

4th International Conference on **APPLIED GEOPHYSICS 2018**

AGH University of Science and Technology
Mickiewicza 30, 30-059 Kraków

Programme outline

Thursday, June 28, 2018

9:00 - 10:00	Registration
10:00 - 10:20	Opening Ceremony (A-0 building, 213 room)
10:20 - 12:00	Presentation session 1
12:00 - 13:30	Coffee break/Lunch break
13:30 - 15:30	Presentation session 2
15:30 - 17:30	Poster session (A-0 building - hall 2 nd floor)
18:30	Welcome party AQUARIUS Restaurant (Bulwar Czerwieński 81, 31-069 Kraków) with music concert - old barge on Vistula river close to Wawel Castle (www.aquariuskrakow.pl)

Friday, June 29, 2018

09:00 - 10:20	Presentation session 3
10:20 - 10:50	Coffee break
10:50 - 12:10	Presentation session 4
12:10 - 13:30	Coffee break/Lunch break
13:30 - 15:10	Presentation session 5
16:00 - 18:00	Gala Dinner - Closing of Applied Geophysics 2018/Awards Ceremony CK Browar Restaurant (ul. Podwale 6-7, 31-118 Kraków) with local beer tasting (www.ckbrowar.pl)
18:00 - 19:30	Guided tour on the Kraków Old Town (in English)

PROGRAMME

Thursday, June 28, 2018

10:00 - 10:20

Opening Ceremony

PRESENTATION SESSION 1

Chairman:

Time	Author (<i>Institution</i>), title
10:20 - 10:40	Józef Dubiński, Krystyna Stec (<i>Central Mining Institute</i>) Evaluation of prediction reliability of surface vibration parameters for regional mining tremors
10:40 - 11:00	Jerzy Niewodniczański, Chau Nguyen Dinh (<i>AGH University of Science and Technology</i>): Natural radionuclides in applied geophysics - a review
11:00 - 11:20	Zenon Pilecki (<i>Mineral Energy Economy Research Institute of the Polish Academy of Sciences</i>): Geophysical identification of sinkhole hazard in the area of a shallow historic post-mining area
11:20 - 11:40	Edyta Puskarczyk, Paulina Krakowska, Jerzy Karczewski (<i>AGH University of Science and Technology</i>): Applying the artificial neural network to laboratory and well logging data for TOC prediction and model verification using TOC application (GeoWin)
11:40 - 12:00	Grzegorz Mutke¹, Andrzej Kotyrba¹, Adam Lurka¹, Dorota Olszewska², Przemysław Dykowski³, Andrzej Borkowski⁴, Andrzej Araszkiwicz⁵, Adam Barański⁶ (¹ <i>Central Mining Institute</i> , ² <i>Institute of Geophysics</i> , ³ <i>Institute of Geodesy and Cartography</i> , ⁴ <i>Wrocław University of Environmental and Life Sciences</i> , ⁵ <i>Military University of Technology</i> , ⁶ <i>Polska Grupa Górnicza S.A.</i>): Upper Silesian Geophysical Observation System - a unit of European Plate Observing System

12:00 - 13:30

Coffee break/Lunch break

PRESENTATION SESSION 2

Chairman:

Time	Author (<i>Institution</i>), title
13:30 - 13:50	Henryk Marcak¹, Sylwia Tomecka-Suchoń¹, Rafał Czarny², Paweł Pysz¹, Akinniyi Akinsunmade³, Tetiana Kril⁴ (¹ <i>AGH University of Science and Technology</i> , ² <i>Mineral Energy Economy Research Institute of the Polish Academy of Sciences</i> , ³ <i>Nigerian Geological Survey Agency</i> , ⁴ <i>Institute of Geological Sciences of the National Academy of Sciences of Ukraine</i>): Estimation of soil water content by dielectric losses assessment of GPR waves
13:50 - 14:10	Ewelina Mazurkiewicz¹, Jerzy Karczewski¹, Akinniyi Akinsunmade², Sylwia Tomecka-Suchoń¹ (¹ <i>AGH University of Science and Technology</i> , ² <i>Nigerian Geological Survey Agency</i>): Using the FDTD method for locating buried organic objects
14:10 - 14:30	Piotr Strzałkowski, Roman Ściagała, Katarzyna Szafulera, Marek Kruczkowski (<i>Silesian University of Technology</i>): Linear discontinuous deformations in the light of investigations performed with using electrical resistivity method
14:30 - 14:50	Grzegorz Bania, Włodzimierz Jerzy Mościcki (<i>AGH University of Science and Technology</i>): Flood embankment testing with the ERT method - specificity of measurements and interpretation
14:50 - 15:10	Grażyna Dzik, Adam Mirek (<i>State Mining Authority</i>): Application of Pantera system for monitoring vibrations induced by blasting works in open pit mining plants - a case study
15:10 - 15:30	Anna Gogolewska, Natalia Czajkowska (<i>Wrocław University of Science and Technology</i>): Effectiveness of reducing seismic hazard by means of group winning blasting-case study from a copper ore mine in Poland

POSTER SESION

Chairman:

Time	No.	Author (<i>Institution</i>), title
15:30 - 17:30	1.	Zbigniew Burtan, Jerzy Cieřlik, Dariusz Chlebowski (<i>AGH University of Science and Technology</i>): Study of mining-induced seismicity in rock strata in the vicinity of faults
	2.	Dariusz Chlebowski, Zbigniew Burtan (<i>AGH University of Science and Technology</i>): Rockburst risk assessment based on seismic tomography and analytical modelling data – a case study
	3.	Kamil Cichostępski, Jerzy Dec (<i>AGH University of Science and Technology</i>): Evaluation of Basznia sulphur deposit properties on the base of simultaneous inversion
	4.	Constantin-Laurian Ciuperca¹, Bogdan Mihai Niculescu², Bogdan Marian Popina³ (¹ <i>WEATHERFORD</i> ; ² <i>University of Bucharest</i> ; ³ <i>OMV PETROM S.A.</i>): Structural characterization of the metamorphic basement from north dobrogea promontory (Romania) by using geophysical well logs
	5.	Adam Cygal^{1,2}, Aleksandra Borecka¹, Michał Stefaniuk¹, Anna Kret² (¹ <i>AGH University of Science and Technology</i> ; ² <i>PBG Geophysical Exploration Ltd</i>): Geophysical methods in recognition of the state of hydroinsulation barriers. Case study of the Vistula river levees
	6.	Adam Cygal¹, Michał Stefaniuk¹, Anna Kret² (¹ <i>AGH University of Science and Technology</i> ; ² <i>PBG Geophysical Exploration Ltd</i>): The application of non – seismic methods in processing of reflection seismic data
	7.	Michał Dąbrowski (<i>Nicolaus Copernicus University, Toruń</i>): Possibilities of application the NMT in the interpretation of GPR data as a topographical correction obtained from a photogrammetric mapping by UAV and LiDAR scanning
	8.	Maciej Dwornik, Anna Franczyk, Andrzej Leśniak (<i>AGH University of Science and Technology</i>): Identification of increased permeability zones using numerical modelling of temperature field - ISMOP case study
	9.	Beata Figarska-Warchoł, Marek Rembiś (<i>AGH University of Science and Technology</i>): The effect of lamination in Triassic sandstones on their Knop hardness and longitudinal ultrasonic wave velocity
	10.	G. Gislason¹, S. Heinonen¹, M. Malinowski², E. Koivisto³, Ł. Sito⁴, P. Targosz⁴, M. Wojdyla⁴, J. Juurela⁵, S. Juurela⁵, T. Törmälehto⁵, K. Vaittinen⁵ (¹ <i>Geological Survey of Finland</i> , ² <i>Institute of Geophysics of the Polish Academy of Sciences</i> , ³ <i>University of Helsinki</i> , ⁴ <i>Geopartner Ltd.</i> , ⁵ <i>Boliden Kylylahti Oy.</i>): COGITO-MIN seismic reflection study in Polvijärvi: first results
	11.	Paulina Harba, Jakub Kokowski (<i>Mineral and Energy Economy Research Institute of the Polish Academy of Sciences</i>): Local seismic noise characterization on Just-Teęoborze landslide
	12.	Michael Hartmann¹, Jürgen Weinreich¹, Susanne Rahner², Barbara Tomaszewska^{3,4}, Aleksandra Kasztelewicz^{3,4}, Marta Dendys³, Wiesław Bujakowski³ (¹ <i>SRH Hochschule Berlin</i> , ² <i>Umweltbüro für Berlin-Brandenburg e.V.</i> , ³ <i>Mineral Energy Economy Research Institute Polish Academy of Sciences</i> , ⁴ <i>AGH University of Science and Technology</i>): European educational concept in environmental- nature- and climate protection to safeguard a cross-border sustainable development - project assumptions
	13.	Mirosław Kamiński, Piotr Zientara (<i>The Polish Geological Institute - National Research Institute</i>): Threat of landslide and geological structure of the cliff in Jastrzębia Góra in the light of data obtained by electrical resistivity tomography
	14.	Janusz P. Kogut¹, Rafał Pilecki¹, Ievgen Tymoshenko² (¹ <i>Cracow University of Technology</i> , ² <i>National Mining University, Dnipropetrovsk, Ukraine</i>): Remote sensing of Carpathian flysch landslides
	15.	Paulina Krakowska, Edyta Puskarczyk, Mariusz Jędrychowski, Magdalena Habrat, Paweł Madejski (<i>AGH University of Science and Technology</i>): Into the pore space – petrophysical interpretation of computed X-ray tomographic data of tight rocks
	16.	Krzysztof Krawiec¹, Sławomir Olechowski², Jakub Kokowski¹, Zbigniew Szreder³, Mateusz Ćwiękała² (¹ <i>Mineral and Energy Economy Research Institute of the Polish Academy of Sciences</i> , ² <i>KWK „Rydułtowy-Anna, KWK „Budryk”</i>): Comparison of results of seismic profiling and WAS seismo-acoustic passive method in condition of exploitation edge influence
	17.	Monika Łój¹, Sławomir Porzucek¹, Tomisław Gołębiowski², Mark Everett³ (¹ <i>AGH-University of Science and Technology</i> ; ² <i>Cracow University of Technology</i> ; ³ <i>Texas A&M University</i>): Microgravimetric and GPR surveys and modelling for detection of loose zones in the flood dike
	18.	Rafał Matuła¹, Paulina Lewińska¹, Tomáš Klučiar² (¹ <i>AGH University of Science and Technology</i> , ² <i>Comenius University in Bratislava</i>): 3D thermal model of rock outcrop and its verification made by simultaneous geophysical measurement
	19.	Katarzyna Mirek (<i>AGH University of Science and Technology</i>): New possibilities of mining area subsidence monitoring using SAR interferometry, USCIB Poland
	20.	Elżbieta Pilecka¹, Jakub Zięba¹, Ievgen Tymoshenko² (¹ <i>Cracow University of Technology</i> , ² <i>National Mining University, Dnipropetrovsk, Ukraine</i>): Dynamic properties of an calcareous sludge in triaxial test
	21.	Liliana Petrenko (<i>Institute of Geological Sciences of the National Academy of Sciences of Ukraine</i>): Analysis of thermal properties in the context of deep geological repository of radioactive waste
	22.	Krzysztof Porębski¹, Eugeniusz Koziarz¹, Arkadiusz Anderko¹, Krzysztof Krawiec² (¹ <i>KGHM Polska Miedź S.A.</i> ; ² <i>Mineral and Energy Economy Research Institute of the Polish Academy of Sciences</i>): Recognition of gasogeodynamic zones in the rock mass using seismic tomography in Rudna copper ore mine
	23.	Joanna Pszonka¹, Yuan Liu² (¹ <i>Mineral Energy Economy Research Institute of the Polish Academy of Sciences</i> , ² <i>TU Bergakademie Freiberg</i>): Diagenesis and porosity evolution of the Cergowa sandstones

24.	Joanna Pszonka¹, Yuan Liu² (¹ <i>Mineral Energy Economy Research Institute of the Polish Academy of Sciences</i> , ² <i>TU Bergakademie Freiberg</i>): Binder types and their relations in flysch sandstones, case study
25.	Józef Pyra, Michał Twardosz (<i>AGH University of Science and Technology</i>): Problematic aspects of interpretation of seismic signals induced by detonation of explosives
26.	Paweł Pysz¹, Phu Pham², Rafał Czarny³, Zbigniew Szreder⁴, Zbigniew Isakow⁵ (¹ <i>AGH-University of Science and Technology</i> , ² <i>Hanoi University of Mining and Geology</i> , ³ <i>Mineral Energy Economy Research Institute of the Polish Academy of Sciences</i> , ⁴ <i>JSW S.A. KWK "Budnyk"</i> , ⁵ <i>Institute of Innovative Technology EMAG</i>): Characteristic of seismic noise in underground mining conditions
27.	Klaudia Sekuła¹, Marta Dendys², Konrad Thürmer³, and Magdalena Klich⁴ (¹ <i>AGH University of Science and Technology</i> , ² <i>Mineral and Energy Economy Research Institute of the Polish Academy of Sciences</i> , ³ <i>BTU CS Brandenburg University of Technology Cottbus - Senftenberg</i> , ⁴ <i>IWSÖ Institut für Wasserwirtschaft, Siedlungswasserbau und Ökologie</i>): Geoenvironment modelling. Review of the mathematical modelling tools useful in geotechnical surveys
28.	O. Shabatura (<i>Taras Shevchenko National University of Kyiv</i>): On an energy nature of geological processes and its effects in origin of petrogeochemical and petrophysical types of granitoids
29.	Jacek Stanisz, Robert Kaczmarczyk (<i>AGH University of Science and Technology</i>): Numerical simulation of landslide stability in geological-engineering condition of Carpathian foredeep
30.	Jacek Stanisz¹, Zenon Pilecki², Piotr Krokoszyński¹, Robert Kaczmarczyk¹ (¹ <i>AGH University of Science and Technology</i> , ² <i>Mineral and Energy Economy Research Institute of Polish Academy of Sciences</i>): Preliminary results of pore pressure profiling in the Carpathian Flysch on landslide Tegoborze-Just
31.	Wojciech Tschuschke¹, Sławomir Gogolik¹, Maciej Kroll¹, Paweł Stefanek² (¹ <i>Poznań University of Life Sciences</i> , ² <i>KGHM Polska Miedź S.A.</i>): The comparative analysis of the seismic test results performed using the cross-hole and down-hole methods In terms of test reliability and efficiency
32.	Paweł Wandycz¹, Eryk Święch¹, Leo Eisner², Andrzej Pasternacki¹, Rafał Matuła¹, Tomasz Maćkowski¹, Joanna Lewandowska-Śmierchalska¹ (¹ <i>AGH University of Science and Technology</i> , ² <i>Seismik S.R.O. - Czech Republic</i>): Attenuation in Polish shale gas deposits
33.	Kamila Wawrzyniak-Guz (<i>AGH University of Science and Technology</i>): Rock physics templates based on well logging data of the shale gas formations from Baltic Basin, Poland
34.	Aleksandra Borecka, Łukasz Ortyl (<i>AGH University of Science and Technology</i>): Use of non-invasive gpr method in correlation with the results of direct measurements of pore water pressure and humidity for mapping and monitoring of flood embankments
35.	Grzegorz Bania (<i>AGH University of Science and Technology</i>): ERT method in the study of chemical pollution of the hydrogeological environment - numerical analysis of 2D and 3D models
36.	Volodymyr Bondarenko¹, Iryna Kovalevska¹, Hennadii Symanovych¹, Mykhailo Barabash² and Vasył Snihur³ (¹ <i>National Mining University</i> , ² <i>LLC "DTEK Energy"</i> , ³ <i>MM "Pershotravenske"</i>): Predictive assessment of the parting rocks weakening areas under the joint and downward mining of coal seams

18:30

Welcome party AQUARIUS Restaurant (Bulwar Czerwieński 81, 31-069 Kraków) with music concert - old barge on Vistula river close to Wawel Castle (www.aquariuskrakow.pl)

Friday, June 29, 2018

PRESENTATION SESSION 3

Chairman:

Time	Author (<i>Institution</i>), title
08:30 - 08:45	GPR24 - Presentation
08:45 - 09:00	Geopartner - Presentation
09:00 - 09:20	Teresa Grabowska, Anna Wojas (<i>AGH University of Science and Technology</i>): The relative secular variations of the geomagnetic field along the Zgorzelec-Wizajny profile in the period of 50 years
09:20 - 09:40	Bogdan Mihai Niculescu, Gina Andrei (<i>University of Bucharest</i>): Formation evaluation challenges in Pliocene gas-bearing reservoirs from the Romanian Western Black Sea shelf
09:40 - 10:00	Hao Duong Van¹, Chau Nguyen Dinh², Władysław Zygo² (¹ <i>Faculty of Oil and Gas, University of Mining and Geology, Hanoi Vietnam</i> ; ² <i>AGH University of Science and Technology</i>): Using geophysical data for modelling of copper ore bodies in IOCG Sin Quyen deposit, LaoCai, North Vietnam
10:00 - 10:20	Michał Dąbrowski (<i>Nicolaus Copernicus University, Toruń</i>): Advanced interpretation methods for GPR geological mapping based on research on valley of Zielona River and sand dune

10:20 - 10:50 Coffee break

PRESENTATION SESSION 4

Chairman:

Time	Author (<i>Institution</i>), title
10:50 - 11:10	Jadwiga Jarzyna, Paulina Krakowska, Edyta Puskarczyk, Kamila Wawrzyniak-Guz, Marcin Zych (<i>AGH University of Science and Technology</i>): Scaling of high resolution laboratory and well logging data on the basis of resistivity Geophysical imaging logs and macroscopic geological core description, Baltic Basin shale gas formation case study
11:10 - 11:30	Bartosz Gierlach, Tomasz Danek (<i>AGH University of Science and Technology</i>): Inversion of velocity parameters in multilayered elliptic anisotropy medium – synthetic data example
11:30 - 11:50	Mateusz Zaręba^{1,2}, Tomasz Danek¹ (¹ <i>AGH University of Science and Technology</i> , ² <i>Geofizyka Toruń SA</i>): Nonlinear anisotropic diffusion techniques for seismic signal enhancing - Carpathian Foredeep study
11:50 - 12:10	Piotr Hadro, Adam Cygal (<i>AGH University of Science and Technology</i>): Methodology for electromagnetic noise removal from magnetotelluric data using Kalman filter

12:10 - 13:30 Coffee break/Lunch break

PRESENTATION SESSION 5

Chairman:

Time	Author (<i>Institution</i>), title
13:30 - 13:50	Adam Kanciruk (<i>The Strata Mechanics Research Institute of the Polish Academy of Sciences</i>): Long-term research of the influence of service load, temperature changes and material aging on the strains of reinforced concrete construction
13:50 - 14:10	Zofia Zięba, Kinga Witek, Jakub Mońka (<i>Wrocław University of Environmental and Life Sciences</i>): Effect of micro and nanosilica on the soil permeability coefficient under cyclic freezing and thawing conditions
14:10 - 14:30	Susanne Rahner¹, Ilona Winter¹, Michael Hartmann², Frank Wittig², Aleksandra Kasztelewicz³, Barbara Tomaszewska^{3,4}, Leszek Pająk^{3,4}, Agnieszka Operacz⁵, Marta Mraz⁶, Stelian Nistor⁷ (¹ <i>Umweltbüro für Berlin-Brandenburg e.V.</i> , ² <i>SRH Hochschule Berlin</i> , ³ <i>Mineral Energy Economy Research Institute of the Polish Academy of Sciences</i> , ⁴ <i>AGH University of Science and Technology</i> , ⁵ <i>University of Agriculture in Krakow</i> , ⁶ <i>Polip Ifjúsági Iroda</i> , ⁷ <i>University of Oradea</i>): Study to national activities and funding opportunities of furthering education programs for unemployed academics in green jobs - preliminary results of the Erasmus+ Project
14:30 - 14:50	Michał Kaczmarczyk¹, Magdalena Kaczmarczyk¹, Konrad Thürmer², Magdalena Klich³ (¹ <i>AGH University of Science and Technology</i> , ² <i>BTU CS Brandenburg University of Technology Cottbus - Senftenberg</i> , ³ <i>IWSÖ Institut für Wasserwirtschaft, Siedlungswasserbau und Ökologie, Coudray, Germany</i>): Interpretation of rock mass thermal conductivity at the design stage of heat pump installation and its impact on system efficiency (COP)
14:50 - 15:10	Krzysztof Skrzypkowski (<i>AGH University of Science and Technology</i>): Energy-absorbing by rock bolt support with increased tensile strength

16:00 - 18:00 **Gala Dinner – Closing of Applied Geophysics 2018/Awards Ceremony** - CK Browar Restaurant (ul. Podwale 6-7, 31-118 Kraków) with local beer tasting (www.ckbrowar.pl)

18:00 - 19:30 Guided tour on the Kraków Old Town (in English)