



5TH INTERNATIONAL COLLOQUIUM ON GEOMECHANICS AND GEOPHYSICS

OSTRAVA, KAROLINKA, CZECH REPUBLIC

JUNE 24 - 27, 2014

The fifth International Colloquium on Geomechanics and Geophysics enables the gathering of experts in the fields of mining geomechanics and geophysics as well as those from the geotechnical engineering domain. It is a forum for the exchange of knowledge, information and experiences gained in different areas of research and practices of the scientific life. One of the main goals of the colloquium is to harmonize the needs of a full-scale cooperation within the scientific and research areas and to set the pace for further collaborations.

Part of the colloquium will be a Geo3M day held at the Institute of Geonics AS CR, v.v.i. in Ostrava in June 24, 2014. Colloquium sessions will be held in a conference hall at Soláň Hotel in Karolinka village in June 25-27, 2014.

Organizers

Institute of Geonics AS CR, v.v.i.

Green Gas DPB Inc.

Czech National Group of the International Society for Rock Mechanics



GEO3M DAY
(MECHANICS, MATERIALS, MODELLING)

INSTITUTE OF GEONICS AS CR, V.V.I., OSTRAVA, CZECH REPUBLIC
JUNE 24, 2014

PRELIMINARY PROGRAM

9:00 - 10:00

Registration and coffee

10:00 - 17:00

Opening Ceremony

Laudatio to Prof. Ove Stephansson

Awarding the Posepny medal for merits
in geological sciences to Prof. O.
Stephansson by President of AS CR Prof.
J. Drahoš

Invited lectures

Stephansson O., Yoon J.S., Zang A.

A NEW APPROACH TO STIMULATE
GEOTHERMAL RESERVOIR AND
REDUCE MAN-INDUCED
SEISMICITY (40 min.)

Hudson J.A.

RISKS IN SITE INVESTIGATION, MODELLING
AND CONSTRUCTION FOR ROCK
ENGINEERING (40 min.)

Lunch break

Invited lectures

Pellet F.

DAMAGE CHARACTERIZATION OF ROCKS
SUBJECTED TO DIFFERENT LOADING
CONDITIONS (40 min.)

Blaheta R.

GEO-ORIENTED MATHEMATICAL
MODELLING: MULTIPHYSICS AND
MULTISCALE (40 min.)

Coffee break

Invited lectures

Souček K.

X-RAY CT LAB AND RESEARCH AT THE
INSTITUTE OF GEONICS (30 min.)

Janeček I. et al.

ROCK MECHANICS: LABORATORY
RESEARCH AT THE INSTITUTE OF GEONICS
(30 min.)

Kwasniewski M.

LOOKING AHEAD WITH ADVANCED
RESEARCH ON THE VOLUMETRIC
DEFORMATION MODE OF ROCKS UNDER
COMPRESSIONAL AND EXTENSIONAL
STRESS REGIMES - BACKGROUND,
RATIONALE AND OBJECTIVES (30 min.)

17:00 - 18:00

Excursion to laboratories

18:00

Welcome party

COLLOQUIUM SESSIONS

HOTEL SOLÁŇ, KAROLINKA, CZECH REPUBLIC

JUNE 25 - 27, 2014

Colloquium Sessions Venue

Colloquium will be held in a conference hall at **Soláň Hotel** in **Karolinka** village in June 25-27, 2014.

The Hotel Soláň is in a superb location in the centre of the tranquil Beskydy Mountains. Positioned 816m above sea level it offers a spectacular view of the Javorniky Mountains. For more information please visit hotel website (<http://www.hotelsolan.cz/en/>).



Registration and Payment

Registration fee includes all costs related to participation in the colloquium and accommodation from June 25-27, 2014.



Mountain hotel Soláň

Karolinka 339

756 06 Czech Republic

Tel.: +420 571 480 100

GPS:

49°23'28.699"N, 18°14'54.88"E



Driveway

The way to approach the hotel by car is marked with red arrows on the map above. There are also enough road directions signs pointing towards the hotel. More information can be found on the hotel website (<http://www.hotelsolan.cz/en/>).

Transport

Transportation of Geo3M Day participants from Ostrava to Hotel Soláň and back will be provided by bus. The bus departs from the Institute of Geonics, then follow pick up of participants at the Park Inn hotel.

Accommodation

Colloquium participants will be accommodated on June 25, 2014 immediately after arrival and registration. Accommodation will be provided at the venue of the colloquium in single or double rooms. Check-out of accommodated participants will be on June 27, 2014 after breakfast.

The further accommodation required in the application form (before or after the colloquium) has been reserved in Garni hotel and ParkInn hotel. We also inform that accommodation periods outside the frame (June 25-27, 2014) of the colloquium are not included in the participation fee. Payment of accommodation and other services are possible either by cash in Czech crowns or using the electronic card.

Restaurant

Breakfast, lunch and dinner will be served in the hotel restaurant.

Relax

For moments of relaxation or active leisure there is a wellness and spa center and also hotel swimming pool. For more information about offered services, pricing and ordering, please see the hotel website.

Languages

The official language of the colloquium is English. All lectures will be held in English without translation.

PRELIMINARY PROGRAM

June 25, 2014 (Wednesday)

9:00

Departure to Hotel Soláň of Geo3M Day participants by bus

Institute of Geonics (9:00)

Park Inn hotel (9:30)

10:00 - 12:00

Participant registration and accommodation

12:00 - 13:00

Lunch

13:00 - 17:50

Colloquium afternoon sessions

19:00

Dinner

June 26, 2014 (Thursday)

7:00 - 9:00

Breakfast

9:00 - 13:10

Colloquium morning sessions

13:10 - 14:40

Lunch

14:40 - 16:15

Colloquium afternoon session

16:45 - 18:00

Colloquium poster session

19:00

Closing ceremony and social evening

June 27, 2014 (Friday)

7:00 - 9:00

Breakfast

9:00 - 10:00

International Advisory Board meeting (papers selection for journals publication)

10:30

Departure to Ostrava by bus

Park Inn hotel (12:00)

Institute of Geonics (12:30)

Presentations

Approximate time for presentation of keynote lectures is 30 minutes excluding discussion. Estimated time for each lecture is 15 minutes excluding discussion. Detailed program of the colloquium will be available on the [colloquium websites](#) one week before the event.

For the presentation of individual contributions, a PC running Windows operation system with [Microsoft Office PowerPoint 2010](#) software, projector, screen and speakers will be provided.

The organizing committee of the colloquium warns the participants that the registered lectures can be presented only with the computer equipment and software described above. Any specific requirements need to be agreed in advance with the organizing committee of the colloquium.

Posters

The poster panels with dimensions of 90 x 130cm (portrait orientation) for poster presentation are available. Recommended poster size is ISO A0 (84.1 x 118.9cm). All posters have to be printed by the participants themselves. No printer will be available.

Proceedings

All accepted papers will be published in the form of extended abstracts in the [Colloquium proceedings](#). The proceedings will be distributed to each participant during registration period. Selected papers will be recommended for publishing in full form in the [Canadian Geotechnical Journal](#) and [Acta Geodynamica et Geomaterialia](#) due to International Advisory Board.

Contact

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PRELIMINARY LIST OF CONTRIBUTIONS

Keynote Lectures

Mutke G., Lurka A.

ASSESSMENT OF UNDERGROUND EXCAVATIONS STABILITY IN THE PRESENCE OF HIGH SEISMIC ACTIVITY
- CASE STUDY OF SEISMIC MONITORING IN LONGWALL PANEL NO 3 IN BOBREK COAL MINE, POLAND

Rálek P., Hoker M., Frydrych D., Balvín A., VITA team

EVALUATION OF UNDERGROUND EXPERIMENTS WITH 3D NUMERICAL MODELS

Sainoki A., Mitri H.S.

EVALUATION OF FAULT-SLIP POTENTIAL IN UNDERGROUND MINES

Sato A., Ikeda K.

VISUALIZATION OF DIFFUSION PHENOMENA IN THE POROUS MEDIA BY MEANS OF X-RAY CT

Lectures

Aziz N., Heemann K., Nemcik J., Mayer S., Mirzaghobanali A.

SHEAR STRENGTH PROPERTIES OF HILTI PLAIN AND INDENTED STRAND CABLE BOLTS

Balvín A., Rálek P., Hokr M., Hernych M.

MEASUREMENT AND MODELLING OF SEASONAL EFFECTS IN TUNNEL WATER INFLOW BEDŘICHOV

Bock S., Prusek S., Bukowska M., Szymała J.

THE USE OF THE FULL STRESS-STRAIN CHARACTERISTICS OF ROCKS TO DETERMINE THE CAUSE OF
DAMAGE TO THE CONCRETE SHAFT LINING

Bodnářová L., Sitek L., Válek J.

BEHAVIOUR OF CONCRETE IN TUNNELS AND UNDERGROUND CONSTRUCTIONS IN CASE OF FIRE

Brož M., Štrunc J., Tým A.

SEISMOLOGICAL INSTRUMENTATION FOR GEOTHERMAL BOREHOLE

Drzewiecki J.

DETERMINATION OF THE VALUE OF THE ELASTIC MODULUS OF THE ROCK MASS ESSENTIALLY DISTURBED BY
LONGWALL OPERATION ON THE BASIS OF SEISMIC ENERGY EVENTS

Dvořák P., Vochta R.

STABILIZATION OF GATEROADS FOR THE COALFACE 401 309 IN THE SEAM COMPLEX 39A+40 IN THE
ČSM MINE, OKD

Ďuriš L., Aldorf J., Hrubešová E.

NUMERICAL ANALYSIS OF THE IMPACT OF THE STOPE MINING ON MINING SHAFT

Holub K., Holečko J., Rušajová J., Heroldová N.

SEISMIC ANALYSIS OF ROCKBURSTS RECORDED UNDERGROUND IN THE OSTRAVA - KARVINÁ COAL
BASIN WITHIN THE YEARS 1993 – 2013

Kwasniewski M.

DILATANCY AS A PRECURSOR OF THE BRITTLE FAILURE OF ROCKS – CHARACTERISTICS OF THE DILATANT
BEHAVIOUR OF ROCKS UNDER TRIAXIAL COMPRESSION CONDITIONS

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(Second Announcement)

Lachman V., Hladký R., Černý M., Nosek J.

HEATING TESTS THERMAL MONITORING INSTRUMENT FOR VALIDATION OF PROGNOSIS MODELLING.

Makówka J., Kabiesz J.

COMPARISON OF RESULTS OF PRINCIPAL STRESSES DETERMINATION WITH RESULTS OF NUMERICAL CALCULATIONS

Małkowski P.

SHEAR BEHAVIOUR AT ROCK JOINTS IN SANDSTONES

Mazaira A., Koníček P.

INTENSE ROCKBURST IMPACTS IN DEEP UNDERGROUND CONSTRUCTIONS AND THEIR PREVENTION

Ptáček J., Koníček P., Staš L., Waclawik P., Kukutsch R.

THE ROTATION OF PRINCIPAL AXES OF STRESS DUE TO MINE INDUCED STRESSES

Pytel W., Pałac-Walko B.

GEOMECHANICAL RISK ASSESSMENT FOR TRANSVERSAL ISOTROPIC ROCK MASS SUBJECTED TO DEEP MINING OPERATIONS

Semíková H., Vaněček M., Krásný O., Stibitz M., Vintera J., Pacovský J.

PULSE HYDRAULIC FRACTURING OF A ROCK MASSIF - THE STIROMAS PROJECT

Schott W., Waclawik P.

ON THE QUANTITATIVE DETERMINATION OF COAL SEAM THICKNESS BY MEANS OF IN-SEAM SEISMIC SURVEYS

Singh R., Ram S., Kuma D.

ROOF BOLT BASED BREAKER-LINE DESIGN DURING UNDERGROUND COAL PILLAR EXTRACTION

Sitek L.

USE OF X-RAY CT FOR ANALYSIS OF CONCRETES EXPOSED TO HIGH TEMPERATURES

Smolorz M.

NUMERICAL ANALYSIS OF THE ROCK MASS JOINTING IMPACT ON THE STABILITY OF UNDERGROUND WORKINGS

Sosna K., Brož M., Franek J., Záruba J.

IN-SITU MONITORING ON THERMALLY LOADED GRANITIC ROCK

Waclawik P., Ptáček J., Vavro M., Koníček P., Kukutsch R.

ROCK MASS FRACTURING OF MAIN GATE ROOF BEHIND ADVANCING LONGWALL FACE

Posters

Bogusz A., Bukowska M.

STRESS-STRAIN CHARACTERISTICS AS A SOURCE OF INFORMATION ON DESTRUCTION OF LOADED ROCKS

Bukowska M.

INFLUENCE OF HUMIDITY ON THE GEOMECHANICAL PROPERTIES OF SANDSTONES IN TRIAXIAL COMPRESSION TESTS

Hastíková A.

DETERMINATION OF THE STRESS TENSOR - USING THE METHOD CCBO AND CCBM IN CONDITIONS OF LOCAL ANISOTROPY OF GEOMECHANICAL PROPERTIES AND SOME STRUCTURAL INHOMOGENEITIES OF THE ROCKS

Jiráňková E., Waclawik P., Molčák V.

INFLUENCE OF MINING COAL SEAM 40 ON THE SURFACE OF THE SEVENTH BLOCK AT KARVINA MINE, LAZY LOCALITY - A CASE STUDY FROM THE KARVINA

Kajzar V., Kukutsch R.

UTILIZATION OF TERRESTRIAL 3D LASER SCANNER FOR MONITORING OF CHANGES AND DEFORMATION OF TAILGATE NO 40 703-1A AT KARVINA MINE, LOCALITY LAZY

Kajzar V., Pavelek Z.

CREATING OF 3D MAP OF TEMPERATURE FIELDS OKR AT DEPTHS OF AROUND 1000 M

Kaláb Z., Lednická M., Knejzlík J., Lyubushin A.A.

ATTRIBUTES OF ROTATIONAL COMPONENT OF MINING INDUCED SEISMIC EVENTS

Petroš V., Golasowski J., Vochta R.

POSSIBILITIES TO USE EXISTING ROCKBURST PRECAUTIONS FOR THE ROOM AND PILLAR MINING METHOD IN THE SAFETY SHAFT PILLAR

Procházka R.

CONTRIBUTION OF THE ROCK STRESS MATHEMATICAL MODELING TO THE PROPER MINING DESIGN

Vavro M., Souček K., Staš L., Waclawik P., Vavro L., Koníček P., Ptáček J.

ALTERNATIVE METHODS FOR RQD PARAMETER DETERMINATION

Waclawik P., Schott W.

THE BENEFITS OF INNOVATION IN-SEAM SEISMIC METHOD IN THE COAL MINE CONDITION AT THE KARVINA SUBBASIN

Zych J., Machowski M.

IDENTIFICATION OF THE FAULT III ON THE A4 MOTORWAY