and Digitalized Roads

ISPACAD 2026

Final Program



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CIRCOPAV

ISPACAD2026 is supported by CIRCOPAV Project "Circular and Connected Pavements for Carbon Neutral and Digitalised Roads" (funded by European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie Grant Agreement No 101072820).



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## WELCOME

The second International Symposium on Pavements for Carbon Neutral and Digitalized Roads (ISPACAD2026) is organised jointly by LabIC.UGR and the Consejería de Fomento, Articulación del Territorio y Vivienda de la Junta de Andalucía, within the context of CIRCOPAV Project (Circular and Connected Pavements for Digitalised Roads, *Marie Skłodowska-Curie Grant Agreement No 101072820*).

ISPACAD2026 will be held on **February 17th–18th, 2026**, at the Faculty of Civil Engineering, University of Granada, Spain. This symposium will serve as a premier international forum for the dissemination of cutting-edge research and technological advancements in asphalt materials and smart technologies driving the circularity and digital transformation of road infrastructure. ISPACAD2026 aims to bring together researchers, engineers, policymakers, industry professionals and stakeholders to explore the transformative advancements in road infrastructure. The symposium will cover the entire lifecycle of pavements, from design and material selection to construction, operation, maintenance, and end-of-life management, with a strong emphasis on achieving environmental sustainability and leveraging digital technologies. The ultimate goal is to accelerate the transition towards a future where road infrastructure is not only robust and efficient but also environmentally responsible, digitally intelligent, and adaptable to evolving societal needs.

We look forward to welcoming you to Granada for this exciting event!

**Prof. M<sup>a</sup> Carmen Rubio-Gámez & Prof. Fernando Moreno-Navarro**  
Chairs of ISPACAD 2026

**Eng. Alfonso Lujano Jiménez & Eng. M<sup>a</sup> Carmen Pastrana Zambrana**  
Co-Chairs of ISPACAD 2026



## ISPACAD 2026 COMMITTEES

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LabIC.UGR, Universidad de Granada

**Prof. Fernando Moreno-Navarro (Chair)**

LabIC.UGR, Universidad de Granada

**Eng. Alfonso Lujano Jiménez (Co-Chair)**

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## VENUE

ISPACAD 2026 will be held at E.T.S. Ingenieros de Caminos, Canales y Puertos (Faculty of Civil Engineering) of the University of Granada.

Salon de Actos, Floor -2.

Address: Avda. Severo Ochoa, s/n, 18071, Granada (Spain)

Web: <https://etsiccp.ugr.es/>

Google Maps Location: <https://goo.gl/maps/UnAV72NVSQnRNJWc8>



PROGRAM

	Monday 16th Feb. "Welcome Day"	Tuesday 17th Feb. "Industry Day"	Wednesday 18 <sup>th</sup> Feb. "CIRCOPAV Day"
8 h		Welcome & Registration	
9 h		Opening Session	
10 h		Keynote Lecture I	CIRCOPAV Project Presentation
11 h		Session I	CIRCOPAV Session I
		Coffee	Coffee
12 h		Session II	CIRCOPAV Session II
13 h		Round Table	
14 h		Lunch	Lunch
15 h		Session III	WORKSHOP "Tips to succeed in your PhD project"
16 h		Keynote Lecture II	WORKSHOP "Digital Roads of the Future - University of Cambridge"
17 h		Coffee	Closing Session
		Session IV	
18 h	Alhambra Guided Visit*		
19 h			
20 h			
21 h		Gala Diner	
22 h			
23 h			

\*Monument entry is restricted to delegates who registered prior to the October 28, 2025 deadline. Please email [labic@ugr.es](mailto:labic@ugr.es) to confirm whether a ticket has been allocated to you.



## Monday 16<sup>th</sup> February (Welcome Day)

### Alhambra Visit (16:00-20:00)

**IMPORTANT: Monument entry is restricted to delegates who registered prior to the October 28, 2025 deadline. Please email [labic@ugr.es](mailto:labic@ugr.es) to confirm whether a ticket has been allocated to you.**

The history of the Alhambra is linked with the geographical place where it is located: Granada. On a rocky hill rising above, on the banks of the River Darro, protected by mountains and surrounded by woods, among the oldest quarters in the city, the Alhambra rises up like an imposing castle with reddish tones in its ramparts that prevent the outside world from seeing the delicate beauty they enclose.

Originally designed as a military area, the Alhambra became the residence of royalty and of the court of Granada in the middle of the thirteenth century, after the establishment of the Nasrid kingdom and the construction of the first palace, by the founder king Mohammed ibn Yusuf ben Nasr, better known as Alhamar. Throughout the thirteenth, fourteenth and fifteenth centuries, the fortress became a citadel with high ramparts and defensive towers, which house two main areas: the military area, or Alcazaba, which houses the barracks of the royal guard, and the Medina or Court City, which is the location of the famous Nasrid Palaces and the remains of the houses of noblemen and plebeians who lived there. The Charles V Palace (which was built after the city was taken by the Catholic Monarchs in 1492) is also in the Medina. The complex of monuments also has an independent palace opposite the Alhambra, surrounded by orchards and gardens, which was where the Granadine kings relaxed: the Generalife.





## Tuesday 17<sup>th</sup> February (Industry Day)

### Welcome & Registration (8:00-8:45)

**Registration:** 8:00–8:45 | Hall (Floor -2), School of Civil Engineering.

**Interpretation:** English-Spanish simultaneous translation is available for all sessions. Headsets can be collected at the registration desk.

### Opening Session & Chairs Welcome (8:45-9:30)

**D. Pedro Mercado Pacheco.** Rector Magnífica de la Universidad de Granada.

**D<sup>a</sup>. Mónica López Alonso.** Directora de la ETS de Ingenieros de Caminos, Canales y Puertos de la Universidad de Granada.

**D<sup>a</sup>. Rocío Díaz Jiménez.** Consejera de Infraestructuras, Articulación del Territorio y Vivienda de la Junta de Andalucía.

**Representante** del Ministerio de Transportes y Movilidad Sostenible.

**D<sup>a</sup>. María Francisca Carazo Villalonga.** Alcaldesa de Granada.

**D. M<sup>a</sup> Carmen Rubio Gámez.** Chair ISPACAD2026.

**D. Fernando Moreno Navarro.** Chair ISPACAD2026.

### Keynote Lecture I (9:30-10:00)

#### “Emerging Horizons: Transforming Asphalt Technology”

Prof. Michael Wistuba, Full Professor at TU Braunschweig (Germany)

### Session I: Circular Pavement, Carbon Neutral Roads and Sustainable Materials (10:00-11:00)

Chair: **Prof. Gabriele Tebaldi** (University of Parma, Italy)

#### “Laboratory and field assessment of recycling agents in rap mixtures”

Prof. Jo Sias, Director of the UNH Center for Infrastructure Resilience to Climate, University of New Hampshire (United States)



**“Experimental investigation on compaction performance of RAP mixtures in laboratory conditions”**

Prof. Mihai Marasteanu, MSES/Miles Kersten Chair for the University of Minnesota's Department of Civil, Environmental, and Geo- Engineering (United States)

**“Potential of Nature Based Solutions in Road Engineering”**

Prof. Yuhong Wang, Director of Research Centre for Nature-based Urban Infrastructure Solutions Hong Kong Polytechnic University (China)

**Coffee Break (11:00-11:30)**

Coffee break will be held in the hall on floor -3 of the Civil Engineering Faculty building.

**Session II: Connected Pavement, Digitalized Roads and Smart Infrastructures (11:30-12:30)**

Chair: **Dr. Juan José Potti**, Executive President of ASEFMA (Asociación Española de Fabricantes de Mezclas Asfálticas)

**“Smartvia and power road”**

D<sup>a</sup>. Nuria Uguet Canal, Technical Director of PROBISA-EUROVIA, Spain.

**“Intelligent asphalt laying and compaction”**

D. Manuel Álvarez, Sales Director of EMSA.

**“Reaching the road of the future”**

Prof. Fernando Moreno Navarro, Deputy Director Laboratory of Construction Engineering of the University of Granada (LabIC.UGR), Universidad de Granada, Spain.

**Round Table: Policy and Industry Perspectives on Road Infrastructure (12:30-13:30)**

Chair: **Steve Phillips**, Secretary-General at the Conference of European Directors of Roads (CEDR)

**Representative of the Ministry of Transport and Sustainable Mobility**

**D. Alfonso Lujano Jiménez**, Director for Road Infrastructure, Regional Government of Andalusia, Spain

**D. Enrique Catalina Carmona**, City Councilor for Urban Planning, Granada City Council, Spain



**LUNCH (13:30-15:00)**

Lunch will be held in the hall on floor -3 of the Civil Engineering Faculty building.

**Session III: Circular Pavement, Carbon Neutral Roads and Sustainable Materials  
(15:00 – 15:45)**

Chair: **Prof. Hervé Di Benedetto**, Emeritus Professor ENTPE University of Lyon, France

**“Academic research as a driver for sustainable pavements in Flanders”**

Prof. Wim Van den Bergh, University of Antwerp, Belgium.

**“Rubblizing technology for concrete pavement rehabilitation”**

Prof. Piotr Jaskula, Gdansk University of Technology, Poland.

**“Sustainable high-performance asphalt elaborated with high rates of rap and special bitumens”**

Prof. Francisco Morea, Universidad Nacional de la Plata, Argentina.

**Keynote Lecture II (15:45-16:15)****“BIM-based PMS and Physics-Informed Digital Twins”**

Prof. Gordon Airey, Full Professor at University of Nottingham (UK)

**Coffee Break (16:15-16:45)**

Coffee break will be held in the hall on floor -3 of the Civil Engineering Faculty building.

**Session IV: Circular Pavement, Carbon Neutral Roads and Sustainable Materials  
(16:45- 17:30)**

Chair: **Dr. Flavien Geisler**, Chef de projets et Directeur R&I adjoint at Eiffage, France

**“Unveiling the potential of heat pumps for decarbonizing the asphalt mixture production sector: a comprehensive techno-economic and environmental analysis”**

Joao Santos, University of Twente (Netherlands).

**“Assessment of Recyclability in Asphalt Mixtures with Laboratory-Aged Reclaimed Asphalt”**

Ariane Oss-Emer, Laboratorio de Ingeniería de la Construcción de la Universidad de Granada (Spain).



**“The addition effect of Highly Graphitized Reduced Graphene Oxide (HG-RGO) Derived from Coal-Tar Pitch on high temperature performance of bitumen”**

Zeinab Abo Shanab, Egyptian petroleum research institute (Egypt).

Gala Dinner (20:00-23:00)

ISPACAD 2026 Gala Dinner will be held in “Carmen de los Mártires”.

Address: P.º de los Mártires, s/n, Centro, 18009 Granada.

<https://maps.app.goo.gl/TPTovSn8qqaeVvG26>



## Wednesday 18<sup>th</sup> February (CIRCOPAV Day)

CIRCOPAV Project Presentation (9:30-10:00)

**Prof. M<sup>a</sup> Carmen Rubio Gámez.** Director Laboratory of Construction Engineering of the University of Granada (LabIC.UGR), Universidad de Granada, Spain

CIRCOPAV Session I (10:00-11:15)

Chair: **Prof. Francesco Freddi**, University of Parma, Italy





**“Collaborative Auscultation of Pavement Infrastructures Through the Application of Navigators”**

DC. Karolina Wołukanis, Laboratorio de Ingeniería de la Construcción de la Universidad de Granada (Spain)

**“Digitalization of roads structures for non-destructive analysis: from laboratory to road”**

DC. Ana Karoliny Lemos Bezerra, University of Lyon/ENTPE (France)

**“Interactive Analysis System for the Management of Pavements”**

DC. Lucas Sassaki Vieira da Silva, TU Braunschweig (Germany)

**“Sensors Network for Smart Self-Sustaining Interactive Infrastructures”**

DC. Sher Muhammad Nizamani, University of Parma (Italy)

**“Dynamic Interactive Digital Monitoring Systems for Bridge Management”**

DC. Hamed Hasani, University of Parma (Italy)

**Coffee Break (11:15-11:45)**

Coffee break will be held in the hall on floor -3 of the Civil Engineering Faculty building.

**CIRCOPAV Session II (11:45-13:00)**

Chair: **Prof. Cedric Sauzeat**, ENTPE, University of Lyon, France

**“Multifunctional urban pavements to promote circular economy in cities”**

DC. Walter Antonio Mera Intriago, LabIC.UGR, Universidad de Granada (Spain)

**“Real-Time Quality Management for Sustainable Pavements”**

DC. Nemanja Nešković, Stellenbosch University (South Africa)

**“Design of a new sustainable bio-binders for cold-in-place recycling”**

DC. Andressa Cristina Borges Chaves, Eiffage (France)

**“Sustainable green infrastructure for climate neutral cities”**

Marcela Maria Toscano Krau, TU Braunschweig (Germany)

**“Impact of Climate Change on Fatigue Service Life of Road Pavements”**

DC. Sergio Hernán Manjarrés Paredes, University of Lyon/ENTPE (France)

**LUNCH (13:00-14:00)**

Lunch will be held in the hall on floor -3 of the Civil Engineering Faculty building.



### WORKSHOP “Tips to succeed in your PhD project” (14:00-15:00)

This session has been specially designed for PhD students. Eminent professors from different universities will give advice about the most effective ways of achieving PhD success. In this session, the following topics will be addressed:

- **"Strategies for Successful Doctoral Completion"**
- **"Maximizing Doctoral Research for Industrial Career Success"**
- **"Pathways to Success: Establishing an Academic Career Post-Doctorate"**

Prof. Hervé Di Benedetto, Emeritus Professor ENTPE University of Lyon, France

Prof. Davide Lo Presti, Associate Professor of Pavement Engineering, Università degli Studi di Palermo, Italy

### WORKSHOP “Digital Roads of the Future – University of Cambridge” (15:00-16:15)

*Chair: Prof. Francisco Gámiz, Universidad de Granada (Spain)*

This workshop will showcase research from the Future Roads programme by Researchers of the University of Cambridge, highlighting practical innovations across five key themes: Digital Twins, Sustainability, Smart Materials, Automation & Robotics, and Data Science.

Participants will gain insights into:

- How digital twins are evolving to become more user-friendly and integrated with real-time data.
- New materials and technologies that enable greener, smarter, and more resilient road infrastructure.
- The role of AI and robotics in improving safety, efficiency, and adaptability on construction sites and in traffic systems.
- Data-driven tools for predictive maintenance, flood resilience planning, and automated road condition assessment.

**“A graph-centric framework for digital twinning the built environment”**. Dr. Junxiang Zhu

**“PaveMove: A novel theoretical model for TSD tests of asphalt pavements”**. Dr. Zhaojie Sun

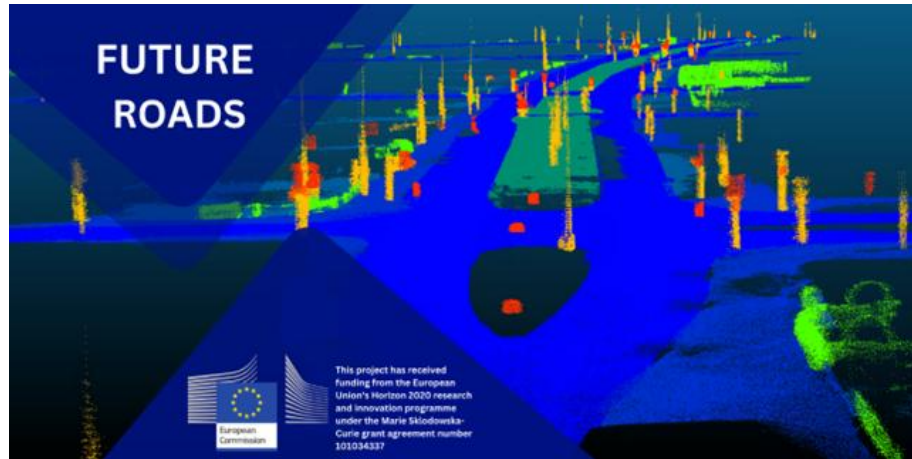
**“Efficient Reservoir Computing-based Control for Stabilising Mixed-Autonomy Traffic”**. Dr. Kai-Fung Chu

**“Road surface monitoring based on physical computing methods”**. Dr. Xiang Wang



**“Enabling Infrastructure Subsystems Integration via Agentic Ontology Engineering”**. Dr. Yin Mengtian

**“Towards Circular Pavements: Advancing Low-Carbon Cementitious Materials and Recycled Asphalt for a Net-Zero Future”**. Dr. Abbas Solouki




Closing Session (16:15-16:30)

**Prof. M<sup>a</sup> Carmen Rubio Gámez**. Chair ISPACAD2026.








**Prof. Fernando Moreno Navarro**. Chair ISPACAD2026.



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