

# Preface

I am delighted that the Department of Civil Engineering, Indian Institute of Technology (IIT) Delhi has hosted the eagerly awaited and much coveted 9th Structural Engineering Convention (SEC2014). The biennial convention has attracted a diverse range of civil and structural engineering practitioners, academicians, scholars and industry delegates, with the reception of abstracts including more than 1,500 authors from different parts of the world. This event is an exceptional platform that brings together a wide spectrum of structural engineering topics such as advanced structural materials, blast resistant design of structures, computational solid mechanics, concrete materials and structures, earthquake engineering, fire engineering, random vibrations, smart materials and structures, soil-structure interaction, steel structures, structural dynamics, structural health monitoring, structural stability, wind engineering, to name a few. More than 350 full-length papers have been received, among which a majority of the contributions are focused on theoretical and computer simulation-based research, whereas a few contributions are based on laboratory-scale experiments. Amongst these manuscripts, 205 papers have been included in the Springer proceedings after a thorough three-stage review and editing process. All the manuscripts submitted to the SEC2014 were peer-reviewed by at least three independent reviewers, who were provided with a detailed review proforma. The comments from the reviewers were communicated to the authors, who incorporated the suggestions in their revised manuscripts. The recommendations from three reviewers were taken into consideration while selecting a manuscript for inclusion in the proceedings. The exhaustiveness of the review process is evident, given the large number of articles received addressing a wide range of research areas. The stringent review process ensured that each published manuscript met the rigorous academic and scientific standards. It is an exalting experience to finally see these elite contributions materialise into three book volumes as SEC2014 proceedings by Springer entitled “Advances in Structural Engineering”. The articles are organised into three volumes in some broad categories covering subject matters on mechanics, dynamics and

materials, although given the diverse areas of research reported it might not have been always possible.

SEC2014 has ten plenary speakers, who are eminent researchers in structural engineering, from different parts of the world. In addition to the plenary sessions on each day of the convention, six concurrent technical sessions are held every day to assure the oral presentation of around 350 accepted papers. Keynote speakers and session chairmen for each of the concurrent sessions have been leading researchers from the thematic area of the session. The delegates are provided with a book of extended abstracts to quickly browse through the contents, participate in the presentations and provide access to a broad audience of educators.

A technical exhibition is held during all the 3 days of the convention, which has put on display the latest construction technologies, equipment for experimental investigations, etc. Interest has been shown by several companies to participate in the exhibition and contribute towards displaying state-of-the-art technologies in structural engineering. Moreover, a pre-convention international workshop organised on “Emerging Trends in Earthquake Engineering and Structural Dynamics” for 2 days has received an overwhelming response from a large number of delegates.

An international conference of such magnitude and release of the SEC2014 proceedings by Springer has been the remarkable outcome of the untiring efforts of the entire organising team. The success of an event undoubtedly involves the painstaking efforts of several contributors at different stages, dictated by their devotion and sincerity. Fortunately, since the beginning of its journey, SEC2014 has received support and contributions from every corner. I thank them all who have wished the best for SEC2014 and contributed by any means towards its success. The edited proceedings volumes by Springer would not have been possible without the perseverance of all the committee members.

All the contributing authors owe thanks from the organisers of SEC2014 for their interest and exceptional articles. I also thank the authors of the papers for adhering to the time schedule and for incorporating the review comments. I wish to extend my heartfelt acknowledgment to the authors, peer-reviewers, committee members and production staff whose diligent work put shape to the SEC2014 proceedings. I especially thank our dedicated team of peer-reviewers who volunteered for the arduous and tedious step of quality checking and critique on the submitted manuscripts. I am grateful to Prof. Tarun Kant, Prof. T.K. Datta and Dr. G.S. Benipal for penning the forewords for the three volumes of the conference proceedings. I wish to thank my faculty colleagues at the Department of Civil Engineering, Indian Institute of Technology (IIT) Delhi, and my Ph.D. Research Scholars for extending their enormous assistance during the reviewing and editing process of the conference proceedings. The time spent by all of them and the midnight oil burnt is greatly appreciated, for which I will ever remain indebted. The administrative and support staff of the department has always been extending their services whenever needed, for which I remain thankful to them. Computational

laboratory staff of the department had handled the online paper submission and review processes, which hardly had any glitch therein; thanks to their meticulous efforts.

Lastly, I would like to thank Springer for accepting our proposal for publishing the SEC2014 conference proceedings. Help received from Mr. Aninda Bose, the acquisition editor, in the process has been very useful.

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