## 岩土力學國際學術會議暨第十四次全國岩石力學與工程學術大會國際分會 International Geotechnics Symposium cum International Meeting of CSRME 14th Biennial National Congress HKU Main Campus, Hong Kong, CHINA, 14 - 17 December 2016

| No.        | Title  | Authors                           | Affiliations   | City                        |
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| Keynote 1  | Construction and Operation of Tunnels in the Urban<br>Environment - A Risk Based Approach                                | H. H. Einstein and R. L.<br>Sousa | Massachusetts Institute of Technology  | Boston                      |
| Keynote 2  | Lessons Learned from Design of Surrounding Rock<br>Supports in<br>Rock Mass with High In-situ Stresses                   | Q. H. Qian                        | PLA University of Science and Technology   | Nanjing                     |
| Keynote 3  | Rock Mass Behaviour during Excavation of China<br>Jinping Underground Laboratories with Overburden of<br>2400 m          | X. T. Feng and S. J. Li           | Wuhan Institute of Soil and Rock Mechanics, Chinese<br>Academy of Sciences   | Wuhan                       |
| Keynote 4  | Geo-disaster Prediction with Double-blocks Mechanics<br>Theory Based on Newton Force Measurement                         | М. С. Не                          | China University of Mining and Technology Beijing  | Beijing                     |
| Keynote 5  | Cavern and Tunnel Failures due to Adverse Structural<br>Geology and due to Inadequate Support Designs                    | N. Barton                         | NB&A   | Oslo                        |
| Keynote 6  | Thermo-Poromechanics of Geologic Media   | A. P. S. Selvadurai               | McGill University  | Montréal                    |
| Keynote 7  | Deep Energy Geomechanics: Extraction, Storage,<br>Disposal   | M. B. Dusseault                   | University of Waterloo   | Waterloo                    |
| Keynote 8  | Urban Landslide Risk Management amid the<br>Challenge of Climate Change  | H. N. Wong                        | HKSAR Government   | Hong Kong                   |
| Keynote 9  | Unloading Rock Mass Mechanics  | J. L. Li                          | China Three Gorges University  | Yichang                     |
| Keynote 10 | Stability Analysis on Natural or Artificial Slopes<br>Under<br>Earthquake Loading Based on Non-Linear Material<br>Models | Th. Triantafyllidis               | Karlsruhe Institute of Technology  | Karlsruhe                   |
| Keynote 11 | Contact Theory – The Foundation of Discontinuous<br>Computations   | G. H. Shi                         | University of Chinese Academy of Sciences<br>China Renewable Energy Engineering Institute<br>Yangtze River Scientific Research Institute | Beijing<br>Wuhan<br>Beijing |

## List of Accepted Abstracts

| No.      | Title  | Authors   | Affiliations   | City                           |
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| Theme 1  | Static Liquefaction and Flow Failure of Sand: Several<br>New Findings  | J. Yang   | The University of Hong Kong  | Hong Kong                      |
| Theme 2  | Blasting Vibration Analyses of Millisecond Blasting<br>Model Experiment with Multicircle Vertical Blastholes                   | Q. Y. Ma, P. Yuan, B. Han<br>and J. S. Zhang                          | Anhui University of Science and Technology   | Huainan                        |
| Theme 3  | Conceptual model of Enhanced Geothermal System<br>based on Excavation Technology (EGS-E)                                       | C. A. Tang, J. Zhao and S. J.<br>Wang                                 | Dalian University of Technology<br>Monash University<br>Tsinghua University  | Dalian<br>Melbourne<br>Beijing |
| Theme 4  | An Overview of Pavement Forward and Inverse<br>Analyses  | E. Pan and Y. C. Cai  | University of Akron<br>Zhengzhou University  | Akron<br>Zhengzhou             |
| Theme 5  | Material Design: Perspectives and Status for MGI   | L. B Wang   | Virginia Tech  | Blacksburg                     |
| Theme 6  | Explanation of Thermo-Hydraulic-Mechanical<br>Behavior of Geomaterials in So-Called Isothermal<br>Heating Test                 | Y. Kurimoto and F. Zhang  | Nagoya Institute of Technology<br>Tongji University  | Gokiso-cho<br>Shanghai         |
| Theme 7  | Cause and Mechanism of Fatal Zhenxiong Landslide<br>of January 11, 2013  | Z. Q. Yue   | The University of Hong Kong  | Hong Kong                      |
| Theme 8  | A Critical Analysis and Stabilization of Nipigon River<br>Landslide in Ontario, Canada   | A. Abdelaziz, S. Besner, R.<br>Boger, B. Fu, J. Deng and A.<br>Farina | Lakehead University  | Thunder Bay                    |
| Theme 9  | Effectiveness of Debris Flow Mitigation Strategies in<br>Mountainous Region  | X. M. Meng, D. X. Yue, M.<br>Q. Xiong, S. Y. Wang and<br>G. Chen      | Lanzhou University   | Lanzhou                        |
| Theme 10 | Mechanism and New Stability Analyses of Progressive<br>Failure of the Thrust-type Landslide                                    | Y. F. Lu  | Hubei University of Technology   | Wuhan                          |
| Theme 11 | Numerical Analysis of Failure Processes in Soil-Rock<br>Mixtures Using Computed Tomography and 3D<br>Particle Flow Code Models | Y. Ju, M. Xing, H. Sun,<br>X. Wang and X. Zhao                        | China University of Mining & Technology, Beijing<br>China University of Mining & Technology<br>State Intellectual Property Bureau of China | Beijing<br>Xuzhou<br>Beijing   |
| Theme 12 | Fluid Transport in Extensively Fractured Rocks   | A. P. S. Selvadurai and<br>A. Gł owacki                               | McGill University  | Montréal                       |
| Theme 13 | Replicating Brittle and Hard Rocks Using 3D Printing<br>with Applications to Rock Dynamics and Crack<br>Propagation            | J. B. Zhu and T. Zhou   | The Hong Kong Polytechnic University<br>Tianjin University   | Hong Kong<br>Tianjin           |

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| Theme 14 | Analysis of Crack Problems in Graded Halfspace<br>Subject to Complex Loading  | H. T. Xiao and Z. Q. Yue  | Shandong University of Sci. & Tech.<br>The University of Hong Kong | Qingdao<br>Hong Kong                |
| Theme 15 | Stability Analysis of Geology Structures Controlled<br>Tunnel Profiles  | K. Winn, L. N. Y. Wong and<br>M. Ng                                     | GeoLS Pte Ltd<br>The University of Hong Kong<br>JTC Corporation    | Singapore<br>Hong Kong<br>Singapore |
| Theme 16 | Failure Low of Surrounding Rock of Rectangular<br>Crossheading at Fully-Mechanized Caving Face in<br>Deep Thick Coal Seams and Its Repair Support<br>Technology | J. X. Ren, J. L. Sun, K.<br>Zhang, J. Wang, D. Y. Liu<br>and D. X. Wang | Xi'an University of Science and Technology                         | Xi'an                               |
| Theme 17 | Experimental Study of Glauberite Salt Rock Creep<br>under Compression and Dissolution Coupling Effect   | W. G. Liang, M. T. Cao, X.<br>Q. Yang, C. D. Zhang and<br>S. G. Xu      | Taiyuan University of Technology                                   | Taiyuan                             |
| Theme 18 | Mechanism of Casing Damage and Control Method in<br>Daqing Oil field  | J. J. Liu   | Southwest Petroleum University                                     | Chengdu                             |
| Theme 19 | Constitutive Model of Chalk with Considering Effect<br>of Intergranular Physicochemical Forces  | T. T. Ma, C. F. Wei and<br>X. L. Xia                                    | Chinese Academy of Sciences<br>Guilin University of Technology     | Wuhan<br>Guilin                     |
| Theme 20 | A Micro-mechanics Based Elastic-plastic Model for<br>Saturated Porous Rocks   | W. Q. Shen, S. Y. Xie and J.<br>F. Shao                                 | HOHAI University<br>University of Lille                            | Nanjing<br>Villeneuve<br>d'Ascq     |
| Theme 21 | Numerical Simulation of Crack Growth and<br>Coalescence in<br>Rock-like Materials Containing Multiple Pre-existing<br>Flaws Using General Particle Dynamics     | X. P. Zhou  | Chongqing University   | Chongqing                           |
| Theme 22 | The Diexi Paleo-Dammed Lake at Upstream of Mingjing River, Sichuan, China   | L. S. Wang  | Chengdu University of Technology                                   | Chengdu                             |
| Paper 1  | Long-term Performance of Large Longyou Caverns<br>Manually Carved in Argillaceous Siltstone Ground  | Z. Q. Yue   | The University of Hong Kong  | Hong Kong                           |
| Paper 2  | Characteristics on Rock Fractures Induced by Different<br>Excavation Methods of Deep Tunnels  | S. J. Li, X. T. Feng, Q. Jiang<br>and Z. B. Yao                         | Chinese Academy of Sciences<br>Northeastern University             | Wuhan<br>Shenyang                   |
| Paper 3  | Impact Analysis of Tunnel Cross Section Shape on<br>Tunnel Temperature Field Calculation  | Y. H. Zeng and X. H. Zhou   | Southwest Jiaotong University                                      | Chengdu                             |

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| Paper 5  | Investigation of the Joint Yielding Mode of Segmental<br>Tunnel Lining  | X. P. Dong, Y. C. Cai and<br>Z. W. Yuan               | Zhengzhou University  | Zhengzhou                                    |
| Paper 6  | Detection and Analysis of Harmful Gas Emission in<br>Hongyanxi Tunnel   | H. W. Chen, Z. Chen,<br>H. L. Fu and H. W. Huang      | Hunan Communication Institute of Planning and<br>Design<br>Central South University<br>Tongji University  | Changsha<br>Changsha<br>Shanghai             |
| Paper 7  | Geological Structure and Mineralization Mechanism of<br>Shale Gas in the Red Rock Creek Tunnel  | X. F. Tan, H. L. Fu,<br>H. W. Chen and<br>H. W. Huang | Hunan Administration Bureau of Highway Express<br>Central South University<br>Hunan Survey and Design Institute of Communication<br>Tongji University | Changsha<br>Changsha<br>Changsha<br>Shanghai |
| Paper 8  | Improved Procedure for Determining Reaction Curve<br>of Anchoring and Shotcreting Support in Circular<br>Tunnel                                     | J. G. Chen and F. X. Sun                              | University of Chongqing   | Chongqing                                    |
| Paper 9  | Reliability-Based Design for Rock Tunnel Stability<br>Using Inverse-Reliability Approach  | X. Li and X. B. Li                                    | Central South University  | Changsha                                     |
| Paper 10 | Effects of Defect Doping on Kaolinite (001) Surface with H <sub>2</sub> O Adsorption  | J. Zhao, X. X. Hu, and<br>M. C. He                    | China University of Mining and Technology, Beijing  | Beijing                                      |
| Paper 11 | Three-Dimensional Dynamic Analysis of Quay Walls<br>Based on PZC Mode   | C. Jing   | Dalian University of Technology   | Dalian                                       |
| Paper 12 | Study on Mechanical Features of Brazilian Splitting<br>Fatigue Tests of Salt Rock   | W. C. Wang and<br>M. M. Wang                          | Henan Polytechnic University<br>Henan Colleges and Universities Deep Mine<br>Construction Key Discipline Open Laboratory                              | Jiaozuo                                      |
| Paper 13 | Method for Describing Mesostructure of<br>Heterogeneous Rock Material Based on Spatial<br>Correlation Character                                     | X. W. Tang, W. M. Huang,<br>Y. D. Zhou and Z. Kang    | South China University of Technology<br>Tsinghua University   | Guangzhou<br>Beijing                         |
| Paper 14 | Mode I-II Compression-shear Fracture Criterion for<br>Non-contacting Crack of Rock-like Brittle Materials   | B. Li, R. Q. Huang and<br>L. Z. Wu                    | Chengdu University of Technology  | Chengdu                                      |

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| Paper 16 | Experimental Study on Dynamic Deformation of<br>Unsaturated Granite Residual Soils  | F. C. Zhu, S. D. Deng,<br>J. Xu, J. Deng and<br>D. A. Sun | Hunan University of Technology<br>Lakehead University<br>Shanghai University   | Zhuzhou<br>Thunder Bay<br>Shanghai         |
| Paper 17 | Soil Responses under the Principal Stress Rotation  | Y. M. Yang, Z. Wang and<br>H. S. Yu                       | University of Nottingham Ningbo China<br>University of Leeds   | Ningbo<br>Leeds                            |
| Paper 18 | Multiscale Analysis of Asphalt Binder Fatigue<br>Cracking   | Y. Hou, L. B. Wang,<br>Q. Zhao and J. F. Wu               | University of Science and Technology Beijing<br>Virginia Tech  | Beijing<br>Blacksburg                      |
| Paper 19 | Numerical Study on THM Processes of EBS<br>Experiment   | P. Z. Pan and X. T. Feng                                  | Chinese Academy of Sciences  | Wuhan                                      |
| Paper 20 | Mechanism and Control Technology of Panel<br>Roadway Floor Heave  | C. K. Liu and J. X. Ren                                   | Xi'an University of Science & Technology   | Xi'an                                      |
| Paper 21 | Cushion Pad of Reducing Blasting Vibration – Starting<br>New Era of Decreasing Disaster in Civil Engineering                  | X. Cheng, X. D. Meng,<br>W. Zhang and L. X. Pang          | University of Science & Technology Beijing;<br>Chongqing Urban Construction Holding Group Co.,<br>Ltd.; The Xinjiang Production and Construction Corps;<br>Armed Police Hydropower Troops First Team | Beijing<br>Chongqing<br>Urumchi<br>Nanning |
| Paper 22 | Spatial-temporal Pattern of Socio-economic<br>Vulnerability to Geohazards in Bailong River Basin,<br>China                    | D. X. Yue, F. Jiang, K. Li<br>and X. Lan                  | Lanzhou University   | Lanzhou                                    |
| Paper 23 | Experimental Study on Zonal Disintegration<br>Phenomenon in Deep Rock Mass under Blasting<br>Excavation                       | P. Yuan and Y. Xu   | Anhui University of Science and Technology   | Huainan                                    |
| Paper 24 | Study on the Block-Water Capability of Main Roof<br>Structures of Steep Coal Seams with Fully-<br>Mechanized Caving           | J. Y. Feng, Z. Q. Yu,<br>M. F. Cai and J. A. Wang         | Beihang University<br>University of Science and Technology Beijing   | Beijing                                    |
| Paper 25 | Vulnerability Assessment Model for Hazard Bearing<br>Body Closed to Landslides Considering Run-out<br>Process of Sliding Body | H. Q. Yang and T. Q. Jie                                  | Chongqing University   | Chongqing                                  |

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| Paper 26 | Synthetic Water Repellent Soils and Slope Engineering   | S. Zheng,<br>S. D. N. Lourenço,<br>P. J. Cleall,<br>S. W. Millis, K. Y. A. Ng<br>and T. F. M. Chui | The University of Hong Kong<br>Cardiff University<br>Ove Arup & Partners (Hong Kong) Ltd.      | Hong Kong<br>Cardiff<br>Hong Kong |
| Paper 27 | Effect of Micro-gas Inclusions on Abnormally Delayed<br>Mechanical Behaviour of Intact Rocks after<br>Excavation              | Y. L. Ding and Z. Q. Yue   | The University of Hong Kong  | Hong Kong                         |
| Paper 28 | Experimental and Numerical Study of Depositional<br>Mechanism of Mudflows   | L. Jing, C. Y. Kwok,<br>Y. F. Leung, Z. Zhang and<br>L. Dai  | The University of Hong Kong<br>The Hong Kong Polytechnic University                            | Hong Kong                         |
| Paper 29 | Shakedown Analysis of Lined Rock Cavern for<br>Compressed Air Energy Storage  | J. Wang, P. Q. Mo and<br>H. S. Yu  | University of Nottingham<br>China University of Mining and Technology<br>University of Leeds   | Ningbo<br>Xuzhou<br>Leeds         |
| Paper 30 | Dynamic Loading of Carrara Marble in a Heated State   | Z. Li, L. N. Y. Wong,<br>H. Kang and C. I. Teh   | Nanyang Technological University<br>The University of Hong Kong<br>Chonbuk National University | Singapore<br>Hong Kong<br>Korea   |
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| Paper 35 | Shearing Rate Effect on Residual Strength of Slip Soils<br>and Its Impact on the Deformation Characteristics of<br>Landslides | L. N. Wang and E. C. Yan   | China University of Geosciences  | Wuhan                             |
| Paper 36 | Completely Weathered Sandstone Slope Failure<br>During Highway Construction and Its Remedy                                    | Z. J. Wu, H. Tang,<br>C. H. Yuan and S. Wu   | Chinese Academy of Sciences  | Wuhan                             |
| Paper 37 | Mitigation Measures after "8.8" Zhouqu Debris Flow<br>Disaster in Sanyanyu Valley, China                                      | M. Q. Xiong, X. M. Meng<br>and F. Y. Guo   | Lanzhou University<br>Geological Environment Monitoring Institute of Gansu<br>Province         | Lanzhou                           |

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| Paper 39 | Integrated Physical-based Method for Analysis of<br>Regional Heterogeneous Terrace Slope Stability                  | R. Q. Zeng, X. M. Meng,<br>S. Y. Wang, G. Chen,<br>Z. J. Cui and P. Guo | Lanzhou University   | Lanzhou                                    |
| Paper 40 | Analysis of Potential Surfaces of Multi-stage Slope<br>Based on Local Strength Reduction Method                     | Q. Deng, H. Tang and<br>Y. Q. Qin                                       | Chinese Academy of Sciences  | Wuhan                                      |
| Paper 41 | 3D Hydraulic Fracturing Stress Measurement at<br>Qirehataer Hydropower Project                                      | L. S. Zhou, X. J. Wang and X. H. Hu                                     | Chinese Earthquake Administration  | Beijing                                    |
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| Paper 45 | Research of Surrounding Rock Failure Mechanism of<br>Gripper During TBM Tunnelling                                  | T. F. Li, J. Zheng,<br>Q. L. Zhang and T. Li                            | China Academy of Railway Sciences<br>Beijing Jiaotong University<br>China Academy of Railway Sciences Railway<br>Engineering Research Institute              | Beijing                                    |
| Paper 46 | Slope Stability Analysis Considering Effect of<br>Underground Mining  | Z. Li, X. Li and Y. Cai   | Tongji University<br>Yunnan Phosphate Chemical Group Co., LTD  | Shanghai<br>Kunming                        |
| Paper 47 | Study on Stability of Deep Slope with Triplex-Row<br>Piles Supporting   | Z. Hu, N. Liu and Y. Cai  | Tongji University  | Shanghai                                   |
| Paper 48 | Failure Mechanism and Stability Analysis of an Active<br>Landslide in the Xiangjiaba Reservoir Area                 | J. Iqbal, F. C. Dai, H. Min,<br>X. B. Tu and Q. Z. Xie                  | Chinese Academy of Sciences<br>Abbottabad University of Science and Technology<br>Chinese Academy of Sciences<br>Hydrochina Zhongnan Engineering Corporation | Beijing<br>Abbottabad<br>Wuhan<br>Changsha |
| Paper 49 | Effect of Confining Pressure and Water Content on<br>Compressive Strength and Deformation of Ice-rich<br>Silty Sand | S. J. Zhang, C. Wu and Z. Z.<br>Sun                                     | Northwest Institute of Eco-Environment and<br>Resources, Chinese Academy of Sciences   | Lanzhou                                    |
| Paper 50 | Stress and Deformation Characteristics of<br>Transmission Tower Foundations on Permafrost                           | Z. Wen, Q. H. Yu, and D. Q.<br>Li                                       | Northwest Institute of Eco-Environment and<br>Resources, Chinese Academy of Sciences   | Lanzhou                                    |