

# FINAL PROGRAM



## 12<sup>th</sup> International **DIANA Users Meeting**

11-12 October 2018

Hosted by

**University of Porto**

Porto  
Portugal

**U. PORTO**  
FEUP FACULDADE DE ENGENHARIA  
UNIVERSIDADE DO PORTO

## **Porto**

This fascinating city in the North of Portugal (just a few kilometers from the Atlantic Ocean) is the second largest city in Portugal after Lisbon. Porto is an important industrial and commercial center, where modern and ancient styles live in perfect symbiosis. The best way to visit Porto is to walk along its traditional streets, rich of fascinating and unexpected views. Besides its city Centre, Porto has other touristic attractions outside the city and along the coast. Furthermore, let's not forget that Porto is worldwide known for its wine, and a visit to a distillery will be an unforgettable experience.

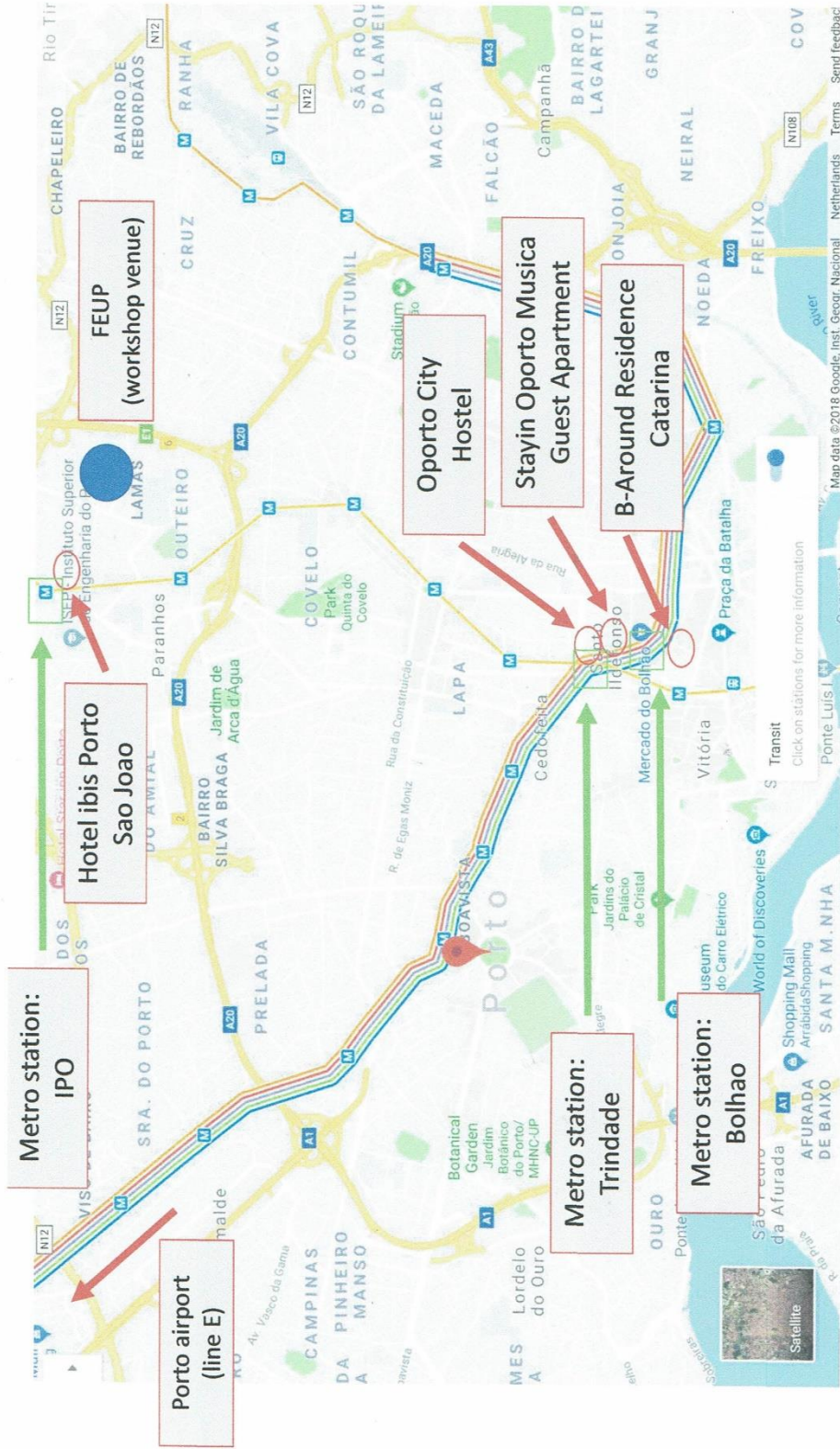


## **Accessibility to Porto**

Porto is easy accessible from Porto Francisco Sá Carneiro airport. The airport has a direct metro line – violet, line E – to the Porto downtown (25 minutes)

## **Venue**

The Faculty of Civil Engineering of the University of Porto (FEUP) in Porto will host the meeting during both days. It is directly connected to Porto downtown by metro – yellow, line D – within 15 minutes. Exit Pólo Universitário. The full venue address is: Rua Dr. Roberto Frias, s/n 4200-465, Porto



# Program International DIANA Users Meeting

Thursday 11<sup>th</sup> October 2018

09.15 Registration

## Workshop 'Monitoring'

09.45 *Helder Sousa, HS Consulting, Portugal*  
**Asset management supported by Finite Element models devoted to the short- and long-term assessment of prestressed concrete bridges**

10.30 *Emanuel de Sousa Tomé, University of Porto, Portugal*  
**Structural response of a concrete cable-stayed bridge under thermal loads**

11.00 Break

11.30 Discussion

12.15 Lunch

## Workshop 'Soil-Structure Interaction'

13.15 *Coen van der Vliet, Arcadis, The Netherlands*  
**Introduction of Soil-Structure Interaction**

13.45 *Wazeer Ali, University of Surrey, Guilford UK*  
**FE Modelling approaches for soil-bridge systems towards better emergency response planning**

14.15 Break

14.45 Discussion & hands on workshop (for active participation, please bring your own laptop with the latest DIANA version installed, downloadable from [www.dianafea.com](http://www.dianafea.com))

15.45 Closing Workshop

## Social Event

16.00 Bus tour

17.00 Serralves Museum – Guided tour  
Serralves Museum opened in 1999 in order to endow Oporto with a space dedicated to contemporary art. The Museum's core objectives are the constitution of a representative collection of Portuguese and international contemporary art;



The building of the Serralves Museum was designed by architect, Álvaro Siza, who was invited in the early 1990s to design a museum project that took into consideration the specific characteristics of the physical setting and the need for integration within the surrounding landscape.

18.00 Bus tour

19.30 Dinner

22.00 Closing

# Program International DIANA Users Meeting

Friday, 12<sup>th</sup> October 2018

- 08.30 Registration  
09.00 Opening by Ane de Boer, chairman DIANA Users Association

## **Theme: UHPFRC & Multiscale**

- 09.05 – 09.35 **Anisotropic tensile behaviour of UHPFRC: experiments, multi-scale modelling and non-destructive assessment**  
*Mario Pimentel, University of Porto, Portugal*
- 09.35 – 10.00 **Finite element modelling of UHPFRC elements**  
*Eduardo J. Mezquida-Alcaraz, ICITECH, Universitat Politècnica de València, Spain*
- 10.00 – 10.25 **Multiscale modelling of concrete material: micro- and nano-structure of cement paste**  
*Hadi Mazaheripour, University of Porto, Portugal*
- 10.25 – 10.55 Break + Proud Pitches

## **Theme: Dynamics I**

- 10.55 – 11.20 **Robustness cycle bridge damaged by a ship**  
*Ricky Tai, Arcadis, The Netherlands*
- 11.20 – 11.45 **Heated Reinforced Concrete Slabs Subjected to Blast Load: Configuring Experiments by Numerical Analyses**  
*Assis Arano Barenys, Norwegian University of Science and Technology, Trondheim, Norway*
- 11.45 – 12.10 **Numerical Modelling of Masonry-infilled RC Frame**  
*Christiana Filippou, Cyprus University of Technology, Cyprus*
- 12.10 – 12.35 **Vibration control in industry**  
*Wouter Meijers, Royal HaskoningDHV, The Netherlands*
- 12.35 – 13.30 Lunch

## **Theme: Shear Force behaviour**

- 13.30 – 13.55 **Resistance of shear tension cracks in prestressed beams**  
*Cor van der Veen, Delft University of Technology, The Netherlands*
- 13.55 – 14.20 **A comparative analysis on the Long-Term performance of a T-shaped girder by using 1D, 2D and 3D FE approaches**  
*Emanuele Canestro, University of Surrey, Guilford, UK*
- 14.20 – 14.45 **System behaviour in concrete T-beam bridges**  
*Sebastiaan Ensink, Delft University of Technology, The Netherlands*
- 14.45 – 15.15 Break + Proud Pitches

**Theme: Time dependency & Guidelines**

- 15.15 – 15.40 **Numerical simulation of massive concrete structures during construction**  
*José Conceição, University of Porto, Portugal*
- 15.40 – 16.05 **Demonstration of the guidelines for nonlinear finite element analysis for three prestressed concrete beams <sup>\*)</sup>**  
*Henco Burggraaf, TNO, The Netherlands*

**Theme: Dynamics II**

- 16.05 – 16.30 **Ground vibration study (Underground railway transport System): Modelling approach, challenges and findings**  
*Nischal Sehrawat, Witteveen+Bos, The Netherlands*
- 16.30 – 17.00 **Static and dynamic 3-D FEM analysis of a 150-m high asphaltic-concrete core rockfill dam under construction in a high seismic area**  
*Anton Tzenkov, Stucky SA, Switzerland*
- 17.00 – 17.45 **DIANA Users Wishes, DIANA New Features & Case Study Award**
- 17.45 – 18.00 Closure event, Refreshment and Farewell

<sup>\*)</sup> Guidelines for Nonlinear Finite Element Analysis of Concrete Structures

The Rijkswaterstaat Centre for Infrastructure, part of the Dutch Ministry of Infrastructure and the Environment has issued “Guidelines for Nonlinear Finite Element Analysis of Concrete Structures”.

Find the guidelines under the personal page of Max Hendriks: [http://homepage.tudelft.nl/v5p05/Guidelines for Nonlinear Finite Element Analysis of Concrete Structures](http://homepage.tudelft.nl/v5p05/Guidelines%20for%20Nonlinear%20Finite%20Element%20Analysis%20of%20Concrete%20Structures)

Please refer to this report as:

M.A.N. Hendriks, A. de Boer, B. Belletti, “Guidelines for Nonlinear Finite Element Analysis of Concrete Structures”, Rijkswaterstaat Centre for Infrastructure, Report RTD:1016-1:2017, 2017.

Validation reports can be found [here](#), [here](#) and [here](#), for RC beams, pre-stressed beams and slabs respectively.

An overview of the validation reports can be found [here](#).