

## Preface

After the increasingly successful conferences held in Tokyo (1995), Lisbon (1999), Berkeley (2004), Thessaloniki (2007), Santiago (2011), and Christchurch (2015), the Italian Geotechnical Society (AGI) on appointment of the ISSMGE Technical Committee 203 ('Earthquake Geotechnical Engineering and associated problems') was honoured to host in the city of Rome the 7<sup>th</sup> ICEGE (International Conference on Earthquake Geotechnical Engineering) from June 17 to 20, 2019.

The 'eternal city' of Rome is one of the most attractive and symbolic locations in the world, thanks to its impressive cultural heritage, the pleasant weather, its extraordinary social life, not to mention the taste of the Italian food.

Nevertheless, just like for the majority of the Italian territory, earthquakes pose a threat to Rome, as shown by the damage induced by historical seismic events on its monumental buildings, e.g. the Colosseum, which was chosen for the conference logo. As a matter of fact, in the last two decades four destructive earthquakes have occurred in Italy, namely in the regions of Molise in 2002, Abruzzo in 2009, Emilia-Romagna in 2012 and, more recently, in the Central Apennine Chain, in 2016-17, not far from Rome itself.

The statistics on the induced damage and on the number of fatalities demonstrated once more that in Italy the social costs of earthquakes are not only related to the frequent seismic activity, but also to the local variability of subsoil conditions, the structural and infrastructural vulnerability and the high degree of exposition of communities. The influence of subsoil conditions on ground motion, soil stability and soil-structure interaction was significantly highlighted by these earthquakes, stimulating an increasing effort in the development of research, practice and regulations in the field of Earthquake Geotechnical Engineering.

As organizers of 7ICEGE, we believe that this conference will further stimulate this virtuous process, by addressing a sustainable risk mitigation policy through the development of scientific knowledge and the exchange of technical information. We therefore wish to acknowledge the ISSMGE Technical Committee 203 and its Chairman, Ross W. Boulanger, for giving us the opportunity to organise this event in Italy.

As in the previous editions, the conference topics address the most recent developments in earthquake geotechnical engineering through plenary and parallel sessions, stimulating fruitful technical and scientific interaction with the fields of seismology, geophysics, geology, structural and infrastructural engineering.

The plenary sessions hosted 3 Special Lectures, including the 7<sup>th</sup> Ishihara Lecture and that one delivered by the recipient of TC203 Young Researcher Award for 2018, plus 15 Keynote Lectures, delivered by international top scientists with well-known background on the most representative topics of the conference.

Four Special Sessions were proposed and convened by as many international leading experts, supported by members of the Italian Organizing Committee; two of them were opened by Theme Lectures, and all included extended invited presentations.

Most of the parallel Regular Sessions were opened by a Theme Lecture on the relevant topic, followed by the presentation of selected contributions and an open discussion.

All of the above contributions are included in this electronic volume, while the Special Lecture dedicated to the memory of late Professor Michele Maugeri will be subsequently published elsewhere.

The Organising Committee is grateful to the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE), the European Association for Earthquake Engineering and the International Geosynthetics Society (IGS) for having co-sponsored the event.

As Chairman and Co-Chair of the Conference, we would like to warmly acknowledge the fundamental support to 7ICEGE provided by the members of the Steering, Advisory and Organising Committees.

As Editors of the Proceedings, we finally wish to express our deepest thanks to the Authors, Assessors and Reviewers of the manuscripts, as well as to the Conference Secretary, Susanna Antonielli, and the Publishers for their patience in preparing this volume.

**Francesco Silvestri**  
**Nicola Moraci**

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