

FRAG BLAST | 12

Technical Program

FRAGBLAST 12

June 11-13 2018, Luleå, Sweden

Monday 11 June 2018

08:30 am – 10:00 am	Registration and morning coffee/tea	
10:00 am – 11:00 am	Opening ceremony (The Great hall)	
11:00 am – 12:00 pm	Keynote presentations	
12:00 pm – 1:00 pm	Lunch Break and Exhibition	
	The Great hall	The concert hall
	Session 1: Automation and introduction of new technologies in blasting operations Session Chair: Cameron McKenzie, Blastotechnology	Session 2: Blast damage I Session Chair: Bibhu Mohanty, University of Toronto
01:00 pm – 01:15 pm	Building inexpensive accelerometer-based seismographs - K. Ray and G. Yuill	Estimation of blast Induced damage of saturated rib-pillars in large diameter blast hole (LDBH) stope - D. Deb, S. Mohanto and Y.K. Gujjala
01:15 pm – 01:30 pm	The study on remote monitoring management information system of rotary drill - Y. Duan, D. Xiong, B. Gong, Q. Wang, Z. Yang, M. Wang and H. Chi	Assessment and control of backbreak using near-field vibration signatures in Dragline bench blasting - N. V. Bhagade, V. M. S. R. Murthy, S. Srivastava, S. Pal and S. Singh
01:30 pm – 01:45 pm	Present situation and prospect of blasting safety supervision - L.Ge, H.Yin and B. Fan	Estimation of tensile strength of Laurentian granite under high strain rate loading - A. Saadatmand Hashemi and P. Katsabanis
01:45 pm – 02:00 pm	Lowering cost of mining with true wireless detonators, the latest initiation innovation - M. B. Lovitt and N. Pereira	Blast induced overbreak control in roadway tunnels of Himalayan rocks in India - M. Ramulu, P. B. Choudhury and P.K. Singh
02:00 pm – 02:15 pm	Blasting technique for optimizing the comprehensive cost of mining and mineral processing - X. Li, Z. Xu, D. Zhang and L. Guo	Near-field energy distribution in wall control blasting - an engineering approach - P. Couceiro, J. Pascual and M. Lopez Cano
02:15 pm – 02:30 pm	Prediction of run of mine particle size distribution and grinding circuit performance using blast hole drilling data - C. Paredes, V. Jokovic and S. S. Kanchibotla	An experimental investigation of fracture patterns near a blasthole in cylinders of granite under different radial confinements - L.Y. Chi, Z.X. Zhang, A. Aalberg and J. Yang
02:30 pm – 03:00 pm	Afternoon Coffee/Tea Break and Exhibition	

Monday 11 June 2018

	The Great hall	The concert hall
	Session 3: Blast vibrations and special blasting techniques I Session Chair: Trevor Little, Blasting Geomechanics Pty Ltd	Session 4: Rock fragmentation and case studies I Session Chair: Bill Adamson, Davey Bickford
03:00 pm – 03:15 pm	Digital filters for A, B, and C frequency weighting for sound level data - A.T. Spathis	The influence of blasthole standard deviation (BSD) on fragmentation - P.A. Rustan
03:15 pm – 03:30 pm	Blast design for underground long hole stope to safeguard surface industrial structures from blast induced vibration - V. K. Himanshu, M. P. Roy, M. Sarim, P. K. Singh and A. K. Mishra	Study on the influence of precise delay blasting on rock fragmentation - S. Li, Z. Li, J. Yang and D. Yu
03:30 pm – 03:45 pm	Vibration modelling and mechanisms for wall control blasting - D.P. Blair	Determining the size distribution of fragmented rocks by blasting using GLCMs textural features of images and neural network - H. Yaghoobi, H. Mansouri, M. A. Ebrahimi Farsangi and H. Nezamabadi-pour
03:45 pm – 04:00 pm	Characteristics of blasting vibration induced by tunnel rock excavation under high in-site stress - M. Chen, W. Gao, W. He, W. Lu and G. Yang	Flattening of hill by blasting in densely populated area for construction of international airport at Navi Mumbai, India - M. P. Roy, C. Sawmliana, R. K. Paswan and P. K. Singh
04:00 pm – 04:15 pm	Do different standards for blasting seismographs mean different accuracy? - P. Segarra, J. A. Sanchidrián, I. del Castillo, R. Castedo, L. M. López and J. Navarro	Pre-split blasting techniques at Dragline benches for stable bench with improved fragmentation level - P. K. Singh, M. P. Roy, V. K. Himanshu, R. K. Paswan and S. Kumar
04:15 pm – 04:30 pm	Blasting excavation technologies of a sandstone deep foundation pit under complex urban environment - G. Liu, R. Liang and X. Wang	Evaluation of UAV System Accuracy for Automated Fragmentation Measurement - T. Bamford, K. Esmaili and A. P. Schoellig
08:00 pm – 11:00 pm	Midnight cruise dinner	

Tuesday 12 June 2018

09:00 am – 10:00 am	Keynote presentation (The Great hall)	
10:00 am – 10:30 am	Morning Coffee/Tea break and Exhibition	
	The Great hall	The concert hall
	Session 5: Explosive performance and mechanics of rock blasting I Session Chair: Takis Katsabanis, Queen's University	Session 6: Rock fragmentation and case studies II Session Chair: Matthias Wimmer, LKAB
10:30 am – 10:45 am	Emulsion characterization with cylinder test and JWL parameters determination - L. M. López, R. Castedo, J. A. Sanchidrián, M. Natale, A. P. Santos, J. Navarro, M. Chiquito	Pattern Expansion Optimization Model based on fragmentation analysis with Drone Technology - F. Leite, V. Miranda and T. Palangio
10:45 pm – 11:00 pm	Continuous Wavelet Transforms - A Way to Tease Explosive Performance From Seismograms - D. Anderson	Investigation of the rock blast fragmentation based on the specific explosive energy and in-situ block size - H. Inanloo Arabi Shad, F. Sereshki, M. Ataei and M. Karamoozian
11:00 pm – 11:15 pm	A Relationship Between Detonation Performance and Low Density Explosive Physical Properties - G. Cavanaugh, S. Parsons and J. Rock	Analysis and interpretation of LiDAR data in determination of fragmentation - I. C. Engin and N. H. Maerz
11:15 pm – 11:30 pm	Calibration and Validation of Reactive Flow Model Parameters for an emulsion explosive - C. Yi, U. Nyberg and D. Johansson	Design and implementation improvements for wall control blasting in an anisotropic rock mass at the Phu Kham Copper-Gold Operation - E. Sellers, L. Kennelly, B. Withers, K. Monro and D. Reid
11:30 pm – 11:45 pm	Filming blast fragmentation of rock and mortar cylinders - I. Kukolj, A. Iravani, F. Ouchterlony, C. Weiss and J. Lubensky	Application of Power Deck in wet condition, case study: Goharzamin iron ore mine - M. J. Askari Badoee, M. A. Ebrahimi Farsangi, H. Mansouri and A. M. Mansour Panahi
11:45 pm – 12:00 pm	Proposed improvements for single blasthole test reporting methodology and observations from tests in rock salt mines - J. D. Aubertin, D. J. Hutchinson, M.S. Diederichs and R. Triebel	Optimisation of blast design for an armour stone quarry – a case study - G. Gopinath, H. S. Venkatesh and R. Balachander
12:00 pm – 01:00 pm	Lunch Break and Exhibition	

Tuesday 12 June 2018

01:00 pm – 02:30 pm	Commercial session (The Great hall)	
02:30 pm – 03:00 pm	Afternoon Coffee/Tea Break and Exhibition	
	The Great hall	The concert hall
	Session 7: Sustainable blasting and new developments Session Chair: Ewan Sellers, Mining3	Session 8: Blast damage II Session Chair: Alex Spathis, Houdini Phantom Research and Secretary General FIOC
03:00 pm – 03:15 pm	Role of blasting in assisting with value-based ore control in underground mines - T.N. Little and M.B. Lovitt	Overbreak in underground excavations - some key insights - H. K. Verma, P. K. Singh, A. Swarup, H. L. Arora and D. V. Singh
03:15 pm – 03:30 pm	The class 3 permissible water gel explosive with high-strength and its tunneling blasting in under ground coal mine - Z. Guo, W. Liu, F. Liu, F. Zhu, C. Wang and L. Yuan	Analysis on components and characteristics of seismic waves induced by horizontal smooth blasting - Q. Gao, W. Lu, Z. Yang, H. Hu, P. Yan and M. Chen
03:30 pm – 03:45 pm	Application of an in-house MWD system for quarry blasting - J. Navarro, P. Segarra, J. A. Sanchidrián, R. Castedo, A. P. Pérez Fortes, M. Natale and L.M. López	Evaluation of the impact of blast induced vibrations on human habitat at the excavation of a huge dam foundation in China - P. Yan, S. Luo, L. Yuan, T. Zhou, W. Lu, M. Chen and G. Wang
03:45 pm – 04:00 pm	The use of 3D accelerometer – and gyro sensors in smartphones to measure the blasthole deviation in non-magnetic rock - V. Miranda and F. Leite	Impact of blasting on surrounding rock mass properties - H. K. Verma, P. K. Singh, A. Bharadwaj and V. Sharma
04:00 pm – 04:15 pm	Present and future prospect of exploder for underground coal mines of India - B. Ahirwal, B. M. P. Pingua, M. P. Roy, M. K. Singh and R. K. Vishwakarma	Measurement while drilling technique in blasting damage calculation - J. van Eldert, H. Schunnesson, D. Johansson and D. Saiang
04:15 pm – 04:30 pm	Making economically viable the exploitation by D&B in a quarry within sensitive, highly populated area - S. De Palma, M. Cardu and J. Seccatore	Solution of emulsion explosive misfire in soft rock tunnel - D. Lin
07:00 pm – 11:00 pm	Conference Dinner	

Wednesday 13 June 2018

09:30 am – 10:00	Keynote presentations (The Great hall)	
10:00 am – 10:30 am	Morning Coffee/Tea break and Exhibition	
	The Great hall	The concert hall
	Session 9: System approaches in mining Session Chair: Pablo Segarra, Universidad Politécnica de Madrid	Session 10: Blast vibrations and special blasting techniques II Session Chair: Wenbo Lu, Wuhan University
10:30 am – 10:45 am	Blasting Vs Crushing and Additional Grinding – Pro’s and Con’s - S. S. Kanchibotla, R. Morrison, S. Tello and T. Chenje	Response spectra for vibration and shock loads - A.T. Spathis
10:45 pm – 11:00 pm	A pit to gate multivariable cost control model - R. Tamir and J. E. Everett	Research on crack propagation rule in single hole bench blasting based on rock mesostructured - Z. Chen, J. Yang, X. Xu, Z. Xu and M. Qu
11:00 pm – 11:15 pm	Productivity improvement in Aggregate Quarry vis-a-vis Fragmentation by Blasting - R. M. Bhatawdekar, M. T. Edy, J. A. Danial, S. Changthan and G. K. Pradhan	Dynamic responses of adjacent building induced by blasting demolition: a case study in Wuhan, China - Y. Yao, X. Xie, Y. Jia, C. Liu and J. Hu
11:15 pm – 11:30 pm	Improving Downstream Performance Through a Highly Flexible Energy Explosive - P. Couceiro, J. Pascual, M. Lopez Cano, F. Beitia and M. Laguillo	Study on the influence of long term frequent blasting vibration on buildings and human body - X. Liao, F. Shi, Y. Jiang and X. Li
11:30 pm – 11:45 pm	Applied data analytics on blast-induced outcomes using multi-year blasting data from an operational open pit mine - B. Ohadi, X. Sun, K. Esmaili and M.P. Consens	Development of random forests and Cubist models for predicting blast-induced ground vibrations - J. Zhou, X. Shi, E. Li, M. Wang and S. Yao
11:45 pm – 12:00 pm	Effect on cominution properties of blast preconditioned magnetic mortar - H. Mansouri, F. Ouchterlony, H. Inanloo Arabi Shad and A. Böhm	Safe dismantling of unstable boulder using controlled blasting in the historical Town of Gaya, India - C. Sawmliana, P. K. Singh, M. P. Roy, R. K. Singh and V. K. Himanshu
12:00 pm – 01:00 pm	Lunch Break and Exhibition	

Wednesday 13 June 2018

	The Great hall	The concert hall
	<p>Session 11: Numerical simulations of rock blasting Session Chair: Pradeep Singh, CSIR-Central Institute of Mining and Fuel Research</p>	<p>Session 12: Explosive performance and mechanics of rock blasting II Session Chair: Lina Lopez, Universidad Politécnica de Madrid</p>
01:00 pm – 01:15 pm	Modeling VoD effects on rock fragmentation within multiple blasthole fragmentation (MBF) model - R. Yang	Experimental and numerical investigation on rock fragmentation under combined blastholes with different diameters - Z. Leng, Q. Gao, W. Lu, G. Zhou and Y. Hao
01:15 pm – 01:30 pm	Modelling blast fragmentation of cylinders of mortar and rock - A. Iravani, I. Kukolj, F. Ouchterlony, T. Antretter and J. Åström	Investigation of blasting safety control of high rock slope with joints - Y. Hu, G. Zhao, W. Lu, M. Liu and P. Li
01:30 pm – 01:45 pm	A FEM-SPH coupled procedure for the analysis of blast induced damage in rock - D. Deb and A. Khan	Experimental and numerical investigations of dynamic failure process in rock under air decoupling charge blasting - C. He and J. Yang
01:45 pm – 02:00 pm	An engineering model to estimate blast movement and resulting ore loss and dilution - R. Picorelli, A. Musunuri, M. Jones and S. S. Kanchibotla	Numerical simulation of rock mass damage by pressure-relief blasting in deep metal mine - W. Liu, X. Zhang, Y. Wang, Z. Cui, H. Yang and H. Yi
02:00 pm – 02:15 pm	Comparison between coupled SPH-FEM numerical model of a single hole blast and experimental test - M. Natale, R. Castedo, L. M. López, J. A. Sanchidrián, P. Segarra, A. P. Santos and J. Navarro	Rock fracture and fragmentation, and derivation of improved crushing rate indices: an alternate approach - S. Huang and B. Mohanty
02:15 pm – 02:30 pm	Numerical investigation for timing effects on fragmentation based on a coupled FEM-BPM-PBM model - C. Yi, D. Johansson and U. Nyberg	
02:30 pm – 03:00 pm	Afternoon Coffee/Tea Break and Exhibition	
03:00 pm – 04:00 pm	Key note presentations (The Great hall)	
04:00 pm – 04:30 pm	Closing and transfer ceremony (The Great hall)	