

APS BLASTING 6



第六届亚洲太平洋地区爆破技术研讨会
6th Asia-Pacific Symposium on Blasting Techniques

Symposium Brochure

2025年7月 | 中国重庆
July, 2025 | Chongqing, China



WELCOME

Welcome to the 6th Asia-Pacific Symposium on Blasting Techniques (APS BLASTING 6)!

Eight years have passed since we hosted APS BLASTING 5 in 2017, and we are honored to welcome you back for APS BLASTING 6! This symposium maintains its core mission of providing a platform for experts, scholars, and industry professionals across the Asia-Pacific region to exchange academic and technical achievements in engineering blasting, explosive materials, and related fields. Our collective goal is to address the needs of the civil engineering and construction sectors, develop effective solutions to the challenges and opportunities in engineering blasting, and contribute to the advancement of blasting technologies.

The program features 18 plenary presentations and 28 parallel presentations from representatives of 9 countries, covering diverse topics including: Blasting Theory, Rock Blasting, Blasting Materials and Equipment, Blasting Vibration and Safety, Demolition Blasting, Special Blasting Techniques, etc. All accepted papers have been published in the Proceedings of the 6th Asia-Pacific Symposium on Blasting Techniques.

We look forward to a productive symposium and hope you find this event both valuable and rewarding.

Prof. Xie Xianqi

Chairman of APS BLASTING 6
Academician of Chinese Academy of Engineering
President of China Society of Explosives and Blasting
Director of State Key Laboratory of Precision Blasting

APS BLASTING 6

Organizers

China Society of Explosives and Blasting
State Key Laboratory of Precision Blasting

Co-Organizers

Explosives Corporation Limited
University of Science and Technology Liaoning
Wuhan Explosion & Blasting Co., Ltd.

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General Program

日程安排

July 28 Mon.	09:00am – 08:00pm	Onsite Registration	Hotel Lobby
	06:00pm – 08:00pm	Dinner	River Café, 2F
	07:30pm – 08:30pm	IOC Meeting	Wu Gorge + Qutang Gorge
July 29 Tue.	06:30am – 08:30am	Breakfast	River Café, 2F
	08:30am – 09:00am	Opening Ceremony	Three Gorges Ballroom A+B+C, 4F
	09:00am – 12:10pm	Plenary Session (Session 1 & 2)	
	12:10pm – 01:30pm	Lunch	River Café, 2F
	01:30pm – 06:20pm	Plenary Session (Session 3 & 4)	Three Gorges Ballroom A+B+C, 4F
	06:20pm – 08:00pm	Dinner	River Café, 2F
July 30 Wed.	06:30am – 08:30am	Breakfast	River Café, 2F
	08:30am – 12:15pm	Parallel Sessions (Session 5, 6, 7, 8)	Three Gorges Ballroom A & C, 4F
	12:15pm – 01:30pm	Lunch	River Café, 2F
	02:00pm – 03:00pm	China-Russia Blasting Technology Workshop	Wu Gorge + Qutang Gorge, 4F
	03:30pm – 04:30pm	China-Brazil Blasting Technology Workshop	Wu Gorge + Qutang Gorge, 4F
	05:00pm – 07:00pm	International Dinner	Huang Ge Wan Du, 2F
July 31 Thu.	08:30am	Post Symposium Program (for international delegates)	Hotel Lobby

7月28日 周一	09:00 – 20:00	现场注册	酒店大堂
	18:00 – 20:00	晚 餐	二楼 长江咖啡厅
	19:30 – 20:30	组委会会议	四楼 巫峡瞿塘峡
7月29日 周二	06:30 – 08:30	早 餐	二楼 长江咖啡厅
	08:30 – 09:00	开 幕 式	四楼 三峡宴会厅
	09:00 – 12:10	大会报告	
	12:10 – 13:30	午 餐	二楼 长江咖啡厅
	13:30 – 18:20	大会报告	四楼 三峡宴会厅
	18:20 – 20:00	晚 餐	二楼 长江咖啡厅
7月30日 周三	06:30 – 08:30	早 餐	二楼 长江咖啡厅
	08:30 – 12:15	分组报告	四楼 三峡宴会A厅和C厅
	12:15 – 13:30	午 餐	二楼 长江咖啡厅
	14:00 – 15:00	中国-俄罗斯爆破技术交流会	四楼 巫峡瞿塘峡
	15:30 – 16:30	中国-巴西爆破技术交流会	四楼 巫峡瞿塘峡
	17:00 – 19:00	国际代表晚餐	二楼 黄葛晚渡厅
7月31日 周四	08:30	国际代表会后交流活动	酒店大堂

Technical Sessions

Day 1 - Tuesday, July 29, 2025 4/F Three Gorges Ballroom A+B+C

Opening Ceremony

- 8:30-8:45 • Welcome from the Symposium Chair
Xie Xianqi
- 8:45-9:00 • Taking a group photo

Session 1 Session Chairs: Enrique Munaretti/Jia Yongsheng

- 9:00-9:25 • Impact Dynamic Properties and Fragmentation Energy
Dissipation Characteristics of Frozen Sandstone
by Jiang Nan (China) p27
- 9:25-9:50 • Promising Explosive Technologies for Northern and Arctic
Regions
by A. V. Shlyapin (Russia) p535
- 9:50-10:15 • Evolution of Cumulative Damage of High Rock Slopes
during Excavation Blasting
by Hu Yingguo (China) p41
- 10:15-10:40 • Directional Increase in Blast Vibration due to Beat
Frequency Effect
by A. B. Richards (Australia) p621
- 10:40-10:55 • Coffee Break

Session 2 Session Chairs: Alexey Shlyapin/Lu Wenbo

- 10:55-11:20 • Intelligent Blast Fragmentation Recognition Method Based
on Deep Learning and Binocular Vision
by Tao Ming (China) p345
- 11:20-11:45 • The Advancements in Liquid Oxygen Explosives (LOX) for
Rock Blasting in Latin America
by Enrique Munaretti (Brazil) p686
- 11:45-12:10 • Application of Controlled Blasting Demolition Technology
in Ultra-High Coaxial Thin-Walled Steel Inner Cylinder
Reinforced Concrete Chimney
by Luo Ning (China) p677
- 12:10 • Lunch

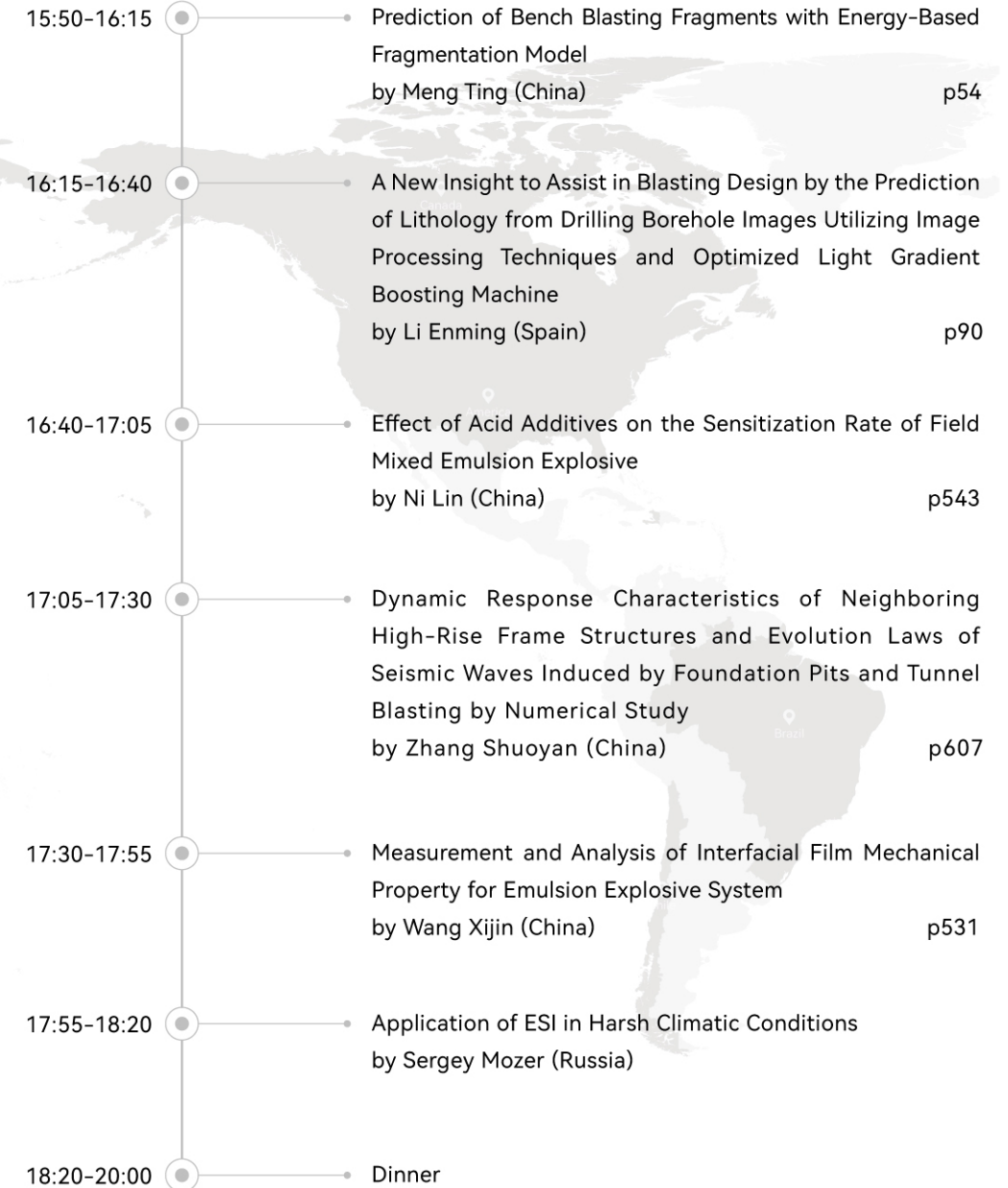
Session 3

Session Chairs: Chulgi Suk/Guo Lianjun

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- 13:30-13:55 • A Proposal of the Estimation Equation of Blasting Vibration According to the Analysis of Blasting Vibration Characteristics of Concrete Foundation Blasting Demolition by Pureun Jeon (Korea) p142
 - 13:55-14:20 • Energy Dissipation Time Effect of Rock Impact Fragmentation: Insights from SHPB Experiments and Discrete Element Simulations by Wang Xuesong (China) p65
 - 14:20-14:45 • An Approach to Interpreting Geological Information from Blasthole Drilling Data and Finding Calibration Coefficients for Drilling Rigs by V. A. Isheiskii (Russia) p3
 - 14:45-15:10 • Research on New Blasting Technology of Three-Hole Simultaneous in Open-Pit Mine Bench Blasting by On-Site Experiment and Numerical Simulation by Zhang Xiaojun (China) p376
 - 15:10-15:35 • Application and Optimization of Electronic Detonators in Mongolian Mining Operations by Munkhdelger Munkhsaikhan (Mongolia) p549
 - 15:35-15:50 • Coffee Break

Session 4

Session Chairs: V. A. Isheiskii/Zhou Chuanbo

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- 15:50-16:15 • Prediction of Bench Blasting Fragments with Energy-Based Fragmentation Model by Meng Ting (China) p54
 - 16:15-16:40 • A New Insight to Assist in Blasting Design by the Prediction of Lithology from Drilling Borehole Images Utilizing Image Processing Techniques and Optimized Light Gradient Boosting Machine by Li Enming (Spain) p90
 - 16:40-17:05 • Effect of Acid Additives on the Sensitization Rate of Field Mixed Emulsion Explosive by Ni Lin (China) p543
 - 17:05-17:30 • Dynamic Response Characteristics of Neighboring High-Rise Frame Structures and Evolution Laws of Seismic Waves Induced by Foundation Pits and Tunnel Blasting by Numerical Study by Zhang Shuoyan (China) p607
 - 17:30-17:55 • Measurement and Analysis of Interfacial Film Mechanical Property for Emulsion Explosive System by Wang Xijin (China) p531
 - 17:55-18:20 • Application of ESI in Harsh Climatic Conditions by Sergey Mozer (Russia)
 - 18:20-20:00 • Dinner

Session 5**Blasting Theory**
Session Chairs: Jiang Nan/Li Enming

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- 8:30–8:45 • Numerical Analysis of Building Structure Damage and Personnel Casualties under Indoor Explosion by Zhang Fuyang (China) p77
 - 8:45–9:00 • Response Analysis of Soil Buried Gas Pipeline under Air Blast and Vibration by Lin Yunzhi (China) p113
 - 9:00–9:15 • Energy Distribution of the Borehole Charge by Phases and Zones by A. V. Shlyapin (Russia) p119
 - 9:15–9:30 • Fractal Characteristics of Fragmentation and Energy Evolution Laws of Early-Age Concrete-Rock Composite under Impact Loading by Zhang Yifeng (China) p127
 - 9:30–9:45 • Simulation Study on Optimization of Directional Reinforced Cast Blasting Parameters Based on SPH-FEM Coupling Algorithm by Ma Chenyang (China) p174
 - 9:45–10:00 • Analysis of the Influence of Tunnel Blasting on Underground Pipeline and its Prediction Model by Wu Tingyao (China) p180
 - 10:00–10:15 • Blasting Vibration Control and Simulation of Tunnel Side-Crossing Bridge Pilings by Li Yixun (China) p190
 - 10:15–10:30 • Coffee Break

Session 6**Rock Blasting, Blasting Materials and Equipment**
Session Chairs: Hoon Park/Tao Ming

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- 8:30–8:45 • Optimizing Blast Design and Downstream Operations through Particle Size Distribution (PSD) Curve Analysis: A Case Study in Stemming Material Effect by B. O. Taiwo (Canada, Video) p358
 - 8:45–9:00 • Research and Engineering Application of Shaped Charge at the Bottom of Open Pit Step Blasting Borehole by Zhang Shupeng (China) p398
 - 9:00–9:15 • Drilling and Blasting in Hard Rock Andean Underground Small-Scale Mines by Carlos Leiva (Brazil, Video) p388
 - 9:15–9:30 • Study on Blasting Vibration Prediction and Numerical Simulation of Diversion Tunnel under Expressway by Xing Yongyang (China) p428
 - 9:30–9:45 • A Method for Evaluating the Structural Integrity of a Rock Mass Based on Follow-Up Drilling Parameters by Wu Yixuan (China) P488
 - 9:45–10:00 • Study on Formulation Design and Detonation Performance of Underground Mining Emulsion Explosive Containing Thickening by Ma Xiaowen (China) p557
 - 10:00–10:15 • Study on Explosion and Safety Properties of Granulated ANFO Explosive Prepared from Coal-Based Slurry by Zhang Jiabao (China) p572
 - 10:15–10:30 • Coffee Break

Session 7**Blasting Theory**
Session Chairs: Hu Yingguo/Xu Zhenyang

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- 10:30–10:45 • Study on the Impact of Fragments Size Distribution on Cyclic Impact Crushing Efficiency
by Liu Xin (China) p265
 - 10:45–11:00 • Research on Change Detection Method of Open Pit Strip-ping Area Based on Point Cloud Data
by Huan Liu (China) p290
 - 11:00–11:15 • Collapse Behavior Simulation of Industrial Structures in Explosive Demolition Using GPGPU-Based FDEM
by Gyeongjo Min (Japan, Video) p110
 - 11:15–11:30 • Study on Dynamic Evolution Laws of Crack Propagation in Eccentric Decoupled Charge Blasting under High In-Situ Stress
by Liu Wantong (China) p312
 - 11:30–11:45 • Dynamic Mechanical Properties and Constitutive Model of Grouted Surrounding Rock After High-Temperature Exposure
by He Ru (China) p328
 - 11:45–12:00 • Study on the Residual Bearing Capacity of the Damage Effects of Reinforced Concrete Columns in Blasting Demolition
by Yan Yu (China) p756
 - 12:00–12:15 • Experimental and Numerical Study on Rock Blasting under Different Joint and Explosive Conditions
by Zhou Jianmin (China) p743
 - 12:15 • Conference adjourns

Session 8**Blasting Materials and Equipment, Blasting Vibration and Safety, Demolition Blasting, Special Blasting, etc.**
Session Chairs: Wu Chunping/zhang Chengjiao

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- 10:30–10:45 • Research on Testing Technology of Blasting Impact Load Resistance of Electronic Detonators
by Liu Qing (China) p579
 - 10:45–11:00 • Study on the Effects of Coal Powder on the Thermal Stability of Ammonium Nitrate
by Cao Yingjian (China) p598
 - 11:00–11:15 • Utilizing Soft Computing Techniques to Predict and Assess Blast-Induced Ground Vibrations
by Yewuhalashet Fissha (Japan, Video) p636
 - 11:15–11:30 • Evaluation of Vibration Effects on Building Structures Based on HHT and Modal Analysis
by Yang Yumin (China) p626
 - 11:30–11:45 • Design and Application of FREHC in Directional Blasting of Frame Structures
by Yuan Fang (China) p722
 - 11:45–12:00 • Comparative Study on Interfacial Mechanical Properties of Aluminum-Steel Transition Joints Prepared by Explosive Welding in Air and in Vacuum
by Zhu Guichun (China) p691
 - 12:00–12:15 • Preparation, Characterization and Explosive Spreading Effectiveness of Dry Water for Extinguishing Fire
by Yang Yaoyong (China) p731
 - 12:15 • Conference adjourns

China Society of Explosives and Blasting

Established on October 13, 1994, the China Society of Explosives and Blasting (CSEB) is a national industry association registered with the Ministry of Civil Affairs. Governed by the State-Owned Assets Supervision and Administration Commission of the State Council, it operates under the guidance of the Ministry of Public Security, the State Administration of Work Safety, and the China Non-Ferrous Metals Industry Association. CSEB's membership spans universities, research institutions, enterprises, and governmental bodies involved in engineering blasting.

Mission & Vision

CSEB is committed to advancing the blasting industry in alignment with China's laws, regulations, and socialist market economy principles. By uniting professionals nationwide, the society fosters a spirit of "dedication, innovation, pragmatism, and collaboration" to drive sustainable industry growth and contribute to China's economic development.

Core Functions

1. Industry Research & Policy Recommendations

Conduct research on industry trends, technological advancements, and international developments to provide policy recommendations to government authorities, promoting technological innovation and self-regulation.

2. Industry Standards & Self-Discipline

Formulate and enforce industry codes of conduct to regulate market practices and ensure fair competition.

3. Technological Innovation & Application

Drive R&D and commercialization of new technologies, organize evaluations and awards, and promote advanced techniques and engineering practices.

4. Standardization & Rights Protection

Assist in implementing industry regulations, safeguard member interests, and develop industry/group standards while contributing to national standards.

5. Talent Development & Certification

Conduct professional training programs and assist in qualification assessments for blasting personnel.

6. Safety Evaluation & Technical Services

Provide engineering safety assessments, technical consulting, and accident investigations to enhance blasting safety and project quality.

7. Domestic & International Exchange

Organize academic conferences, technical exhibitions, and global trade initiatives to promote advanced technologies and expand international exchange.

8. Information Dissemination & Publications

Compile industry journals and publications to share policies, regulations, and best practices.

9. Other Commissioned Services

Undertake projects assigned by government agencies and enterprises.

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**If you have any questions during your stay,
ask anyone wearing an "Staff" card.**