

Wednesday 28 September Technical program

Keynote lectures

Time	Keynote lectures
09:10am-09:55am	Keynote lecture 1 by Prof Derek Elsworth (Room S3)
10:25am-11:10am	Keynote lecture 2 by Prof He Manchao (Room S3)
13:30pm-14:15pm	Keynote lecture 3 by Prof Carranza-Torres (Room S3)
16:00pm-16:45pm	Keynote lecture 4 by Prof Shu-cai Li (Room S3)

Oral session 1

Time	CO ₂ sequestration (Room S1)	Geothermal energy (Room S2)	Civil geotechnical engineering (Room S3)
11:10am-11:25am	IC3G 16-010 M. Nasvi Mechanical integrity of geopolymers under down-hole stress conditions: Application as well cement for CO ₂ sequestration wells	IC3G 16-062 L. Jensen-Page A new method for estimating the steady state region in Thermal Response Test data	IC3G 16-016 T Xu Experimental study of multistep creep properties of green sandstone
11:25am-11:40am	IC3G 16-190 C Xu Carbon Sequestration Potential of Hot Dry Rock Enhanced Geothermal Systems	IC3G 16-195 J Riffault Assessment of permeability enhancement distribution using micro-seismicity catalogs for an EGS stimulation	IC3G 16-024 G You Earth Fissuring Due to Groundwater Extraction in Henglin, Changzhou, Jiangsu, China
11:40am-11:55am	IC3G 16-205 G Ma Numerical analysis of CO ₂ injection into deep saline aquifers using unified pipe network method	Analytical & numerical methods (Room S2)	IC3G 16-036 J Feng Rubber cushion role in the joints of concrete segments in shield tunnel: insight into 3d finite element modelling
		IC3G 16-202 V Lemiale Numerical simulations of the direct shear test using Smoothed Particle Hydrodynamics	
11:55am-12:10pm	IC3G 16-261 VVK Maddali Economic and time sensitive issues surrounding CCS - A policy analysis	IC3G 16-215 A Mir A Coupled Damage- Plasticity Model for Porous Rocks; Capturing Dilatant and Contractive behaviour	IC3G 16-038 J Shi Evaluation of excavated rock mass quality and high slope stability relating to Baihetan arch dam
12:10pm-12:25pm	IC3G 16-291 A Chaudhuri Buoyancy driven flow, mixing and dissolution trapping of supercritical CO ₂ in deep aquifer	IC3G 16-218 Y Wang An Advanced Adaptive Mesh Method for Fluid Flow Simulation in Highly Discontinuous Geological Media	IC3G 16-045 N Yarahmadi Behaviour of bi-planar geonet in landfill leachate collection and removal systems

Poster session 1

Time	CO ₂ sequestration (EH4)	Civil geotechnical engineering (EH4)	Shale gas extraction (EH4)
12:30pm-13:30pm	<p>IC3G 16-092 AS Ranathunga A macro scale overview on coal mass permeability alterations occur upon CO₂ injection into Australian low rank coal</p>	<p>IC3G 16-141 S Chen Non-contact rock mass characterization for underground excavation</p>	<p>IC3G 16-129 Na Zhang Water absorption and its mechanical effect on shale at great depth</p>
	<p>Unconventional oil and tight gas extraction (EH4)</p>	<p>IC3G 16-194 L Jiang Model Test Study on the Dynamic Stress Response of Subgrade Structure of the High-Speed Rail under Train Load</p>	<p>IC3G 16-207 Y Fei Simulation of Hydraulic Fracturing with CO₂ Foam Using a Fracture Propagation Model Coupled with Geomechanics in a Shale Gas Reservoir from Cooper Basin, South Australia</p>
	<p>IC3G 16-102 F Ma Influences of fault structures on hydraulic fracturing and reservoir seal during hydraulic fracturing</p>	<p>IC3G 16-198 X Xu Discussion on the Cracking of Expansive Soil by Using Digital Speckle Correlation Method</p>	<p>Laboratory & in situ testing (EH4)</p>
	<p>IC3G 16-322 WAM Wanniarachchi Attenuation of seismic waves in Australian and Indian sandstones: An experimental study</p>		<p>IC3G 16-297 M Karakusa Rock Fatigue Damage Assessment by Acoustic Emission</p>
	<p>Coal seam gas extraction (EH4)</p>	<p>IC3G 16-272 F Yu Structural Analysis of Permeability Tunnel with Rib Arch Beam</p>	<p>IC3G 16-327 CH Wei Numerical simulation of damage zone evolution in rock under coupled thermal-hydrological-mechanical conditions</p>
	<p>IC3G 16-031 CJ Li An insight into the swelling of coal induced by gas adsorption: an elastoplastic model with surface stress</p>	<p>IC3G 16-320 MSA Perera A study on the application of poker vibrator for compacting quarry dust</p>	
	<p>Geothermal energy (EH4)</p>		
	<p>IC3G 16-315 WGP Kumari Experimental study on temperature dependent mechanical behaviour of Australian Strathbogie granite</p>		

Oral session 2

Time	Unconventional oil and tight gas extraction (Room S1)	Coal seam gas extraction (Room S2)	Shale gas extraction (Room S3)
14:15pm-14:30pm	IC3G 16-095 R Johnson Improving diagnostic fracture injection testing for in situ stress profiling and reservoir characterization in low permeability, unconventional gas reservoirs	IC3G 16-054 B Wu Surface subsidence mechanism induced by coal seam gas extraction and parametric analysis	IC3G 16-047 P Cao An investigation into the interactions between the kerogen and inorganic matrix during the shale gas depletion
14:30pm-14:45pm	IC3G 16-229 W Zheng Evaluation of frac sand permeability under high compressive stress by combining grain imaging and discrete element modelling	IC3G 16-058 Z Chen The far-field deformation from a hydraulic fracture in a coal seam in an elastically stiffer half space	IC3G 16-105 Z Bennour Evaluation of Stimulated Reservoir Volume Using the Fluorescence Method in Hydraulic Fracturing of Shale Cores
14:45pm-15:00pm	Analytical & numerical methods (Room S1)	IC3G 16-080 J Xie A model for quantitative description on the evolution of coal permeability under loading and loading-unloading stress condition	IC3G 16-134 Z Pan Laboratory study of anisotropy in the mechanical properties of gas shales
	IC3G 16-273 X Zhang A phase-field model for mixed mode crack propagation in rock materials		
15:00pm-15:15pm	IC3G 16-281 Y Zhan Explicit Integration Scheme for Sub loading Surface Plasticity Soil Models	IC3G 16-257 S Durucan Coupled thermo-chemical-mechanical-modelling of underground coal gasification cavity growth	IC3G 16-183 PNK De Silva A comparative study of Shale gas development potential between Australia and the US
15:15pm-15:30pm	IC3G 16-091 A Schwartzkopff An explicit solution for the Zhang-Zhu failure criterion	Mining (Room S2)	Civil geotechnical engineering (Room S3)
		IC3G 16-331 K. Zhang Numerical investigation on evolution of water-conductive zone during longwall mining under different geological conditions	IC3G 16-329 Z.H. Xu A Graph-theoretic Pipe Network Method for Water Flow Simulation in a Fractured Porous Medium: GPNM

Oral session 3

Time	Mining (Room S1)	Analytical & numerical methods (Room S2)	Laboratory & in situ testing (Room S3)
16:45pm-17:00pm	<u>IC3G 16-048</u> NAN Hua Study of pillar's reasonable width in Xin'an coal mine	<u>IC3G 16-022</u> K Senetakis Quantifying the effect of particle shape on the small-strain stiffness of sand	<u>IC3G 16-035</u> A Taheri Study on Pre-peak Damage Thresholds of Different Rocks in Confined and Unconfined Conditions
17:00pm-17:15pm	<u>IC3G 16-069</u> Z Tao A remote monitoring warning system of landslides with a special large deformation cable and its application at the Nanfen open-pit iron mine	<u>IC3G 16-028</u> H Liu Hybrid continuous-discontinuous modelling of dynamic fracture of rock under impact loads and resultant fragment arching	<u>IC3G 16-081</u> DW Loi A preliminary laboratory investigation on wave propagation for machine foundation resting on coarse graded sand
17:15pm-17:30pm	<u>IC3G 16-139</u> S Wu Mesh corrosion in underground coal mines	<u>IC3G 16-042</u> G Pereira Modelling fluid flow through heterogeneous porous media	<u>IC3G 16-086</u> Y Zhao Real-time multi-point monitoring of water spontaneous imbibition into low permeability sandstone by neutron radiography
17:30m-17:45pm	<u>IC3G 16-247</u> K Thoeni Qualitative assessment of the rock fall hazard at the base of high walls	<u>IC3G 16-077</u> A Fakhimi Rock Fracture in Cavity Expansion Test	<u>IC3G 16-184</u> X Shi An Experimental Study of Rock Drillability under Simulated Drilling Conditions
17:45pm-18:00pm	<u>IC3G 16-299</u> P.E. Newton An assessment of the ability of a single phase forced circulation thermosyphon and a two-phase natural convection thermosyphon to cool heated mine spoil	<u>IC3G 16-254</u> S Durucan Fracture compressibility and its effective stress dependency derived from Walsh's logarithmic permeability model	<u>IC3G 16-236</u> M. Janiszewski Feasibility of underground seasonal storage of solar heat in Finland

Thursday 29 September Technical program

Keynote lectures

Time	Keynote lectures
08:30am-09:15am	Keynote lecture 5 by Prof Robert Zimmerman (Room S3)
10:45am-11:30am	Keynote lecture 6 by Prof Kulatilake (Room S3)
12:30pm-13:15pm	Keynote lecture 7 by Prof Herbert E. Huppert (Room S3)
14:15pm-15:00pm	Keynote lecture 8 by Prof Giovanni Barla (Room S3)
16:45pm-17:30pm	Keynote lecture 9 by Prof Yangsheng Zhao (Room S3)

Oral session 4

Time	Shale gas extraction (Room S1)	Geothermal energy (Room S2)	Civil geotechnical engineering (Room S3)
09:15am-09:30am	IC3G 16-171 Zhiye Gao Investigating the effects of initial water saturation and imbibing fluids on spontaneous imbibition of Barnett shale samples at different depths	IC3G 16-220 J Pogacnik The Cam-clay constitutive model applied to the Wairakei-Tauhara geothermal field	IC3G 16-182 J Liu Research on the water retention and gas permeability of Opalinus clay
09:30am-09:45am	IC3G 16-174 W. Yang Characteristics and controlling factors of pores in 7th Member shale reservoirs in the Southeastern Ordos Basin	Shale gas extraction (Room S2)	IC3G 16-208 Noor Mohammad Effects of tension cracks on hydro-mechanical behaviour of unsaturated soils
		IC3G 16-186 Z.X. Jiang Critical factors of shale gas enrichment of Silurian Longmaxi marine shale, Sichuan basin, China	
09:45am-10:00am	IC3G 16-244 L Li Case study of the heterogeneity of Continental shale gas reservoir in Ordos, China using well logs of DPM	IC3G 16-204 B Wu An extended method for over core stress measurement based on a thermo-poro-elastic analysis: implementation	IC3G 16-210 P Jongpradist Fracture Behaviour of Rock Masses around High Pressurized Gas Storage Cavern
10:00am-10:15am	Laboratory & in situ testing (Room S1)	IC3G 16-226 H Qu A fully-coupled simulation model of water spontaneous imbibition into clay-rich gas shale	IC3G 16-225 Ran Dilrukshi Plant- derived urease induced sand cementation used in geotechnical engineering applications
	IC3G 16-325 Qinglei Yu Numerical simulation and interpretation of the grain size effect on rock strength		

Oral session 5

Time	Unconventional oil and tight gas extraction (Room S1)	Analytical & numerical methods (Room S2)	Civil geotechnical engineering (Room S3)
11:30am-11:45am	IC3G 16-103 H Zhao Characteristics of hydraulic fracturing in heterogeneous rocks under different hydraulic loading mode	IC3G 16-097 T Bruning Development of a unified yield-failure criterion for the modelling of hard rocks	IC3G 16-237 M Khishvand The Third Medium Contact Mechanics Method for Consolidation Analysis of Geotechnical Problems
11:45am-12:00pm	IC3G 16-187 Dongdong Liu The genetic mechanisms and controlling factors of natural fractures in tight oil reservoirs from the Lower Permian Lucaogou Formation, Junggar Basin, China	IC3G 16-098 V Pandurangan Asymmetric hydraulic fracture mapping using the implicit level set algorithm and the extended Kalman filter	IC3G 16-283 Fulian He Failure mechanism and control of deep roadway: a case study
12:00pm-12:15pm	Shale gas extraction (Room S1)	IC3G 16-145 R Pakzad 3D numerical investigation of damage propagation in heterogeneous quasi-brittle materials	IC3G 16-328 Liping Li Real-time monitoring and early warning method of disaster precursor induced by serious water inrush in underground engineering
	IC3G 16-232 W Wu Can hydraulic fracturing with supercritical carbon dioxide enhance the permeability of unconventional shales?		
12:15pm-12:30pm	Analytical & numerical methods (Room S1)	IC3G 16-156 S Jiang Stress Wave Energy Dissipation in the Glass Bead Chain under Impact	
	IC3G 16-185 L Sun Quantitative evaluation method of micro/nano pore space in unconventional reservoir: three dimensional characterization and connectivity analysis		

Poster session 2

Time	Civil geotechnical engineering (EH4)	Analytical & numerical methods (EH4)	Laboratory & in situ testing (EH4)
	IC3G 16-071 Z Chen Prediction of tunnel squeezing considering rock	IC3G 16-073 JL Feng Hazard assessment for a rock slope at jietai temple by the combined finite-	IC3G 16-189 H Luo CT Tri-axial Testing Study On lime treat expansive soil highway subgrade

13:15pm-14:15pm	creep and its application	discrete element method	IC3G 16-197 S Qin The Acoustic Emission Characteristics of Coarse Aggregates of Red Sandstone in a Large Tri-axial Test
	IC3G 16-219 S Chen Modulus Reduction Method for Calculating Dynamic Additional Settlement of Subgrade due to Moving Train Loading	IC3G 16-090 B Yang Numerical analysis of tunnelling in sand using a state parameter model	
	IC3G 16-283 F He Failure mechanism and control of deep roadway: a case study	IC3G 16-094 Z Chen Numerical modelling of drill string vibration on wellbore stability	IC3G 16-295 X Wang Experimental study on the permeability anisotropy and stress sensitivity of shale
	IC3G 16-304 W Wang Assessment of stress intensity factors in buried metal pipes subjected to loading	IC3G 16-221 Z Chen Modelling of Supercritical Gas Hydraulic Fracturing: Using the PKN Model as an Example	IC3G 16-326 Djamil Al-Halbouni Geophysical signatures of sinkhole formation - a Distinct Element Method modelling perspective
	Mining (EH4)	IC3G 16-314 F Xie Research on Reinforcement Technology of Large Section Fragmentized Gob-side Entry with Asymmetric Damage	Mining (EH4)
	IC3G 16-135 You Shuang Assessment Methodology of Stability Analysis of Jointed Rock Slope		IC3G 16-178 X Liu Study on the relationship between fractal crack network evolution and corresponding permeability change of rock mass during mining
			IC3G 16-269 WL Gong Geo-Disaster Prediction with Double-Block Mechanics Based on Newton force Measurement