

Introduction

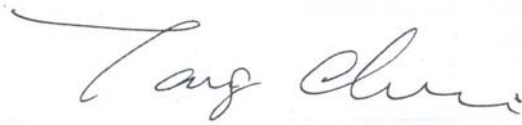
Rockbursts and mine seismicity are common features to both hard and soft rock underground and open pit mines world wide. In China, the rapid economic development raises increasing demands for mineral resources. Extraction of minerals, especially coal, now involves deeper and deeper excavations, with a larger number of operations exceeding 1,000 to 1,300 m below the surface. At these depths rockbursting is critical, particularly when the mined ore body is associated with faults, dykes and underground water. In addition, many other civil engineering projects, such as tunneling in railway, highway and hydropower projects in mountainous areas, also meet serious problems due to rockbursts. Therefore, the understanding and management of this seismic hazard are critical to ensure sustainable mine development. We anticipate that these topics will be amply discussed through various contributions that will be presented at this meeting. This international symposium will provide a forum for specialists to disseminate results and exchange opinions on virtually all topics related to mine and civil engineering seismicity.

The International Symposium on Rockbursts and Seismicity in Mines that will be held in Dalian, China, August 21-23, 2009, is the seventh in a series that began in Johannesburg in September 1982. As the organizer of RaSIM7, I am pleased that this symposium attracts contributors from all over the world through the submission of more than 300 abstracts with about 200 full papers accepted to be included in a two volume proceeding. Contributions from rock mechanics, seismology, mining, geology and electronic and computer engineering provide a significant enhancement to the state of our knowledge in the field. The papers explore international developments in both fundamental and practical aspects of the subject.

The theme of RaSiM7 is “controlling seismic hazard and sustainable development of deep mines”, and the symposium program was developed to not just address the critical questions regarding mining-induced seismicity and rockburst, but also related problems met in other areas of civil engineering. Papers in the two volumes have been grouped into three parts: understanding seismic hazards, managing seismic hazards and dynamic behavior in civil engineering; with the third part particularly emphasizing coal outburst and water inrush in coal mining.

It is not possible to organize an international symposium of this type without the cooperation of numerous individuals. I am very grateful to all the authors who submitted papers to this symposium and proceedings. I thank the keynote authors and Professor Kaiser for the very insightful preface to the volumes. I am also grateful to all my international advisory committee members who provided me with very useful suggestions during the preparation of this symposium. I am deeply indebted to my local organizing

committee, Professor W.C.Zhu, Dr.T.Xu, Miss Y.Ding, Miss N.Li, Dr. S.B.Tang, Dr.L.C.Li, Dr.Z.Z.Liang, Miss X.Huang and all my staff and students who gave a great deal of their time to make these proceedings and the Dalian meeting a reality. The persons I would like to give special thanks also include Dr. S.Y.Wang, Dr. H.Y.Liu, Dr. J.X.Liu and Mr. Justin Batchelor and Mr. Justin Markel for their great effort to improve the English of some of the manuscripts from China. I would also like to thank Dalian University of Technology, Northeastern University, Dalian University, and all the sponsors for supporting me during the organization of this symposium. Last but not the least; I am indebted to the continuous support provided by my wife Yangxin. The symposium marks the end of a very fruitful time for me at Northeastern University and the start of a new and exciting challenge at the Dalian University of Technology, where I established a new Center for Rock Instability and Seismicity Research. Finally, I hope that all who attend the symposium in Dalian, August 21-23, 2009 will find it beneficial and recognize the significant progress which has been made in the field in recent years. I also hope those who have not been to China will find Dalian a very worthwhile city to visit and will have a wonderful stay for both academic and tourist purposes.



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