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**PROGRESS**

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**IN SAFETY SCIENCE**

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**AND TECHNOLOGY**

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**(VOL VII) PART B**

*Edited by*

**LI Shengcai**

**WANG Yajun**

**AN Ying**

**SUN Xiuyun**

**LI Xin**



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**(VOL.VII)                      PART B**

**Proceedings of the 2008 International Symposium on  
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*Edited by*

**LI Shengcai WANG Yajun**

**AN Ying SUN Xiuyun LI Xin**

*State Key Laboratory of Explosion Science and Technology  
Beijing Institute of Technology  
Beijing 100081  
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# Introduction of the Content

This monograph is the Proceedings of the 2008 International Symposium on Safety Science and Technology (2008 ISSST). Collected in this volume are 491 papers from 17 countries and regions. These papers cover the following aspects: Theories and Methods of Safety Science; Safety Assessment and Risk Analysis; Safety Monitoring and Supervision; Emergency Management and Evacuation; Public Security; Occupational Health and Human Behavior; Numerical Simulation of Fire; Fire Experiment and Property Research; Smoke Control; Fire Control and Extinguishing; Fire Extinguishing Agent and Fire Equipment; Explosion Performance and Safety of Hazardous Materials; Blast Safety; Gas Explosion and Safety; Leakage of Combustible and Toxic Materials; Safety of Chemical Reaction Tank and Pressure Vessel; Performance and Process of Burning; Work Safety in Coal Mine; Spontaneous Combustion in Coal Mine; Gas and Dust Control in Coal Mine; Coal, Gas and Rock Burst; Ventilation; Bridge Safety Engineering; Dam Safety; Fatigue, Lifetime and Reliability; Traffic and Transportation Safety; Construction and Building Safety; Slope Stability; Safety of Tunnel and Metro Construction; Safety Management; and Miscellaneous. Many novel research results on safety science and technology achieved during the last few years are mentioned in the proceedings.

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# PREFACE

2008 International Symposium on Safety Science and Technology (2008 ISSST) is the sixth of this series, and the previous five international symposia were held in Beijing (1998 and 2000), Tai'an (2002), Shanghai (2004), and Changsha (2006) respectively.

2008 ISSST is sponsored by China Occupational Safety and Health Association, Beijing Institute of Technology, Henan Polytechnic University, and Shanghai Institute of Technology. It is hoped that this symposium will provide a forum for scientists, engineers, and others who wish to share their knowledge with colleagues throughout all countries of the world in their quest to make our world better, safer, and healthier.

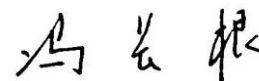
This proceedings contains 491 papers contributed by 1266 authors and co-authors from seventeen countries and regions including Australia, Canada, China, France, Hong Kong of China, India, Italy, Japan, Korea, the Netherlands, Pakistan, Poland, Russia, Switzerland, Taiwan of China, United Kingdom, and the United States of America.

The papers are grouped into 31 sections: Theories and Methods of Safety Science; Safety Assessment and Risk Analysis; Safety Monitoring and Supervision; Emergency Management and Evacuation; Public Security; Occupational Health and Human Behavior; Numerical Simulation of Fire; Fire Experiment and Property Research; Smoke Control; Fire Control and Extinguishing; Fire Extinguishing Agent and Fire Equipment; Explosion Performance and Safety of Hazardous Materials; Blast Safety; Gas Explosion and Safety; Leakage of Combustible and Toxic Materials; Safety of Chemical Reaction Tank and Pressure Vessel; Performance and Process of Burning; Work Safety in Coal Mine; Spontaneous Combustion in Coal Mine; Gas and Dust Control in Coal Mine; Coal, Gas and Rock Burst; Ventilation; Bridge Safety Engineering; Dam Safety; Fatigue, Lifetime and Reliability; Traffic and Transportation Safety; Construction and Building Safety; Slope Stability; Safety of Tunnel and Metro Construction; Safety Management; and Miscellaneous. The content of the proceedings have also been recorded in electronic form and provided on CDROM in color.

I wish to thank Prof. Fan Weicheng of China and Prof. Peter Kafka of Germany for their outstanding and dedicated contributions as the symposium co-chairmen. Thanks are also given to the members of International Advisory Committee of the Symposium, the authors of all contributed papers.

In addition, I would like to express my sincere thanks to the staffs of the Editorial Department of *Journal of Safety and Environment* for their tireless efforts and outstanding services in the administration and preparation of the manuscript of the proceedings, to the staffs of Science Press for their diligence in publishing the proceedings.

Finally, I wish all participants a most enjoyable and informative experience.



**Dr. FENG Changgen**

*Executive Secretary of the China Association for Science and Technology*

*Professor of the Beijing Institute of Technology*

*Secretary General of 2008 International Symposium on Safety Science and Technology*

**July 2008, Beijing, China**



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