

35th APCOM Symposium

Application of Computers and Operations Research in the Minerals Industry

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University of Wollongong, New South Wales, Australia



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Proceedings

Edited by:

E Y Baafi, R J Kininmonth & I Porter



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THE MINERALS INSTITUTE

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FOREWORD

This CD ROM contains the Proceedings of the 35th International Symposium of Application of Computers and Operations Research in the Minerals Industry (APCOM). APCOM was founded in 1961 by four USA universities: University of Stanford, the University of Arizona, the Pennsylvania State University and the Colorado School of Mines, to promote the application of computers and operations research in the minerals industry. APCOM has now become an international forum for the presentation, discussion and examination of state-of-the-art and emerging technologies in the fields of computer and operational research methodologies applied to coal mining and the minerals industry. The APCOM series of events has truly become a major driver of innovation in the minerals industry. The continuing success of the APCOM symposia has been due to the personal commitments of a number of individuals who have participated and supported APCOM for many years. This is the third time in its 50 year history that APCOM has been held in Australia.

The 35th APCOM is aimed at maintaining the APCOM goal of playing a significant role in contributing to effective decision-making processes in the broad minerals industries. This CD ROM contains in excess of 80 technical papers by authors from all over the world. The technical program of this Symposium represents a balanced mix of traditional areas of exploration, geostatistics, mine design, production planning, investment analysis, artificial intelligence, simulation, mine automation, rock mechanics, mineral processing and data management systems.

On behalf of the International APCOM Council, I would like to extend my appreciation to The Australasian Institute of Mining and Metallurgy (AusIMM) and The University of Wollongong, under whose auspices this Symposium has been held, and also to the authors, reviewers, keynote speakers, session chairpersons, exhibitors and sponsors. Kristy Pocock of The AusIMM worked closely with the authors and the peer reviewers of papers and also compiled the papers on this CD ROM; Jennifer Maninin, also of AusIMM, tirelessly coordinated the activities of the Symposium with Sue Ross of Odyssey Travel, Wollongong. Kristy, Jennifer and Sue have my deepest gratitude in helping to make the 35th APCOM Symposium a success. Particular words of thanks go to the members of the editorial panel, especially Bob Kininmonth for improving the English usage of most of the papers. Members of the local Organising Committee, especially Ray Tolhurst and Kevin Marston, have my deepest gratitude for their continuous support, dedication and loyalty during the preparation of this Symposium over the past 18 months.

Finally on behalf of the Organising Committee, I would like to convey a warm welcome to all delegates, and hope you will take the opportunity to enjoy the beauty of the Illawarra region.

Associate Professor Ernest Y Baafi
Chair, 35th APCOM Symposium 2011
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University of Wollongong, Australia

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