

# V Simpósio de Infraestrutura Metroviária, Ferroviária, Rodoviária e Hidroviária

## 5<sup>th</sup> Symposium on Subway, Railway, Highway and Waterway Infrastructure

(together with 61<sup>st</sup> Brazilian Congress on Concrete)

Fortaleza – Ceará – Brazil  
October 15 - 18, 2019

### Organized by:



### Institutional Support:



## **1 – INTRODUCTION**

Due to the increase of demand for the expansion and rehabilitation of the infrastructure of transportation in Brazil (bridges, subway, railway and highway), the 5<sup>th</sup> Symposium on Subway, Railway, Highway and Waterway Infrastructure will take place in the city of Fortaleza together with the 61<sup>st</sup> Brazilian Congress on Concrete, organized by the IABMAS Brazilian Group (International Association for Bridge Maintenance and Safety) and the Brazilian Concrete Institute - IBRACON.

IBRACON is promoting the 5<sup>th</sup> Symposium on Subway, Railway, Highway and Waterway Infrastructure in order to discuss the improvements and progresses that have been made in Brazil and in the rest of world in this particular area. In Brazil, there is a strong motivation for large investments in infrastructure, especially in railway (east-west and north-south links), waterway (distribution of grains and goods production) and also rehabilitation of existing structures, as the social and economic impact of the partial collapse of the viaduct in Marginal Pinheiros, São Paulo, have demonstrated. The gap in the infrastructure demands large investments in the near future. Today, it is about 4% of GDP, with a clear necessity to grow in the future.

With this Symposium, IBRACON is trying to disseminate new design techniques, analyses and construction methods leading to safer and modern structures and to improvements in the existing infrastructure.

We acknowledge and appreciate the support of the Organizing Committee and the Technical Scientific Committee of 61<sup>st</sup> Brazilian Congress on Concrete.

Túlio Nogueira Bittencourt

## **2 – TOPICS**

The topics to be covered are:

1. Bridges
2. Underground Stations and Tunnels
3. Pavements
4. Structural Life Cycle
5. Safety and Serviceability,
6. Structural Health Monitoring
7. NDT – Non Destructive Testing,
8. Weigh in Motion Systems.
9. Retrofit and Reinforcement Systems (CFRP, High Performance Concretes)
10. Monorail Structural Systems
11. Harbor Structural Systems
12. Waterway, Cannals, Sluices

### **3 – IMPORTANT DATES**

Abstracts	10/03/2019
Abstracts Approval	24/03/2019
Papers	01/06/2019
Papers Approval	15/07/2019
Papers Revision Submission	26/07/2019
Papers Final Approval	09/08/2019
Event	15 a 18/10/2019

### **4 – KEYNOTES SPEAKERS**

**José António Campos e Matos - Universidade do Minho - Portugal**

**João Luiz Casagrande – Instituto Superior Técnico - Portugal**

### **5 – ORGANIZATION**

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## 6 – PROGRAM

Wednesday 16/10/19				
10:30 - 12:30	12:30 - 14:00	14:00 - 16:00	16:00 - 16:30	16:30 - 18:00
Room 1	Almoço	Room 1	Café	Room 1
V Workshop de Infraestrutura Metroviária, Ferroviária e Rodoviária		V Workshop de Infraestrutura Metroviária, Ferroviária e Rodoviária		V Workshop de Infraestrutura Metroviária, Ferroviária e Rodoviária

## **7 – SHORTCOURSE**

Short Course on Bridge Quality Control – COST ACTION – TU1406

Schedule: 16-17 October, 2019

Duration: 12 hours

Description:

During the implementation of asset management strategies for infrastructure systems, maintenance actions are required in order to keep assets at a desired performance level. In case of roadway bridges, specific performance indicators are established for their components. These indicators can be qualitative or quantitative based, and they can be obtained during principal inspections, through a visual examination, a non-destructive test or a temporary or permanent monitoring system. Then, obtained indicators are compared with performance goals, in order to evaluate if the quality control plan is accomplished. It is verified that there is a large disparity in Europe regarding the way these indicators are quantified and how such goals are specified. Therefore, this course aims to present techniques to obtain performance indicators and also to show new indicators related to sustainable and economic performance of roadway bridges.

Lecturers:

José Antonio Campos e Matos - Universidade do Minho - Portugal

Túlio Nogueira Bittencourt – Universidade de São Paulo - Brasil

## **8 – Institutional IBRACON**

IBRACON, the Brazilian Concrete Institute is an international techno-scientific organization for the defense and appreciation of engineering. IBRACON aims to provide more knowledge in the field of concrete through courses, events, publications, certification, technological and scientific meetings, incentives for research and scientific and technological research and its dissemination to all the professionals and actors in the concrete industry and construction in the areas of materials technology, design, management, control, architecture, structures and buildings.

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