



TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

OVERVIEW

INFORMATION FOR THE GENERAL PUBLIC

The Organizing Committee of the XXII COLOMBIAN SYMPOSIUM and III IBERO-AMERICAN SYMPOSIUM ON PAVEMENT ENGINEERING presents to the professionals of Engineering in Colombia and Ibero-America, to the sector guilds, to all interested entities and to the institutions, national and international throughout Ibero-America the SYMPOSIUM ON PAVEMENT ENGINEERING.

1. THE SYMPOSIUM

For 47 years the COLOMBIAN SYMPOSIUM ON PAVEMENT ENGINEERING has been developed with a large number of national and international experts, who discuss road infrastructure problems, advances, research, applications and issues related to pavements. This prestigious event has been held by several universities, engineering associations and other institutions in the country. In 2022 the Atlantic Society of Engineers has the honor of organizing its twenty-second version in Barranguilla city.

The axis thematic of the XXII COLOMBIAN SYMPOSIUM and III IBERO-AMERICAN SYMPOSIUM ON PAVEMENT ENGINEERING is closely related to innovation in road growth in Colombia and the countries regions; it, surely, will be an unparalleled platform for the presentation of Initiatives and Technological Innovations for Sustainable Roads. Some of the topics on which the conferences of the event will be developed will be:

- Recent advances in flooring materials and technologies
- Track maintenance
- Structural design of pavements
- Unconventional flooring
- Road infrastructure management
- Materials and stabilizers
- Construction equipment and processes
- Road Infrastructure Financing
- Adaptation of road infrastructure to climate change
- Experiences and success stories









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

The Atlantic Society of Engineers extends an invitation to academics, students, consultants, builders, entrepreneurs and public sector officials interested in participating in the XXII COLOMBIAN AND III IBERO-AMERICAN SYMPOSIUM ON PAVEMENT ENGINEERING. Barranquilla welcomes you all with open arms on April 27, 28 and 29, 2022.

2. IMPORTANT DATES:

- Deadline for submission of papers: February 15, 2022 (Research Article and Case Studies)
- Notification of acceptance of works: February 28, 2022 (Research Article and Case Studies)
- FinalArticle: March 31, 2022 (Research Article)

April 15, 2022 (Case Studies)

- Delivery of presentations: April 22, 2022
- Pre-event courses: April 25 and 26, 2022
- Start of sessions: April 27, 2022 8:00 am
- Closing of the event: April 29, 2002

3. JOB PREPARATION

To apply for the presentation of research at the XXII COLOMBIAN SYMPOSIUM and III IBERO-AMERICAN ON PAVEMENT ENGINEERING, those interested must enter the following link that will give access directly to the Easy Chair platform:

https://easychair.org/conferences/?conf=pavimentos22
Or they can send them to the mail tecnico@pavimentos22.com

Accepted papers have two presentation alternatives, as described below.

First alternative: Research Articles

Paper that presents the results of research, development or innovation processes. The maximum length of these articles will be 7000 words (including bibliography), and for such publication the author must follow the instructions found in http://pavimentos22.com/#ponencia The selected articles will be considered for publication in the journal

Engineering and Development









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

(http://rcientificas.uninorte.edu.co/index.php/ingenieria)

Second alternative: Case Studies.

Explanation of the experiences of real cases of interest to the symposium audience. It is possible to present cases resulting from consulting activities, design, construction, diagnostics, case studies, practical cases solutions, among others. For such publication the author must follow the instructions available at http://pavimentos22.com/#ponencia

4. ORGANIZING COMMITTEE

Mr. Ismael Quintero Espinosa, President

Eng. William Quintero Athias, coordinador general

Mr. Javier Abello Strauss, General Manager:

5. TECHNICAL COMMITTEE

Eng. Luis Fuentes Pumarejo

Eng. Abraham Castaneda

Ing. Carol Bocklemman

Eng. Cira Piedrahita Céspedes

Eng. Donaldo Castilla Rodriguez

Eng. Edgardo Muñoz Querales

Eng. Hernán Otoniel Fernández

Eng. Ricardo Cuevas Hernandez

Eng. Jorge Peña Caicedo

Eng. Victor Cantillo Maza

Eng. Otto Mora Lerma

Academic Coordinator Ing. Victor Cantillo Maza

Case Study Coordinator: Eng. Donaldo Castilla Rodríguez

Technical Secretariat: Eng. Daniela Vega







TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

The XXII COLOMBIAN SYMPOSIUM and III IBERO-AMERICAN SYMPOSIUM ON PAVEMENT ENGINEERING

It will be held in five (5) different spaces with dissemination in the institutional magazine

- a. <u>Courses Pre event</u> 4 courses with academic themes. Duration will be between 4 and 8 hours taught at the headquarters of the Atlantic Society of Engineers on April 25 and 26
- b. **Reception,** where the registration will work on the first day and then the coffee break a rest area and a permanent information post
- c. <u>Commercial Sample</u>. Mandatory transit space with 32 Stands available to the conferences and to the Business Roundtable, in such a way that it is essential that attendees interact with the exhibition stands
- d. <u>Business Roundtable</u>. Space where suppliers will meet with their potential customers to talk about business terms.
- e. <u>Conference Room</u>. The conference room is made for 900 people and it will have seats and tables arranged in an auditorium style.
 - **Equipment Yard**. 2,000 m² for demonstration purposes of work equipment.
- f. <u>Institutional Journal</u>. Where all the Research Articles and Case Studies presented at the Symposium will be published

To carry out the event, attendees are classified as follows:

Students A				
Students B				
Affiliate General				
General				
Virtual				
Pre-event courses				
Supplier Business Roundtable				
Client Business Roundtable				









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

7. EVENT HOTEL

Dann Carlton Barranquilla

Calle 98 No 52B – 10 +57 (605) 367 7777 reservas@danncarltonbaq.co

Please write to inscripciones@pavimentos22.com to obtain the key for the discount for the event at the hotel

8. INSCRIPTIONS

COUNTRY RESIDENTS 1

Residentes en el país (Pesos)

	1	Tiempos				
	antes de	antes de	antes de	después de		
	28/2/2022	31/3/2022	27/4/2022	27/4/2022		
	SIMPOSIO			· · · · · · · · · · · · · · · · · · ·		
Estudiantes A	120,000	130,000	140,000	168,000		
Estudiantes B	170,000	180,000	200,000	240,000		
General afiliado	330,000	360,000	400,000	480,000		
General	410,000	450,000	500,000	600,000		
E	VENTOS ADICIO	NALES				
Cursos pre evento (8 horas)	120.000	130.000	150.000	N/A		
Proveedor Rueda de Negocios	410,000	450,000	500,000	600,000		
Cliente Rueda de Negocios	100,000	110,000	120,000	144,000		

Descuento adicionales por grupos o por participación en varios eventos

RESIDENTS ABROAD (US dollars)

¹ It is defined by the place of residence, regardless of nationality. If you reside abroad you must pay in dollars





April 27, 28 and 29, 2022 Barranquilla, Colombia **Hotel Dann Carlton**

www.pavimentos22.com



Residentes fuera de Colombia (dólares)

	Tiempos					
	antes de 28/2/2022	antes de 31/3/2022	antes de 27/4/2022	después de 27/4/2022		
	SIMPOSIO					
Estudiantes A	35,00	37.00	40,00	50,00		
Estudiantes B	50,00	55,00	60,00	70,00		
General afiliado	95,00	100,00	115,00	140,00		
General	120,00	130.00	145.00	175,00		
	EVENTOS ADICIO	NALES		,		
Cursos pre evento (8 horas)	35.00	40.00	50.00			
Proveedor Rueda de Negocios	120,00	130.00	145.00	175,00		
Cliente Rueda de Negocios Descuento adicionales por	30,00	33.00	35.00	45,00		

9. KEYNOTE SPEAKERS

9.1. International

Ing. John T. Harvey, Ph.D., P.E.

Professorof Civil Engineering at the University of California, Davis. President of the group of graduates of Technology and Transportation Policies. Director of the Pavement Research Center at the University of California (UCPRC)

Eng. Lubinda Walubita, Ph.D.

Research Scientist at TTI - Texas A&M University System

Ing. Gerardo W. Flintsch, Ph.D.

Director of the Center for Sustainable and Resilient Infrastructure at VTTI Professor of Civil and Environmental Engineering at Virginia Tech

Eng. Paul Garnica, Ph.D.

Director General, Centre for Road Safety, Infrastructure and Innovation

Emile Horak, Ph.D.

Civil Engineering, University of Pretoria | UP · Department of Civil Engineering University of Stellenbosch - University of South Africa - University of California, Berkeley

Ing. Jaime Hernández









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

9.2. National

✓ Ing. Silvia Caro

Civil Engineer and Master in Civil Engineering from the Universidad de los Andes, and Ph.D. from Texas A&M University

Academic Vice-Dean and Full Professor of the Department of Civil and Environmental Engineering Universidad de los Andes

Eng. Donaldo Castilla

Civil Engineer from Universidad del Norte

Owner Consultant Engineering and Road Management Gevial SAS

✓ Ing. Luis Fuentes Pumarejo

Civil Engineer from Universidad del Norte,

Master in Civil Engineering from the University of South Florida,

PhD in Road Infrastructure Management from the University of South Florida.

Associate member of the World Road Association-PIARC committee

10. SPONSORS (To be confirmed)

- MPI
- Ultracem
- Pavifran
- Lhoist
- Proestech
- Pavco Wavin

11. SUPPORT

- Colombian Society of Engineers
- Camacol Atlántico
- Testranquilla
- Colombian Chamber of Infrastructure North Regional
- Procolombia
- Governorate of the Atlantic
- Mayor's Office of Barranguilla
- Ministry of Transport of Colombia
- Invias Colombia









FECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

National Infrastructure Agency

12. INTERNATIONAL COLLABORATORS

- Mexican Asphalt Association
- Roads and more Paraguay

13. CONTACT and NETWORKS

Phone: (+57) 3012417668

Event Email: info@pavimentos22.com
Instagram: simposiopavimentos22

Twitter: @pavimentos2020

Linkedin: XII Colombian Symposium on Pavement Engineering

Facebook: XIIsimposiopavimentos

Youtube: pavements22

14. ORGANIZERS

14.1. the Atlantic Society of Engineers

SOCIEDAD DALINGENIERO

MISSION

To promote the study of sciences and their applications, in favor of the development of Engineering and material improvements of the Department of Atlántico and the country according to scientific plans; advocate the intervention of engineers in all activities related to them; strengthen the bonds of union between its partners, promote the defense and improvement of the profession and ensure strict compliance with Professional Ethics.

VISION

The Atlantic Society of Engineers is a non-profit Corporation, of an academic, scientific and trade union nature, declared a Consultative Center of the National Government.

The Atlantic Society of Engineers, was founded on September 3, 1953.









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

14.2. Universidad del Norte ²

The Universidad del Norte Foundation, located at kilometer 5 Via Puerto Colombia, is a private Colombian higher education institution based in Barranquilla, subject to inspection and surveillance through Law 1740 of 2014 and Law 30 of 1992 of the Ministry of Education of Colombia. It has the "Institutional Accreditation of High Quality" and has recently been considered one of the ten best universities in Colombia for its comprehensiveness and academic excellence.

The institution has 28 undergraduate programs ,62 specializations, 50 master's degrees, 15 doctorates, for a total of 155 academic programs.

In July 2018, Adolfo Meisel Roca begins his term as rector of the Universidad del Norte

14.3. University of the Coast ³

The Universidad de la Costa is a private higher education institution located in the city of Barranquilla, Colombia. It received accreditation as a university on March 28, 2012, according to Resolution 3235, also has the high quality institutional accreditation for its academic excellence granted by the Ministry of National Education (MEN) through resolution 009521 of September 6, 2019, thus being one of the 4 universities in the city to receive this recognition.

Its student population amounts to 12,699 students, of which 11,811 are undergraduate and 888 graduate. It also has a total of 774 active professors, of which 84.09% have completed postgraduate studies. The university offers 26 undergraduate programs, 46 specializations,16 master's degrees and 6 doctorates for a total of 94 academic programs. It also maintains alliances and agreements with approximately 141 universities at local, national and international level; of these, 38 correspond to agreements throughout the national territory and 103 internationally distributed in Europe, America and Africa. It also has 8 programs "accredited with high quality" by the Ministry of Education of Colombia. The university has its own publishing house called Editorial Universitaria de la Costa (EDUCOSTA) which has the dissemination and circulation of books and 9 scientific journals locally and nationally.

³ https://www.cuc.edu.co/universidad/presentacion/historia





² https://www.uninorte.edu.co/web/sobre-nosotros/nuestra-historia





TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

14.4. Simon Bolivar University

The Simón Bolívar University, also known as the Unisimón, is a higher education institution located in Barranquilla, based in Cúcuta, 2 Colombia, subject to inspection and surveillance through Law 1740 of 2014 and Law 30 of 1992 of the Ministry of Education of Colombia. 3It has the institutional accreditation of High Quality granted by the Ministry of Education of Colombia, being the third institution of Barranquilla along with the Universidad del Norte and the Universidad Libre to receive this recognition.

The university was founded by a prominent figure from the Atlantic coast named José Consuegra Higgins in 1972.

The institution has 21 undergraduate programs,23 specializations,16 master's degrees and 6 doctorates, for a total of 65 academic programs.

15. VENUE

15.1. Barranquilla, Colombia 4

Barranquilla is located on the west bank of the Magdalena River, a few kilometers from its mouth in the Caribbean Sea. It is an air, sea, river and communications port. Its 154 kilometers are home to more than one million inhabitants whose common feature is the spontaneity and joy of the people of the Caribbean, are dedicated to work in four productive sectors: industry, services, commerce and transport. Among them, the manufacturing and metalworking industrial activity, the production of food and beverages, clothing and chemical substances stand out.

With an adequate infrastructure of public services, multiple rate advantages, a modern free zone and efficient industrial parks, the capital of the department of Atlántico is a strategic place for the development of international trade.

The average temperature is 28 degrees Celsius, Barranquilla has a pleasant climate for a good part of the year, cooling in a good way the trade winds that walk throughout its territory. It rains seasonally, from May to June and from August to November.

⁴ https://www.ambq.gov.co/barranquilla/









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

15.2. Some Features⁵

<u>Description</u>: Barranquilla, officially the Special, Industrial and Port District of Barranquilla, is the capital of the department of Atlántico. It is located on the western bank of the Magdalena River 7.5 km from its mouth in the Caribbean Sea. It is the main economic center of the Caribbean Region of Colombia, among the economic activities include trade and industry. The population of Barranquilla is 1,223,967 people, making it the fourth most populous city in the country behind Bogotá, Medellín and Cali. The city is the nucleus of the Metropolitan Area of Barranquilla, which is also constituted by the municipalities of Soledad, Malambo, Galapa and Puerto Colombia.

<u>Cultural Offer</u>: In the city, an interesting cultural activity takes place throughout the year, whose most representative sample is the carnival of Barranquilla, one of the most famous popular festivals in Colombia. It is celebrated annually during the four days leading up to Ash Wednesday – Carnival Saturday, Sunday, Monday and Tuesday – usually in February or early March. Barranquilla hosts various cultural events such as artistic exhibitions, exhibitions, literary workshops, philosophical conversations, theater pieces, poetry days, dances, exhibitions, concerts and festivals, such as the Festival of Orchestras within the framework of Carnival and Barranquijazz. Since 1957 the Concert of the Month has been held, a space for the dissemination of classical music. It has a complex network of Theatres and Museums.

Climate: The climate of Barranquilla is tropical dry. The average temperature is 27.4 °C

Transportation: Transmetro, is the metropolitan mass transportation system, The system operates with articulated buses that circulate in exclusive lanes and that stop at fixed stops. Metroline. In the city operates a network of bus and bus routes whose rates vary depending on the model (age) and amenities such as air conditioning.

15.3. Things to do in Barranquilla⁶

This city has a wide range of recreational and cultural activities to enjoy. One of them is to visit the historic center, declared an Asset of Cultural Interest in 1999, where you will find tourist places such as the Paseo de Bolívar, one of the most outstanding avenues of the city and on which the Mayor's

⁶ https://colombia.travel/es/barranguilla





⁵ https://aprende.colombiaaprende.edu.co/ckfinder/userfiles/files/Barranquilla(1).pdf





TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

Office, the Church of San Nicolás, the Plaza de San Roque and several commercial buildings are located.

You can also learn more about the culture and art of the city and the region at the Museum of the Caribbean and the Museum of Modern Art of Barranquilla, which has works by important artists, such as Fernando Botero, Karel Appel, Ángel Loochkartt, Enrique Grau, Alejandro Obregón, Salvador Dalí, among many others.

Other points of interest that you can visit are the María Reina Cathedral, an architectural reference of Colombia, and the Castle of San Antonio de Salgar, a flagship construction of the capital of the department of Atlántico.

As for the gastronomy, Barranquilla has delicious preparations, thanks to the cultural mix with Caribbean influences. In this way, you can enjoy typical dishes such as guandú sancocho with salted meat, cassava buns and drinks prepared with fruits such as corozo, tamarind, sapote and medlar.

15.4. The 25 Best Things to Do and See in Barranquilla, Colombia

Maria Reina Metropolitan Cathedral

Peace Square Combarranquilla Paseo Bolivar Barranquilla Zoo Old Customs Building

Museum of the Caribbean

Ash Mouths Castle of Salgar

Temple of San Nicolás Tolentino

The Troja

Romantic Museum

Try Caribbean Coast Food

The beaches of Barranquilla

Barranquilla Carnival Malecon Puerta de Oro

Roberto Meléndez Metropolitan Stadium

El Prado Neighborhood

Musicians' Park Carnival House

Monument of the Window to the World and

the Window of Champions Romelio Martínez Stadium

Totumo Volcano

House of the Poet Julio Flores Go shopping at Oscar de la 30









TECHNOLOGICAL INITIATIVES AND INNOVATION FOR SUSTAINABLE ROADS

15.5. What is there to do at Barranquilla?

You can walk along the Paseo Bolívar, visit the Caribbean Park, stroll along the Puerta de Oro Malecon, enjoy a sunset at the Salgar Castle, dance salsa in La Troja, observe how the Magdalena River and the sea come together in Boca Cenizas, visit the Romantic Museum, take a photo at the monument of A Window to the World and many more activities.

15.6. What are the beaches of Barranquilla?

Puerto Colombia Beach, Puerto Velero Beach, Crystal Beach, Miramar Beach, Sabanilla Beach, Puerto Mendoza Beach, Santa Veronica Beach, Sabanilla Beach, Palmarito Beach, Tubará Beach, Salinas del Rey Beach, Punta Astilleros Beach, Juan de Acosta Beach, Abello Beach, among others



