



# IGS TC-Soil Reinforcement Workshop in Barcelona Final Program

20 – 21 January 2020 | BarcelonaTech | Barcelona, Spain

## 20 JANUARY 2020 – MONDAY

### Opening Session

09:00-10:00

*Session Chair: Gerhard Bräu, Germany*

#### Welcome remarks

*Chungsik Yoo, IGS President, South Korea*

#### Activities of the Spanish IGS Chapter (IGS-Spain)

*(Representation of IGS-Spain)*

### Reliability based design and analysis of geosynthetic reinforced structures

10:00-13:00 (including 30 min coffee break)

*Session Chair: Richard Bathurst, Canada*

#### A simple approach for probabilistic internal stability analysis and design of reinforced soil walls

*Richard Bathurst, GeoEngineering Centre at Queen's-RMC, Canada*

#### Reliability analysis of external stability of geosynthetics reinforced soil retaining walls

*Pietro Rimoldi, Consultant, Italy*

#### Reliability analysis of geogrid pullout capacity

*Yoshihisa Miyata, National Defense Academy, Japan*

#### First order reliability method for reinforced soil walls

*Pietro Pezzano, Officine Maccaferri, Italy*

#### Round table and open discussions, short presentations from the floor

### Geosynthetic encased columns

14:00-18:00 (including 30 min coffee break)

*Session Chair: Erol Güler, USA*

#### Basic design principles of GECs

*Dimiter Alexiew, Consultant, Germany*

#### Materials of GECs and some important case studies

*Oliver Detert, Huesker Synthetic GmbH, Germany*

#### Installation Issues of GECs

*Steffen Taetz, Züblin AG, Germany*

#### Alternative Installation Issues and their effect on design

*Björn Böhle, Keller Grundbau GmbH, Germany*

#### Alternative design methods

*Boštjan Pulko, University of Ljubljana, Slovenia*

#### Earthquake behavior of GEC improved foundations

*Erol Güler, George Mason University, USA*

#### Round table and open discussions, short presentations from the floor



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## 21 JANUARY 2020 – TUESDAY

### Serviceability Limit States: analyses, design, specification

09:00-13:00 (including 30 min coffee break)

**Session Chair:** *Pietro Rimoldi, Italy*

**Session Co-Chair:** *John Sankey, USA*

#### SLS in Eurocodes and Numerical models for SLS

*Ivan Puig Damians, Universitat Politècnica de Catalunya – BarcelonaTech, Spain*

#### Semi-dynamic models for SLS in seismic conditions

*Giovanni Biondi, University of Messina, Italy*

#### SLS in BS8006 and real case studies/problems under SLS criteria

*Patricia Guerra Escobar, Geosynthetics Ltd, UK*

#### SLS in EBGEO, taking care of the strength-strain-characteristic of reinforcements

*Lars Vollmert, NAUE GmbH & Co. KG, Germany*

#### SLS in the African contest

*Edoardo Zannoni, Maccaferri SA (Pty) Ltd, South Africa*

#### SLS in the Asian contest

*Mike Dobie, Tensar International Limited, Indonesia*

Round table and open discussions, short presentations from the floor

### Advancements, Developments and State of the Practice for International Codes for design of Reinforced Soil Structures

14:00-18:00 (including 30 min coffee break)

**Session Chair:** *Robert Lozano, USA*

#### Introduction of speakers and structure of workshop

*Robert Lozano, Geosynthetic product specialist*

#### AASHTO Migration from the Simplified Method to the Stiffness Method

*Richard Bathurst, GeoEngineering Centre at Queen's-RMC, Canada*

*Tony Allen, State Geotechnical Engineer, Olympia, Washington State, USA*

#### Recent updates to AASHTO LRFD for Reinforced Soil Structures

*Keith Brabant, P.E., Vice President, Engineering Reinforced*

*Earth Company*

#### Japanese technical standards on geo-structures for road applications and technical manual on geosynthetic-reinforced walls

*Yoshi Miyata, National Defense Academy of Japan*

#### Examples of the strength, weakness and scope of the Chinese, Hong Kong and United Kingdom Codes of Practice for reinforced soil

*Colin J F P Jones, Director of Electrokinetic Limited, UK*

#### Australian experience on codes and guidelines for soil reinforcement

*Amir Shahkolahi, Global Synthetics Pty Ltd*

#### Reinforced Fills Covered by The Future Eurocode 7 – Concepts and Limitations

*Nicolas Freitag, Terre Armée group*

#### The effects of the new Eurocode 7 reinforced ground chapters on the German EBGEO

*Gerhard Bräu, Technical University of Munich – Zentrum Geotechnik*

#### ISSMGE TC218 and Outcome of Review Addressing 12 Current Codes on Reinforced Fill Structures

*John Sankey, Chairman of the ISSMGE TC218 Committee on MSE Structures and Reinforced Soil Slopes*

Round table and open discussions, short presentations from the floor