



**PROGRAM OF
5TH INTERNATIONAL COLLOQUIUM
ON GEOMECHANICS AND GEOPHYSICS**

**OSTRAVA, KAROLINKA, CZECH REPUBLIC
JUNE 24 - 27, 2014**



GEO3M DAY
(MECHANICS, MATERIALS AND MODELLING)
devoted to Professor Ove Stephansson
INSTITUTE OF GEONICS AS CR, OSTRAVA, CZECH REPUBLIC
Tuesday, JUNE 24, 2014

9:00-10:00

Registration and coffee

10:00-10:15

Opening

10:15-10:45

Laudatio to Prof. Ove Stephansson

Prof. Jiří Drahoš, President of the Academy of Sciences CR: Awarding the František Pošepný Honorary Medal for Merit in Geological Sciences to Prof. Ove Stephansson

10:45-10:45

Keynote lectures

10:45-11:25 **Stephansson O.**

A NEW APPROACH TO STIMULATE GEOTHERMAL RESERVOIR AND REDUCE MAN-INDUCED SEISMICITY

11:25-12:05 **Hudson J.**

RISKS IN SITE INVESTIGATION, MODELLING AND CONSTRUCTION FOR ROCK ENGINEERING

12:05-13:50

Lunch break

Lunch at the restaurant of VŠB-TU Ostrava

13:50-14:30

Keynote lectures

13:50-14:30 **Pellet F.**

DAMAGE CHARACTERIZATION OF ROCKS SUBJECTED TO DIFFERENT LOADING CONDITIONS

14:30-15:10 **Blaheta R.**

GEO-ORIENTED MATHEMATICAL MODELLING: MULTIPHYSICS AND MULTISCALE

15:10-15:30

Coffee break

15:30-17:00

Keynote lectures

15:30-15:50 **Souček K.**

X-RAY CT LAB AND RESEARCH AT THE INSTITUTE OF GEONICS

15:50-16:10 **P. Konečný**

THE HISTORY OF MEASUREMENTS OF MECHANICAL PROPERTIES OF ROCKS AT THE INSTITUTE OF GEONICS

16:10-16:30 **Janeček I. et al.**

ROCK MECHANICS: LABORATORY RESEARCH AT THE INSTITUTE OF GEONICS

16:30-17:00 **Kwaśniewski M.**

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

17:00-18:00

Excursion to laboratories

18:00

Banquet at the Institute of Geonics AS CR

COLLOQUIUM SESSIONS

HOTEL SOLÁŇ, KAROLINKA, CZECH REPUBLIC

Wednesday, JUNE 25, 2014

9:00

Departure to the 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 break

13:00-15:10

Colloquium Session I

Chairman: Prof. Jan Drzewiecki

13:00-13:30 Sainoki A., Mitri H.S.

EVALUATION OF FAULT-SLIP POTENTIAL IN UNDERGROUND MINES

13:30-13:50 Mazaira A., Koníček P.

INTENSE ROCKBURST IMPACTS IN DEEP UNDERGROUND CONSTRUCTIONS AND THEIR PREVENTION

13:50-14:10 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

14:10-14:30 Schott W., Waclawik P.

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

14:30-14:50 Waclawik P., Ptáček J., Vavro M., Koníček P., Kukutsch R.

ROCK MASS FRACTURING IN MAIN GATE ROOF BEHIND ADVANCING LONGWALL FACE

14:50-15:10 Pytel W., Pałac-Walko B.

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

15:10-15:40

Colloquium participants photography

Coffee break

15:40-17:50

Colloquium Session II

Chairman: Prof. Hani Mitri

15:40-16:10 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

16:10-16:30 Drzewiecki J.

DETERMINATION OF THE VALUE OF THE ELASTIC MODULUS OF THE ROCK MASS E_{SWG} DISTURBED BY LONGWALL OPERATION ON THE BASIS OF SEISMIC ENERGY EVENTS

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16:30-16:50 Ptáček J., Koníček P., Staš L., Waclawik P., Kukutsch R.

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

16:50-17:10 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

17:10-17:30 Brož M., Štrunc J., Tým A.

SEISMOLOGICAL INSTRUMENTATION FOR GEOTHERMAL BOREHOLE

17:30-17:50 Smolorz M.

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

19:00

Dinner

Thursday, JUNE 26, 2014

7:00-9:00

Breakfast

9:00-10:50

Colloquium Session III

Chairman: Prof. John Hudson

9:00-9:30 Rálek P., Hoker M., Frydrych D., Balvín A., VITA team

EVALUATION OF UNDERGROUND EXPERIMENTS WITH 3D NUMERICAL MODELS

9:30-9:50 Ďuriš L., Aldorf J., Hrubešová E.

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

9:50-10:10 Lachman V., Hladký R., Černý M., Nosek J.

HEATING TEST'S THERMAL MONITORING INSTRUMENT FOR VALIDATION OF PROGNOSIS MODELLING

10:10-10:30 Makówka J., Kabiesz J.

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

10:30-10:50 Balvín A., Rálek P., Hokr M., Hernych M.

MEASUREMENT AND MODELLING OF SEASONAL EFFECTS IN TUNNEL WATER INFLOW BEDŘICHOV

10:50-11:20

Coffee break

11:20-13:10

Colloquium Session IV

Chairman: Prof. Ove Stephansson

11:20-11:50 Sato A., Ikeda K.

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

11:50-12:10 Małkowski P.

SHEAR BEHAVIOUR AT ROCK JOINTS IN SANDSTONES

12:10-12:30 Kwaśniewski 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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12:30-12:50 Sitek L., Bodnářová L., Souček K., Staš L.

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

12:50-13:10 Sosna K., Brož M., Franek J., Záruba J.

IN-SITU MONITORING ON THERMALLY LOADED GRANITIC ROCK

13:10-14:40

Lunch break

14:40-16:20

Colloquium Session V

Chairman: Dr. Jan Nemcik

14:40-15:00 Semíková H., Vaněček M., Krásný O., Stibitz M., Vintera J., Pacovský J.

PULSE HYDRAULIC FRACTURING OF A ROCK MASSIF - THE STIROMAS PROJECT

15:00-15:20 Ram S., Singh A.K., Kumar D., Singh R.

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

15:20-15:40 Aziz N., Heemann K., Nemcik J., Mayer S., Mirzaghobanali A.

SHEAR STRENGTH PROPERTIES OF HILTI PLAIN AND INDENTED STRAND CABLE BOLTS

15:40-16:00 Dvořák P., Vochta R.

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

16:00-16:30

Coffee Break

16:30-17:30

Colloquium Poster Session

19:00

Closing ceremony and social evening

Friday, JUNE 27, 2014

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)

Posters

Bodnářová L., Sitek L., Válek J.

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

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., Knežlík J., Lyubushin A.A.

ATTRIBUTES OF ROTATIONAL COMPONENT OF MINING INDUCED SEISMIC EVENTS

Kukutsch R., Kajzar V.

MONITORING OF „ZEBRACKA“ MINING WORK USING TERRESTRIAL 3D LASER SCANNER

Petroš V., Golasowski J., Vochta R.

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

Petružálek M., Lokajčec T. and Svitek T.

THE INFLUENCE OF MUTUAL ORIENTATION BETWEEN FOLIATION AND LOADING DIRECTION ON FRACTURING PROCESS OF MIGMATITE SAMPLES

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.

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