



2021
VIRTUAL EVENT

VIRTUAL EVENTS
SEPTEMBER 27 - OCTOBER I

ORGANIZED by:
International
Society for
Concrete
Pavements

in conjunction with: Minnesota DOT

National Road Research Alliance

Australian Society for Concrete Pavements

Transportation Research Board

and the

European Concrete Paving AssociationSPONSORED by:

Lehigh Hanson

American Concrete Pavement Association

Cemex

Making Waves with Durable, Resilient Concrete Pavements,

I2TH ICCP WEBSITE: <u>12thiccp.concretepavements.org</u>
FULL PROGRAM: <u>https://12thiccp.concretepavements.org/program/</u>
REGISTRATION: <u>https://12thiccp.concretepavements.org/register/</u>



Lehigh Hanson
HEIDELBERGCEMENT Group







WELCOME TO THE 12TH ICCP 2021



The I2th ICCP theme:

Making Waves with Durable, Resilient Concrete Pavements

This I2th ICCP was originally scheduled for August, 2020 at "The Depot" in Minneapolis, Minnesota, USA, but the global COVID-19 pandemic has continued to spread. Taking into account the unprecedented health measures being taken in countries around the world, unpredictable international travel feasibility, and limited travel opportunities for U.S. state agencies, the I2th ICCP Organizing Committee worked diligently to find the best solution for conference attendees, venues, and the Society itself. Ultimately, the best decision was made for all involved to hold the I2th ICCP 2021 ONLINE!

The International Concrete Pavements Conference (ICCP) has been held every 4 years since 1977. The twelfth conference 2021 will carry on the tradition of a series of international conferences begun in 1977 by Purdue University (ICCPs I-6), then subsequently hosted by ISCP starting with 7th in 2001, in Orlando, Florida. The I2th ICCP 2021 will continue with the traditional focus—present information on new technologies related to the design, construction and rehabilitation of various concrete pavements. Targeted for those who are involved in any aspect

of concrete pavement design, practicing research, construction, testing, evaluation, and rehabilitation including the following:

- Pavement, materials, & geotechnical engineers
- Federal, state, provincial, & municipal engineers
- Consulting engineers
- Contractors
- Material Suppliers
- Academia

ISCP is partnering with SB2 to utilize their virtual campus named "The Aggregate" to host this major international conference with:

- 96 technical presentations—(live and recorded) comprise comprehensive and current coverage on concrete pavement technology
- 10 four-hour workshops— unique online networking opportunities

As we all look forward to a future filled with normalcy and face-to-face opportunities, *ISCP* will host the:

13th ICCP 2024

August 25-29, 2024 in person at "The Depot" Minneapolis, Minnesota, USA

In the meantime, if you have any questions regarding the conference, please contact us at: conference@concretepavements.org

IMPORTANT LINKS:

12TH ICCP WEBSITE: 12thiccp.concretepavements.org

FULL PROGRAM:

https://12thiccp.concretepavements.org/program/

REGISTER:

https://12thiccp.concretepavements.org/register/





REGISTRATION

To promote a wide-reaching international audience, I2th ICCP 2021 registration prices:

USD \$ 80.00 for the first 1,000 registrants

USD \$120.00 after 1,000th registration has been reached

To **REGISTER**, please click here; on each page of this Program Summary; or go to the **I2th ICCP Website** registration page and click the button at the bottom of the page: https://l2thiccp.concretepavements.org/register/

All papers must have **at least one author registered for your manuscript to be published** in the proceedings. **Refunds:** Cancellations by September 1, 2021 will be fully refunded

No refunds after September 1, 2021: Instead, ISCP will provide access to proceedings + materials.

PROGRAM SUMMARY

For the **FULL PROGRAM**, please go to: https://l2thiccp.concretepavements.org/program/

MONDAY, SEPTEMBER 27, 2021

PLENARY SESSION



6:00 AM Los Angeles | 9:00 AM New York | 2:00 PM London 4:00 PM Nairobi | 6:30 PM Mumbai 9:00 PM Beijing 11:00 PM Brisbane

Conference Welcome Jacob Hiller

The Aggregate Orientation SB2 representative

Concrete Pavement Resilience Leif Wathne

Honorary Members Induction

Presented by Jacob Hiller (USA) Jeff Roesler (USA) Peter Taylor (USA) Michael Darter (USA) Luc Rens (BELGIUM)

Inductees

Neeraj Buch (USA) Dale Harrington (USA) Bryan Perrie (SOUTH AFRICA) R.K. Jain (INDIA) Carlos Jofré (SPAIN) – posthumously

Future for Concrete Pavements Jeffery Roesler

BREAK

7:45 AM Los Angeles | 10:45 AM New York 3:45 PM London 5:45 PM Nairobi | 8:15 PM Mumbai 10:45 PM Beijing | 12:45 AM⁺¹ Brisbane

PODIUM SESSIONS

8:00 AM Los Angeles | II:00 AM New York 4:00 PM London 6:00 PM Nairobi | 8:30 PM Mumbai II:00 PM Beijing | I:00 AM⁺¹ Brisbane

PODIUM SESSION 1: Airfields

PODIUM SESSION 2: Moisture Effects

PODIUM SESSION 3: LCA

Networking and Break

9:45 AM Los Angeles | 12:45 PM New York 5:45 PM London | 7:45 PM Nairobi | 10:15 PM Mumbai 12:45 AM⁺¹ Beijing 2:45 AM⁺¹ Brisbane

WORKSHOPS

II:00 AM Los Angeles | 2:00 PM New York 7:00 PM London 9:00 PM Nairobi | II:30 PM Mumbai 2:00 AM⁺¹ Beijing | 4:00 AM⁺¹ Brisbane

WORKSHOP I: *Internal Curing for* **Concrete Paving** (Sponsored by ESCSI)

WORKSHOP 2: Design and Evaluation of Rigid Airfield Pavements (Sponsored by FAA)





TUESDAY, SEPTEMBER 28, 2021

WEDNESDAY, SEPTEMBER 29, 2021

WORKSHOPS

6:00 AM Los Angeles | 9:00 AM New York | 2:00 PM London 4:00 PM Nairobi | 6:30 PM Mumbai 9:00 PM Beijing 11:00 PM Brisbane

WORKSHOP 3: Fiber-Reinforced Concrete Materials for Pavements(Sponsored by FRCA)

WORKSHOP 4: Pavement Sustainability (Sponsored by FHWA)

Networking and Break

9:45 AM Los Angeles | 12:45 PM New York 5:45 PM London | 7:45 PM Nairobi | 10:15 PM Mumbai 12:45 AM⁺¹ Beijing | 2:45 AM⁺¹ Brisbane

PODIUM SESSIONS

I I:00 AM Los Angeles | 2:00 PM New York 7:00 PM London 9:00 PM Nairobi | I I:30 PM Mumbai 2:00 AM⁺¹ Beijing | 4:00 AM⁺¹ Brisbane

PODIUM SESSION 4: Overlays, Part I PODIUM SESSION 5: Built and Novel Environment

PODIUM SESSION 6: Geotechnical Aspects

Break

12:45 PM Los Angeles | 3:45 PM New York 8:45 PM London 10:45 PM Nairobi | 12:30 AM⁺¹ Mumbai 3:45 AM⁺¹ Beijing 5:45⁺¹ Brisbane

PODIUM SESSIONS

I:00 PM Los Angeles | 4:00 PM New York | 9:00 PM London II:00 PM Nairobi | I:30 AM⁺¹ Mumbai | 4:00 AM⁺¹ Beijing 6:00 AM⁺¹ Brisbane

PODIUM SESSION 7: Overlays, Part 2
PODIUM SESSION 8: Long-Life Pavements
PODIUM SESSION 9: Case Studies

PODIUM SESSIONS

6:00 AM Los Angeles | 9:00 AM New York | 2:00 PM London 4:00 PM Nairobi | 6:30 PM Mumbai 9:00 PM Beijing 11:00 PM Brisbane

PODIUM SESSION 10: CRCP Case Studies PODIUM SESSION 11: Freeze-Thaw Durability

PODIUM SESSION 12: Policy

Break

7:45 AM Los Angeles | 10:45 AM New York 3:45 PM London 5:45 PM Nairobi | 8:15 PM Mumbai 10:45 PM Beijing | 12:45 AM⁺¹ Brisbane

PODIUM SESSIONS

8:00 AM Los Angeles | 11:00 AM New York 4:00 PM London 6:00 PM Nairobi | 8:30 PM Mumbai 11:00 PM Beijing | 1:00 AM⁺¹ Brisbane

PODIUM SESSION 13: Optimization PODIUM SESSION 14: Sustainable Materials

PODIUM SESSION 15: Specifications

Networking and Break

9:45 AM Los Angeles | 12:45 PM New York 5:45 PM London | 7:45 PM Nairobi | 10:15 PM Mumbai 12:45 AM⁺¹ Beijing 2:45 AM⁺¹ Brisbane

WORKSHOPS

10:00 AM Los Angeles | 1:00 PM New York 6:00 PM London | 8:00 PM Nairobi | 10:30 PM Mumbai 1:00 AM⁺¹ Beijing | 3:00 AM⁺¹ Brisbane

WORKSHOP 5: Continuously Reinforced Concrete Pavements (Sponsored by CRSI)
WORKSHOP 6: Performance-Engineered Mixtures (Sponsored by NCPTC)



THURSDAY, SEPTEMBER 30, 2021 FRIDAY, OCTOBER 1, 2021

PODIUM SESSIONS

6:00 AM Los Angeles | 9:00 AM New York | 2:00 PM London 4:00 PM Nairobi | 6:30 PM Mumbai 9:00 PM Beijing 11:00 PM Brisbane

Podium Session 16: Precast and Rapid Construction

Podium Session 17: Functional Evaluation Podium Session 18: RCC and Heavy Loads

Break

7:45 AM Los Angeles | 10:45 AM New York 3:45 PM London 5:45 PM Nairobi | 8:15 PM Mumbai 10:45 PM Beijing | 12:45 AM⁺¹ Brisbane

PODIUM SESSIONS

8:00 AM Los Angeles | 11:00 AM New York 4:00 PM London 6:00 PM Nairobi | 8:30 PM Mumbai 11:00 PM Beijing | 1:00 AM+1 Brisbane

PODIUM SESSION 19: Modeling PODIUM SESSION 20: Joint Quality PODIUM SESSION 21: Pavement ME

Networking and Break

9:45 AM Los Angeles | 12:45 PM New York 5:45 PM London | 7:45 PM Nairobi | 10:15 PM Mumbai 12:45 AM⁺¹ Beijing | 2:45 AM⁺¹ Brisbane

WORKSHOPS

II:00 AM Los Angeles | 2:00 PM New York 7:00 PM London 9:00 PM Nairobi | 11:30 PM Mumbai 2:00 AM⁺¹ Beijing | 4:00 AM⁺¹ Brisbane

WORKSHOP 7: RCC Pavements Technology for Roads and Industrial Sites (Sponsored by RCC Pavement Council)

WORKSHOP 8: Precast Concrete Pavements (Sponsored by NPCA)

WORKSHOPS

6:00 AM Los Angeles | 9:00 AM New York | 2:00 PM London 4:00 PM Nairobi | 6:30 PM Mumbai 9:00 PM Beijing 11:00 PM Brisbane

WORKSHOP 9: Design of Industrial **Concrete Pavement Systems** (Sponsored by PNA)

WORKSHOP 10: Pavement Preservation (Sponsored by IGGA)

PODIUM SESSIONS

10:00 AM Los Angeles | 1:00 PM New York 6:00 PM London | 8:00 PM Nairobi | 10:30 PM Mumbai 1:00 AM⁺¹ Beijing | 3:00 AM⁺¹ Brisbane

PODIUM SESSION 22: Thin Pavements PODIUM SESSION 23: Construction **Practices**

PODIUM SESSION 24: Curing and Repair

AWARDS CEREMONY & WRAP-UP

12:00 PM Los Angeles | 3:00 PM New York 8:00 PM London 10:00 PM Nairobi | 12:30 AM+1 Mumbai 3:00 AM⁺¹ | Beijing 5:30⁺¹ Brisbane

ICCPs have a long history of excellence in technology transfer and a highlight of awards granted to the best of several categories which the 12th ICCP 2021 will continue during the Wednesday Ceremony:

- Bengt F. Friberg Award for Outstanding Paper by a Young Author
- American Concrete Pavement Association Robert G. Packard Award for Design or Design Innovations for Concrete Pavement
- Eldon J. Yoder Award for Outstanding Paper of the Conference

For descriptions of all awards, and previous conference recipients, please go to: https:// 12thiccp.concretepavements.org/awards/





ORGANIZING COMMITTEE

Jake Hiller Conference Chair &

ISCP President

<u>Leif Wathne</u> Sponsorship & Past Chair

Corey Zollinger Finance **Tim Smith** Past Chair

Bernard Izevbekhai Student Competition

Tom Burnham Local Organizing Chair **Armen Amirkhanian** Technical Program &

Paper Review Workshops &

ISCP Past President

Nadine Murray Ex-Officio

















For all of our dedicated Committee Members' bios, please go to the ORGANIZING COMMITTEE page: https://l2thiccp.concretepavements.org/planning/

ORGANIZERS

ORGANIZED by:

International Society for Concrete Pavements

in conjunction with:

Minnesota DOT; National Road Research Alliance; Australian Society for Concrete Pavements Transportation Research Board and the European Concrete Paving Association

















CONFERENCE SPONSORS

The *International Society for Concrete Pavements (ISCP)* is extremely grateful for the steadfast sponsorship of the conference and workshops provided by the following organizations. These organizations have been patient with the Society as we navigate the best path to provide high-quality technology transfer opportunities for our field during difficult times these past 2 years. For questions or more information on being a sponsor of the

12th International Conference on Concrete Pavements or future events, please

contact: Leif Wathne | Sponsorship & Past Chair - 12th ICCP

Phone: +1.202.638.2272

E-mail: conference.sponsorships@concretepavements.org







WORKSHOP SPONSORS



















Concrete Reinforcing Steel Institute



EXHIBITORS

EXHIBIT opportunities will be posted shortly online at *The Aggregate virtual campus*. For questions or more information on being an exhibitor of the

12th International Conference on Concrete Pavements, please contact:

Jake Hiller | Chair - 12th ICCP

Phone: +1.906.281.0743 | E-mail: conference@concretepavements.org





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