

# 3<sup>rd</sup> INTERNATIONAL CONFERENCE ON BEST PRACTICES FOR CONCRETE PAVEMENTS

Challenges for the Future of Sustainable Concrete Pavements

BONITO, BRAZIL, OCTOBER, 28<sup>th</sup> – 30<sup>th</sup> , 2015





1<sup>st</sup> Recife (2007)  
2<sup>nd</sup> Florianopolis (2011)  
**3<sup>rd</sup> Bonito (2015)**

## ***Challenges for the Future of Sustainable Concrete Pavements***

Concrete pavements and its natural color can significantly increase urban albedo and reduce the urban lightening energy consumption and overall reduction of the *urban heat island effect*.

The surface characteristics can reduce the vehicular gas emissions, contribute for capturing CO<sub>2</sub> (photocatalytic concrete) with special concrete mixes and also with open-graded and texturized concretes can provide noise reduction.

Permeability is another goal for urban concrete pavements. Thus, concrete pavements can be a very sustainable choice for urban areas. Moreover, concrete pavements can be totally recycled.

# **SPECIAL TOPICS**

**Over 15 Years of Experience of Water-Permeable Paving Blocks in Belgium: How Legislation Promotes the Application**

(Prof. Dr. Anne Beeldens)

**Sustainability policies in Europe: challenges and opportunities for concrete pavements**

(Luc Rens, P.E.)

**Long-Life and Sustainable Concrete Pavements**

(Prof. Dr. Mang Tia)

**Continuously Reinforced Concrete Pavements - The North Europe Past and Present Experience and Challenges**

(Prof. Dr. Lambert Houben)

**Pervious Concrete Pavements in Minnessota**

(Prof. Dr. Lev Khazanovich)

**Short-course on the design and construction of airport concrete pavements in face of new FAA advisory circulars**

(Dr. David Brill)

\* USA - 13

BELGIUM - 2 \*  
GERMANY - 1 \*  
NETHERLANDS - 1 \*  
SWEDEN - 3 \*  
ITALY - 1 \*

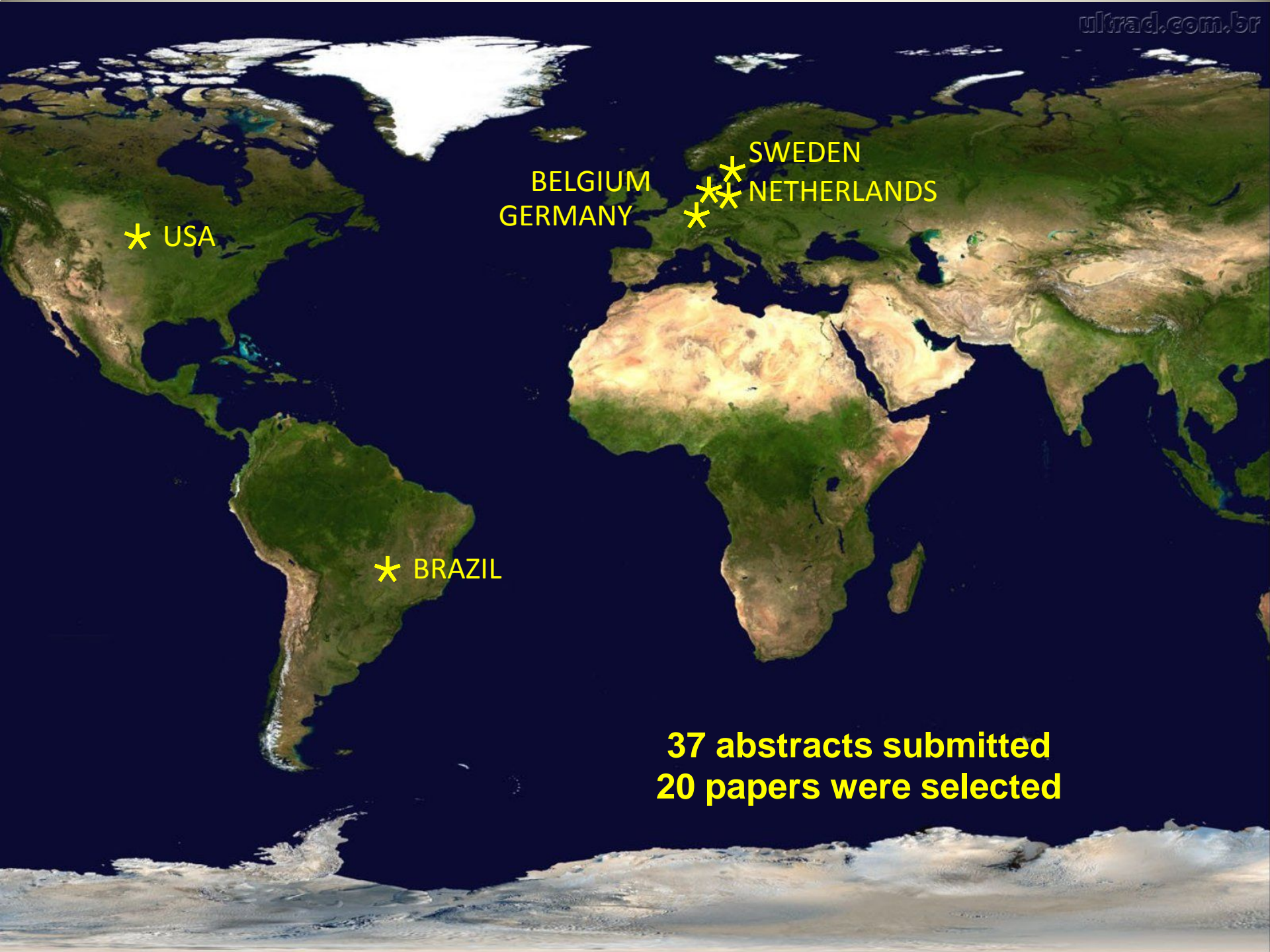
\* BRAZIL - 5  
\* CHILE - 1  
\* ARGENTINA - 2

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27 MEMBERS**

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\* USA

\* BRAZIL

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\* \* \*  
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**37 abstracts submitted  
20 papers were selected**

# **TECHNICAL SESSION I - Pervious Concrete Pavements**

Moderator: Dr. Anne Beeldens

## **Pervious Concrete Pavements: Materials, Drainage Characteristics and Structural Issues**

(Matthew Offenbergh, USA)

## **Sensitivity Analysis of the thickness in porous concrete pavements design for Bus Rapid Transit (BRT) busway**

(Andréia P. Cargnin, José Balbo, Rafael Batezini, Filipe O. Curvo, Andréa A. Severi; BRAZIL)

## **Field data for heat island mitigation by pervious concrete in Porto Alegre**

(Alexandre Lorenzi, Liv Haselbach, Luiz C. P. Silva Filho; BRAZIL/USA)

## **A pervious concrete mix design based on clogging performance in Rio Grande do Sul**

(Liv Haselbach, Vanessa P. Dutra, Paulete Schwetz, Luiz C. P. Silva Filho; BRAZIL/USA)

# **TECHNICAL SESSION II - CO2 CAPTURE / NOISE**

Moderator: Matthew Offenberg

**Wear and particle generation of three pavement alternatives, a reference concrete, an experimental photocatalytic concrete, and a standard asphalt pavement**  
(Mats Gustafsson, Lars Kraft, Johan Silfwerbrand; SWEDEN)

**Low-noise concrete pavements: the European practice**  
(Luc Rens; BELGIUM)

**Photocatalytic Air Purifying Pavements in Belgium: What Are The Challenges?**  
(Anne Beeldens, Elia Boonen; BELGIUM)

**Acoustic Characteristics of Concrete Pavement Surfaces at MnROAD**  
(Bernard Igbafen Izevbekhai, Lev Khazanovich; USA)



# **TECHNICAL SESSION III - RECYCLING TECHNIQUES**

Moderator: Prof. Dr. Mang Tia

## **Study of mechanical properties of high performance concrete with rubber**

(Thiago P. Pereira, Maria C. F. Albuquerque, Marcelo Santana; BRAZIL)

## **Prototype bike lanes - placement practices and properties**

(V. Wallqvist, L. Kraft; SWEDEN)

## **Experimental rubber chip concrete mixes for shock absorbent bike lane pavements**

(L. Kraft, P. Rogers, A. Eriksson-Brandels, A. Gram, J. Trägårdh, V. Wallqvist; SWEDEN)

## **Application of sustainable concrete pavements to ballastless rail trackforms - Continuously reinforced concrete pavement techniques**

(Bernhard Lechner; Konstantin Geisler; GERMANY)

# **TECHNICAL SESSION IV - COMPLIMENTARY SUBJECTS I**

Moderator: Prof. Dr. Lev Khazanovich

## **Determining Causes of Pavement Failure Using Ultrasound Tomography and Video Distress Data**

(Flavia C. M. Britto, Kyle Hoegh, Lev Khazanovich, Diego S. G. Sanz, Deividi S. Pereira; USA/BRAZIL)

## **Durable Continuously Reinforced Concrete Pavements through Active Crack Control**

(Lambert Houben, Dongya Ren, Anne Beeldens, Luc Rens; THE NETHERLANDS/BELGIUM)

## **Cracking and load-transfer performance in short continuously reinforced concrete pavement: a case study**

(Lucio Salles, José Tadeu Balbo; BRAZIL)

## **Evaluation of Pavement Test Slabs Using Internally Cured Concrete**

(Kukjoo Kim, Thanachart Subgranon, Mang Tia, Michael Bergin; USA)



# **TECHNICAL SESSION V - COMPLIMENTARY SUBJECTS II**

Moderator: Prof. Dr. José Tadeu Balbo

## **Imigrantes Highway – A Long Term Performance Report on Portland Cement Concrete (PCC) Pavement**

(Octavio S. Campos, Santi Ferri, Ana L. Aranha; BRAZIL)

## **Analysis of static modulus of elasticity and of flexural strength for high strength concrete with the use of different curing processes for paving**

(Andrigo K. Zanella, Tatiana C. Cervo, Geraldo C. Isaia; BRAZIL)

## **Evaluation of RoadCem additive in cement stabilized base materials used for concrete pavements**

(P. Wu, L.J.M. Houben, C.E.G. Egyed, R. de La Roij; THE NETHERLANDS)

## **ORGANIZING COMMITTEE:**

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