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PREFACE

This issue contains 30 papers selected from contributions presented during the highly successful Third Global Annual Conference on Materials Science and Engineering (CMSE2014), which was held during Oct. 20th to 23rd, 2014, in Shanghai, China.

CMSE2014 was organized after CMSE2013 held in Xianning, China, during Nov. 20th to 22nd, 2013, and CMSE2012 held in Zhoushan, China, during Oct. 16th to 18th, 2012.

The conference was aimed at bringing together leading academic scientists, researchers and scholars to exchange and share their experience and research results on all aspects of Materials Science and Engineering, and to discuss the practical challenges encountered and the solutions adopted. The program of the conference included keynote presentations, special sessions, oral and poster contributions. More than two hundred authors and attendees from over 40 countries participated in this event, including 18 keynote speakers from 12 countries, which created a good platform for worldwide researchers and engineers to enjoy the academic communication.

The papers selected for this special issue cover strength-related approaches for a wide range of innovative materials, new stress-strain simulation/calculation techniques (FEM and NURBS) and mechanical test methods for metals, alloys, particle-reinforced composites, bionic units, laminates, and rocks. The elaboration and practical applications of state-of-the-art technologies of friction stir welding, underwater "wet" arc welding, Mannesmann piercing process, cold roll and fusion bonding, and powder metallurgy are discussed from the standpoint of their reliability, safety, and performance.

Other accepted papers will be published in related SCI journals, including *Materials Research Innovations*, *Materials Science* (*Medžiagotyra*), and others.

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