Special Issue: Including Papers on “Rock Dynamics and Applications”

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Rock dynamics studies the response of rock materials and rock masses under dynamic loading conditions, it has wide applications in geological, civil and mining engineering and deals with some of the latest and most challenging research topics such as the dynamic load distribution and propagation, dynamic responses and failure of rock materials and rock masses in the underground environments featuring high temperature, high in situ stress and other special physicochemical conditions.

With increasing engineering activities related to rock dynamics worldwide, the International Society for Rock Mechanics (ISRM) established the Commission on Rock Dynamics (CRD) in 2008. ISRM-CRD was renewed in 2011 and then in 2015, as a result of continued interests in the dynamic response of rock materials and rock masses.

Remarkable advancements on challenging topics in rock dynamics have recently been made in physical testing, numerical modelling and theoretical studies, as well as in engineering applications. Rock Mechanics and Rock Engineering has promoted this Special Issue with the intention of providing a consented summary of the current

state of knowledge, in accordance to the reference of ISRM-CRD to report developments and produce guidelines on the study and engineering applications of rock dynamics. This issue includes papers that represent some of the most recent works on rock dynamics and underground engineering.

New laboratory dynamic testing equipment for rocks subjected to static loading, studies on dynamic fracturing and failure of rock under in situ stress or thermal treatment, dynamic fracture process of rocks, acoustic emission, and stress wave propagation through rock masses are presented. Topics such as the interaction of rock structures and ground motion due to blasting vibration or dynamic disturbance, dynamic response of rock masses in deep mines, rock bursting in discontinuous deep rock masses, numerical testing and dynamic fracture modelling are also discussed.

The Editor of Rock Mechanics and Rock Engineering would welcome the setting up of an Open Forum on the above topics. Readers are kindly requested to send discussions on the papers published in this issue to RM&RE.

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