

Preface

The collection of chapter contributions compiled in this second volume of *Perspectives on European Earthquake Engineering and Seismology* is composed out of 4 keynote and 15 theme lectures presented during the Second European Conference on Earthquake Engineering and Seismology (2ECEES) held in Istanbul, Turkey, from August 24 to 29, 2014. Since the Conference was a joint event of European Association of Earthquake Engineering (EAEE) and the European Seismological Commission (ESC), the chapter contributions cover the major topics of earthquake engineering and seismology along with priority issues of global importance.

On the occasion of the 50th anniversary of the establishment of the European Association of Earthquake Engineering, and for the first time in the book series “Geotechnical, Geological, and Earthquake Engineering”, we are publishing an Open Access book that can be downloaded freely by anybody interested in these topics. We believe that this option adopted by the Advisory Committee of 2ECEES, will enable a wide distribution and readability of the contributions presented by very prominent researchers in Europe.

The chapters in this second volume are composed of four keynote lectures, first of which is given by Shamita Das, the recipient of the first Inge Lehmann Lecture Award. Her lecture is entitled “*Supershear Earthquake Ruptures – Theory, Methods, Laboratory Experiments and Fault Superhighways: An Update*”. The other three keynote lectures are “*Civil Protection Achievements and Critical Issues in Seismology and Earthquake Engineering Research*” by Mauro Dolce and Daniela Di Bucci, “*Earthquake risk assessment: Certitudes, Fallacies, Uncertainties and the Quest for Soundness*” by Kyriazis Pitilakis and “*Variability and Uncertainty in Empirical Ground-Motion Prediction for Probabilistic Hazard and Risk Analyses*” by Peter J. Stafford.

The next nine chapters are the EAEE Theme Lectures: “*Seismic Code Developments for Steel and Composite Structures*” by Ahmed Y. Elghazouli; “*Seismic Analysis and Design of Foundation Soil-Structure Interaction*” by Alain Pecker; “*Performance-Based Seismic Design and Assessment of Bridges*” by Andreas Kappos; “*An Algorithm to Justify the Design of Single Story Precast Structures*”

by H.F. Karadoğan, I.E. Bal, E. Yüksel, S. Z. Yüce, Y.Durgun, and C. Soydan; “*Developments in Seismic Design of Tall Buildings: Preliminary Design of Coupled Core Wall Systems*” by M. Nuray Aydınoğlu and Eren Vuran; “*Seismic Response of Underground Lifeline Systems*” by Selçuk Toprak, Engin Nacaroğlu, and A. Cem Koç; “*Seismic Performance of Historical Masonry Structures Through Pushover and Nonlinear Dynamic Analyses*” by Sergio Lagomarsino and Serena Cattari; “*Developments in Ground Motion Predictive Models and Accelerometric Data Archiving in the Broader European Region*” by Sinan Akkar and Özkan Kale; and “*Towards the ‘Ultimate Earthquake-Proof’ Building: Development of an Integrated Low-Damage System*” by Stefano Pampanin.

The remaining six chapters are the ESC Theme Lectures “*Archive of Historical Earthquake Data for the European-Mediterranean Area*” by Andrea Rovida and Mario Locati; “*A Review and Some New Issues on the Theory of the HV Technique for Ambient Vibrations*” by Enrico Lunedei and Peter Malischewsky; “*Macroseismic Intervention Group: the Necessary Field Observation*” by Christophe Sira; “*Bridging the Gap Between Nonlinear Seismology as Reality and Earthquake Engineering*” by Gheorghe Marmureanu, Carmen-Ortanza Cioflan, Alexandru Marmureanu, Constantin Ionescu, and Elena-Florinela Manea; “*The Influence of Earthquake Magnitude on Hazard Related to Induced Seismicity*” by Benjamin Edwards; and “*On the Origin of Mega-Thrust Earthquakes*” by Kuvvet Atakan.

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A. Ansal

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